

# 2004 Emergency Response Guidebook



A GUIDEBOOK FOR  
FIRST RESPONDERS  
DURING THE INITIAL PHASE  
OF A DANGEROUS GOODS/  
HAZARDOUS MATERIALS  
INCIDENT

## SHIPPING DOCUMENTS (PAPERS)\*

The shipping document provides vital information when responding to a hazardous materials/dangerous goods\*\* incident. The shipping document contains information needed to identify the materials involved. Use this information to initiate protective actions for your own safety and the safety of the public. The shipping document contains the proper shipping name (see blue-bordered pages), the hazard class or division of the material(s), ID number (see yellow-bordered pages), and, where appropriate, the Packing Group. In addition, there must be information available that describes the hazards of the material which can be used in the mitigation of an incident. The information must be entered on or be with the shipping document. This requirement may be satisfied by attaching a guide from the ERG2004 to the shipping document, or by having the entire guidebook available for ready reference. Shipping documents are required for most dangerous goods in transportation. Shipping documents are kept in

- the cab of the motor vehicle,
- the possession of the train crew member,
- a holder on the bridge of a vessel, or
- an aircraft pilot's possession.

EMERGENCY CONTACT 1-000-000-0000		EXAMPLE OF EMERGENCY RESPONSE TELEPHONE NUMBER	
NO. & TYPE OF PACKAGES	DESCRIPTION OF ARTICLES	HAZARD CLASS OR DIVISION NO.	QUANTITY
1 TANK TRUCK	ISOPROPANOL	3 UN1219 II	3,000 LITERS
	SHIPPING NAME	ID NUMBER	PACKING GROUP

### EXAMPLE OF PLACARD AND PANEL WITH ID NUMBER

The 4-digit ID Number may be shown on the diamond-shaped placard or on an adjacent orange panel displayed on the ends and sides of a cargo tank, vehicle or rail car.



A Numbered  
Placard

or

A Placard  
and an  
Orange Panel



**1219**

\* For the purposes of this book, the terms shipping document/shipping paper are synonymous.

\*\* For the purposes of this book, the terms hazardous materials/dangerous goods are synonymous.

**RESIST RUSHING IN !**  
**APPROACH INCIDENT FROM UPWIND**  
**STAY CLEAR OF ALL SPILLS, VAPORS, FUMES AND SMOKE**

**HOW TO USE THIS GUIDEBOOK DURING AN INCIDENT INVOLVING  
DANGEROUS GOODS**

**ONE IDENTIFY THE MATERIAL BY FINDING ANY ONE OF THE FOLLOWING:**

THE 4-DIGIT ID NUMBER ON A PLACARD OR ORANGE PANEL

THE 4-DIGIT ID NUMBER (after UN/NA) ON A SHIPPING DOCUMENT OR PACKAGE

THE NAME OF THE MATERIAL ON A SHIPPING DOCUMENT, PLACARD OR PACKAGE

IF AN ID NUMBER OR THE NAME OF THE MATERIAL CANNOT BE FOUND, SKIP TO THE NOTES BELOW.

**TWO LOOK UP THE MATERIAL'S 3-DIGIT GUIDE NUMBER IN EITHER:**

THE ID NUMBER INDEX..(the yellow-bordered pages of the guidebook)

THE NAME OF MATERIAL INDEX..(the blue-bordered pages of the guidebook)

If the guide number is supplemented with the letter "P", it indicates that the material may undergo violent polymerization if subjected to heat or contamination.

If the index entry is highlighted (in either yellow or blue), it is a TIH (Toxic Inhalation Hazard) material, a chemical warfare agent or a Dangerous Water Reactive Material (produces toxic gas upon contact with water). **LOOK FOR THE ID NUMBER AND NAME OF THE MATERIAL IN THE TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES** (the green-bordered pages). Then, if necessary, **BEGIN PROTECTIVE ACTIONS IMMEDIATELY** (see Protective Actions on page 298). If protective action is not required, use the information jointly with the 3-digit guide.

**USE GUIDE 112 FOR ALL EXPLOSIVES EXCEPT FOR EXPLOSIVES 1.4 (EXPLOSIVES C) WHERE GUIDE 114 IS TO BE CONSULTED.**

**THREE TURN TO THE NUMBERED GUIDE** (the orange-bordered pages) **AND READ CAREFULLY.**

**NOTES IF A NUMBERED GUIDE CANNOT BE OBTAINED BY FOLLOWING THE ABOVE STEPS, AND A PLACARD CAN BE SEEN, LOCATE THE PLACARD IN THE TABLE OF PLACARDS** (pages 16-17), THEN GO TO THE 3-DIGIT GUIDE SHOWN NEXT TO THE SAMPLE PLACARD.

**IF A REFERENCE TO A GUIDE CANNOT BE FOUND AND THIS INCIDENT IS BELIEVED TO INVOLVE DANGEROUS GOODS, TURN TO GUIDE 111 NOW, AND USE IT UNTIL ADDITIONAL INFORMATION BECOMES AVAILABLE.** If the shipping document lists an emergency response telephone number, call that number. If the shipping document is not available, or no emergency response telephone number is listed, **IMMEDIATELY CALL** the appropriate **emergency response agency listed on the inside back cover of this guidebook.** Provide as much information as possible, such as the name of the carrier (trucking company or railroad) and vehicle number. **AS A LAST RESORT, CONSULT THE TABLE OF RAIL CAR AND ROAD TRAILER IDENTIFICATION CHART** (pages 18-19). IF THE CONTAINER CAN BE IDENTIFIED, REMEMBER THAT THE INFORMATION ASSOCIATED WITH THESE CONTAINERS IS FOR THE WORST CASE POSSIBLE.

## ERG2004 USER'S GUIDE

The 2004 Emergency Response Guidebook (ERG2004) was developed jointly by Transport Canada (TC), the U.S. Department of Transportation (DOT), the Secretariat of Transport and Communications of Mexico (SCT) and with the collaboration of CIQUIME (Centro de Información Química para Emergencias) of Argentina, for use by fire fighters, police, and other emergency services personnel who may be the first to arrive at the scene of a transportation incident involving dangerous goods. **It is primarily a guide to aid first responders in quickly identifying the specific or generic hazards of the material(s) involved in the incident, and protecting themselves and the general public during the initial response phase of the incident.** For the purposes of this guidebook, the "initial response phase" is that period following arrival at the scene of an incident during which the presence and/or identification of dangerous goods is confirmed, protective actions and area securement are initiated, and assistance of qualified personnel is requested. It is not intended to provide information on the physical or chemical properties of dangerous goods.

This guidebook will assist responders in making initial decisions upon arriving at the scene of a dangerous goods incident. It should not be considered as a substitute for emergency response training, knowledge or sound judgment. ERG2004 does not address all possible circumstances that may be associated with a dangerous goods incident. It is primarily designed for use at a dangerous goods incident occurring on a highway or railroad. Be mindful that there may be limited value in its application at fixed facility locations.

ERG2004 incorporates dangerous goods lists from the most recent United Nations Recommendations as well as from other international and national regulations. Explosives are not listed individually by either proper shipping name or ID Number. They do, however, appear under the general heading "Explosives" on the first page of the ID Number index (yellow-bordered pages) and alphabetically in the Name of Material index (blue-bordered pages). Also, the letter "**P**" following the guide number in the yellow-bordered and blue-bordered pages identifies those materials which present a polymerization hazard under certain conditions, for example: Acrolein, stabilized **131P**.

First responders at the scene of a dangerous goods incident should seek additional specific information about any material in question as soon as possible. The information received by contacting the appropriate emergency response agency, the emergency response number on the shipping document, or by consulting the information on or accompanying the shipping document, may be more specific and accurate than this guidebook in providing guidance for the materials involved.

**BECOME FAMILIAR WITH THIS GUIDEBOOK BEFORE USING IT DURING AN EMERGENCY!** In the U.S., according to the requirements of the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA, 29 CFR 1910.120), and regulations issued by the U.S. Environmental Protection Agency (EPA, 40 CFR Part 311), first responders must be trained regarding the use of this guidebook.

## GUIDEBOOK CONTENTS

**1-Yellow-bordered pages:** Index list of dangerous goods in numerical order of ID number. This section quickly identifies the guide to be consulted from the ID Number of the material involved. This list displays the 4-digit ID number of the material followed by its assigned emergency response guide and the material name.

<b>For example:</b>	<b>ID No.</b>	<b>GUIDE No.</b>	<b>Name of Material</b>
	1090	127	Acetone

**2-Blue-bordered pages:** Index list of dangerous goods in alphabetical order of material name. This section quickly identifies the guide to be consulted from the name of the material involved. This list displays the name of the material followed by its assigned emergency response guide and 4-digit ID number.

<b>For example:</b>	<b>Name of Material</b>	<b>GUIDE No.</b>	<b>ID No.</b>
	Sulfuric acid	137	1830

**3-Orange-bordered pages:** This section is the most important section of the guidebook because it is where all safety recommendations are provided. It comprises a total of 62 individual guides, presented in a two-page format. Each guide provides safety recommendations and emergency response information to protect yourself and the public. The left hand page provides safety related information whereas the right hand page provides emergency response guidance and activities for fire situations, spill or leak incidents and first aid. Each guide is designed to cover a group of materials which possess similar chemical and toxicological characteristics.

The guide title identifies the general hazards of the dangerous goods covered.

**For example:**      **GUIDE 124 - Gases-Toxic and/or Corrosive-Oxidizing.**

Each guide is divided into three main sections: the first section describes **potential hazards** that the material may display in terms of fire/explosion and health effects upon exposure. The highest potential is listed first. The emergency responder should consult this section first. This allows the responder to make decisions regarding the protection of the emergency response team as well as the surrounding population.

The second section outlines suggested **public safety** measures based on the situation at hand. It provides general information regarding immediate isolation of the incident site, recommended type of protective clothing and respiratory protection. Suggested evacuation distances are listed for small and large spills and for fire situations (fragmentation hazard). It also directs the reader to consult the tables listing Toxic Inhalation Hazard materials (TIH), chemical warfare agents and water-reactive materials (green-bordered pages) when the material name is highlighted in the yellow-bordered and blue-bordered pages.

The third section covers **emergency response** actions, including first aid. It outlines special precautions for incidents which involve fire, spill or chemical exposure. Several recommendations are listed under each part which will further assist in the decision making process. The information on first aid is general guidance prior to seeking medical care.

**4-Green-bordered pages:** This section contains a table which lists, by ID number, TIH materials, including certain chemical warfare agents, and water-reactive materials which produce toxic gases upon contact with water. The table provides two different types of recommended safe distances which are "Initial isolation distances" and "Protective action distances." The materials are highlighted for easy identification in both numeric (yellow-bordered pages) and alphabetic (blue-bordered pages) lists of the guidebook. The table provides distances for both small (approximately 200 liters or less) and large spills (more than 200 liters) for all highlighted materials. The list is further subdivided into daytime and nighttime situations. This is necessary due to varying atmospheric conditions which greatly affect the size of the hazardous area. The distances change from daytime to nighttime due to different mixing and dispersion conditions in the air. During the night, the air is generally calmer and this causes the chemical to disperse less and therefore create a toxicity zone which is greater than would usually occur during the day. During the day, the chemical is generally dispersed by a more active atmosphere. The chemical will be present in a larger area; however, the actual area where toxic levels are reached will be smaller (due to increased dispersion). It is the quantity or concentration of the chemical vapor that poses problems not its mere presence.

The "Initial Isolation Distance" is a distance within which all persons should be considered for evacuation in all directions from the actual spill/leak source. It is a distance (radius) which defines a circle (Initial Isolation Zone) within which persons may be exposed to dangerous concentrations upwind of the source and may be exposed to life threatening concentrations downwind of the source. For example, in the case of Compressed gas, toxic, n.o.s., ID No. 1955, Inhalation Hazard Zone A, the isolation distance for small spills is 600 meters, therefore, representing an evacuation circle of 1200 meters in diameter.

For the same material, the "Protective Action Distance" is 5.9 kilometers for a daytime incident and 11.0+ kilometers for a nighttime incident, these distances represent a downwind distance from the spill/leak source within which Protective Actions could be implemented. Protective Actions are those steps taken to preserve the health and safety of emergency responders and the public. People in this area could be evacuated and/or sheltered in-place. For more information, consult the INTRODUCTION TO THE TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES (pages 295-296).

### **What is a TIH?**

It is a gas or volatile liquid which is known to be so toxic to humans as to pose a hazard to health during transportation, or in the absence of adequate data on human toxicity, is presumed to be toxic to humans because when tested on laboratory animals it has an LC50 value of not more than 5000 ppm.

It is important to note that even though the term zone is used, the hazard zones do not represent any actual area or distance. The assignment of the zones is strictly a function of their Lethal Concentration 50 (LC50); for example, TIH Zone A is more toxic than Zone D. All distances which are listed in the green-bordered pages are calculated by the use of mathematical models for each TIH material.

Assignment of hazard zones:

<b>HAZARD ZONE A:</b>	Gases:	LC50 of less than or equal to 200 ppm,
	Liquids:	V equal to or greater than 500 LC50 and LC50 less than or equal to 200 ppm,
<b>HAZARD ZONE B:</b>	Gases:	LC50 greater than 200 ppm and less than or equal to 1000 ppm,
	Liquids:	V equal to or greater than 10 LC50; LC50 less than or equal to 1000 ppm and criteria for Hazard Zone A are not met,
<b>HAZARD ZONE C:</b>		LC50 greater than 1000 ppm and less than or equal to 3000 ppm,
<b>HAZARD ZONE D:</b>		LC50 greater than 3000 ppm and less than or equal to 5000 ppm.

### ISOLATION AND EVACUATION DISTANCES

Isolation or evacuation distances are shown in the guides (orange-bordered pages) and in the Table of Initial Isolation and Protective Action Distances (green-bordered pages). This may confuse users not thoroughly familiar with ERG2004.

It is important to note that some guides refer only to non-TIH materials (36 guides), some refer to both TIH and non-TIH materials (21 guides) and some (5 guides) refer only to TIH or Water-reactive materials (WRM). A guide refers to both TIH and non-TIH materials (for example see GUIDE 131) when the following sentence appears under the title EVACUATION-Spill: "See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under 'PUBLIC SAFETY.'" A guide refers only to TIH or WRM materials (for example see GUIDE 124) when the following sentence appears under the title EVACUATION-Spill: "See the Table of Initial Isolation and Protective Action Distances". If the previous sentences do not appear in a guide, then this particular guide refers only to non-TIH materials (for example see GUIDE 128).

In order to identify appropriate isolation and protective action distances, use the following:

If you are dealing with a **TIH/WRM/Chemical warfare** material (highlighted entries in the index lists), the isolation and evacuation distances are found directly in the green-bordered pages. The guides (orange-bordered pages) also remind the user to refer to the green-bordered pages for evacuation specific information involving highlighted materials.

If you are dealing with a **non-TIH material but the guide refers to both TIH and non-TIH materials**, an immediate isolation distance is provided under the heading PUBLIC SAFETY as a precautionary measure to prevent injuries. It applies to the non-TIH materials only. In addition, for evacuation purposes, the guide informs the user under the title EVACUATION-Spill to increase, for non-highlighted substances, in the downwind direction, if necessary, the immediate isolation distance listed under "PUBLIC SAFETY". For example, GUIDE 131 – Flammable Liquids-Toxic, instructs the user to: "As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions." In case of a large spill, the isolation area could be expanded from 50 meters to a distance deemed as safe by the On-scene-commander and emergency responders.

If you are dealing with a **non-TIH material and the guide refers only to non-TIH materials**, the immediate isolation and evacuation distances are specified as actual distances in the guide (orange-bordered pages) and are not referenced in the green-bordered pages.

## SAFETY PRECAUTIONS

**APPROACH CAUTIOUSLY FROM UPWIND.** Resist the urge to rush in; others cannot be helped until the situation has been fully assessed.

**SECURE THE SCENE.** Without entering the immediate hazard area, isolate the area and assure the safety of people and the environment, keep people away from the scene and outside the safety perimeter. Allow enough room to move and remove your own equipment.

**IDENTIFY THE HAZARDS.** Placards, container labels, shipping documents, material safety data sheets, Rail Car and Road Trailer Identification Charts, and/or knowledgeable persons on the scene are valuable information sources. Evaluate all available information and consult the recommended guide to reduce immediate risks. **Additional information, provided by the shipper or obtained from another authoritative source, may change some of the emphasis or details found in the guide.** Remember, the guide provides only the most important and worst case scenario information for the initial response in relation to a family or class of dangerous goods. As more material-specific information becomes available, the response should be tailored to the situation.

**ASSESS THE SITUATION.** Consider the following:

- Is there a fire, a spill or a leak?
- What are the weather conditions?
- What is the terrain like?
- Who/what is at risk: people, property or the environment?
- What actions should be taken: Is an evacuation necessary? Is diking necessary? What resources (human and equipment) are required and are readily available?
- What can be done immediately?

**OBTAIN HELP.** Advise your headquarters to notify responsible agencies and call for assistance from qualified personnel.

**DECIDE ON SITE ENTRY.** Any efforts made to rescue persons, protect property or the environment must be weighed against the possibility that you could become part of the problem. Enter the area only when wearing appropriate protective gear (see PROTECTIVE CLOTHING, page 350).

**RESPOND.** Respond in an appropriate manner. Establish a command post and lines of communication. Rescue casualties where possible and evacuate if necessary. Maintain control of the site. Continually reassess the situation and modify the response accordingly. The first duty is to consider the safety of people in the immediate area, including your own.

**ABOVE ALL** — Do not walk into or touch spilled material. Avoid inhalation of fumes, smoke and vapors, even if no dangerous goods are known to be involved. Do not assume that gases or vapors are harmless because of lack of a smell—odorless gases or vapors may be harmful. Use **CAUTION** when handling empty containers because they may still present hazards until they are cleaned and purged of all residues.

## WHO TO CALL FOR ASSISTANCE

Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Follow the steps outlined in your organization's standard operating procedures and/or local emergency response plan for obtaining qualified assistance. Generally, the notification sequence and requests for technical information beyond what is available in this guidebook should occur in the following order:

### **1. ORGANIZATION/AGENCY**

Notify your organization/agency. This will set in motion a series of events based upon the information provided. Actions may range from dispatching additional trained personnel to the scene to activating the local emergency response plan. Ensure that local fire and police departments have been notified.

### **2. EMERGENCY RESPONSE TELEPHONE NUMBER**

Locate and call the telephone number listed on the shipping document. The person answering the phone at the listed emergency response number must be knowledgeable of the materials and mitigation actions to be taken, or must have immediate access to a person who has the required knowledge.

### **3. NATIONAL ASSISTANCE**

Contact the appropriate emergency response agency listed on the inside back cover of this guidebook when the emergency response telephone number is not available. Upon receipt of a call describing the nature of the incident, the agency will provide immediate advice on handling the early stages of the incident. The agency will also contact the shipper or manufacturer of the material for more detailed information and request on-scene assistance when necessary.

Collect and provide as much of the following information as can safely be obtained to your chain-of-command and specialists contacted for technical guidance:

Your name, call back telephone number, FAX number

Location and nature of problem (spill, fire, etc.)

Name and identification number of material(s) involved

Shipper/consignee/point of origin

Carrier name, rail car or truck number

Container type and size

Quantity of material transported/released

Local conditions (weather, terrain, proximity to schools, hospitals, waterways, etc.)

Injuries and exposures

Local emergency services that have been notified

## CANADA

### 1. CANUTEC

CANUTEC is the **Canadian Transport Emergency Centre** operated by the Transport Dangerous Goods Directorate of Transport Canada.

CANUTEC provides a national bilingual (French and English) advisory service and is staffed by professional scientists experienced and trained in interpreting technical information and providing emergency response advice.

**In an emergency, CANUTEC may be called collect at  
613-996-6666 (24 hours)  
\*666 cellular (Press Star 666, Canada only)**

In a non-emergency situation, please call the information line at 613-992-4624 (24 hours).

### 2. PROVINCIAL AGENCIES

Although technical information and emergency response assistance can be obtained from CANUTEC, there are federal and provincial regulations requiring the reporting of dangerous goods incidents to certain authorities.

The following list of provincial agencies is supplied for your convenience.

Province	Emergency Authority and/or Telephone Number
Alberta .....	Local Police and Provincial Authorities 1-800-272-9600* or 780-422-9600
British Columbia .....	Local Police and Provincial Authorities 1-800-663-3456
Manitoba .....	Provincial Authority 204-945-4888 and Local Police or fire brigade, as appropriate
New Brunswick .....	Local Police or 1-800-565-1633** or 902-426-6030
Newfoundland .....	Local Police and 709-772-2083
Northwest Territories .....	867-920-8130
Nova Scotia .....	Local Police or 1-800-565-1633** or 902-426-6030
Nunavut Territory .....	Local Police and 1-800-693-1666 or 867-979-6262
Ontario .....	Local Police
Prince Edward Island .....	Local Police or 1-800-565-1633** or 902-426-6030
Quebec .....	Local Police
Saskatchewan .....	Local Police or 1-800-667-7525
Yukon Territory .....	867-667-7244

\* This number is not accessible from outside Alberta.

\*\* This number is not accessible from outside of New Brunswick, Nova Scotia or Prince Edward Island.

NOTE:

1. The appropriate federal agency must be notified in the case of rail, air or marine incidents.
2. The nearest police department must be notified in the case of lost, stolen or misplaced explosives, radioactive materials or infectious substances.
3. **CANUTEC must** be notified in the case of:
  - a. lost, stolen or misplaced infectious substances;
  - b. an incident involving infectious substances;
  - c. an accidental release from a cylinder that has suffered a catastrophic failure;
  - d. an incident where the shipping documents display **CANUTEC's** telephone number 613-996-6666 as the emergency telephone number; or
  - e. a dangerous goods incident in which a railway vehicle, a ship, an aircraft, an aerodrome or an air cargo facility is involved.

## UNITED STATES

1. **CHEMTREC®**, a 24-hour emergency response communication service, can be reached as follows:

CALL **CHEMTREC®** (24 hours)

**1-800-424-9300**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

For calls originating elsewhere:

**703-527-3887** (Collect calls are accepted)

or

2. **CHEM-TEL, INC.**, a 24-hour emergency response communication service, can be reached as follows:

CALL **CHEM-TEL, INC.** (24 hours)

**1-800-255-3924**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

For calls originating elsewhere:

**813-248-0585** (Collect calls are accepted)

or

3. **INFOTRAC**, a 24-hour emergency response communication service, can be reached as follows:

CALL **INFOTRAC** (24 hours)

**1-800-535-5053**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

For calls originating elsewhere:

**352-323-3500** (Collect calls are accepted)

or

4. **3E COMPANY**, a 24-hour emergency response communication service, can be reached as follows:

CALL **3E COMPANY** (24 hours)

**1-800-451-8346**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

For calls originating elsewhere:

**760-602-8703** (Collect calls are accepted)

The emergency response information services shown above have requested to be listed as providers of emergency response information and have agreed to provide emergency response information to all callers. They maintain periodically updated lists of state and Federal radiation authorities who provide information and technical assistance on handling incidents involving radioactive materials.

5. **NATIONAL RESPONSE CENTER (NRC)**

The NRC, which is operated by the U.S. Coast Guard, receives reports required when dangerous goods and hazardous substances are spilled. After receiving notification of an incident, the NRC will immediately notify the appropriate Federal On-Scene Coordinator and concerned Federal agencies. Federal law requires that anyone who releases into the environment a reportable quantity of a hazardous substance (including oil when water is, or may be affected) or a material identified as a marine pollutant, must **immediately** notify the NRC. When in doubt as to whether the amount released equals the required reporting levels for these materials, the NRC should be notified.

**CALL NRC (24 hours)**

**1-800-424-8802**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

**202-267-2675** in the District of Columbia

Calling the emergency response telephone number, CHEMTREC®, CHEM-TEL, INC., INFOTRAC or 3E COMPANY, does not constitute compliance with regulatory requirements to call the NRC.

6. **MILITARY SHIPMENTS**

For assistance at incidents involving materials being shipped by, for, or to the Department of Defense (DOD), call one of the following numbers (24 hours):

**703-697-0218** (call collect) (U.S. Army Operations Center) for incidents involving explosives and ammunition.

**1-800-851-8061** (toll-free in the U.S.) (Defense Logistics Agency) for incidents involving dangerous goods other than explosives and ammunition.

7. **NATIONWIDE POISON CONTROL CENTER (United States Only)**

Emergency and information calls are answered by the nearest Poison Center (24 hours):

**1-800-222-1222** (toll-free in the U.S.).

The above numbers are for **emergencies** only.

## MEXICO

1. **SETIQ** (Emergency Transportation System for the Chemical Industry), a service of the National Association of Chemical Industries (ANIQ), can be reached as follows:

CALL **SETIQ** (24 hours)

**01-800-00-214-00** in the Mexican Republic

For calls originating in Mexico City and the Metropolitan Area

**5559-1588**

For calls originating elsewhere, call

**011-52-555-559-1588**

2. **CENACOM**, the National Center for Communications of the Civil Protection Agency, can be reached as follows:

CALL **CENACOM** (24 hours)

**01-800-00-413-00** in the Mexican Republic

For calls originating in Mexico City and the Metropolitan Area

**5550-1496, 5550-1552, 5550-1485, or 5550-4885**

For calls originating elsewhere, call

**011-52-555-550-1496, or 011-52-555-550-1552**

**011-52-555-550-1485, or 011-52-555-550-4885**

## ARGENTINA

1. **CIQUIME** (Information Center for Chemical Emergencies) a 24-hour emergency response information service, can be reached as follows:

CALL **CIQUIME** (24 hours)

**0-800-222-2933** in the Republic of Argentina

For calls originating elsewhere, call

**+54-11-4613-1100**

## BRAZIL

1. **PRÓ-QUÍMICA** a 24-hour emergency response information service, can be reached as follows:

CALL **PRO-QUÍMICA** (24 hours)

**0-800-118270** in the Federal Republic of Brazil

For calls originating elsewhere, call

**+55-11-232-1144**

## COLOMBIA

1. **CISPROQUIM** a 24-hour emergency response information service, can be reached as follows:

CALL **CISPROQUIM** (24 hours)

**01-800-091-6012** in Colombia

For calls originating in Bogotá, Colombia call

**288-6012**

For calls originating elsewhere, call

**011-57-1-288-6012**

## HAZARD CLASSIFICATION SYSTEM

The hazard class of dangerous goods is indicated either by its class (or division) number or name. For a placard corresponding to the primary hazard class of a material, the hazard class or division number must be displayed in the lower corner of the placard. However, no hazard class or division number may be displayed on a placard representing the subsidiary hazard of a material. For other than Class 7 or the OXYGEN placard, text indicating a hazard (for example, "CORROSIVE") is not required. Text is shown only in the U.S. The hazard class or division number must appear on the shipping document after each shipping name.

### **Class 1 - Explosives**

Division 1.1	Explosives with a mass explosion hazard
Division 1.2	Explosives with a projection hazard
Division 1.3	Explosives with predominantly a fire hazard
Division 1.4	Explosives with no significant blast hazard
Division 1.5	Very insensitive explosives with a mass explosion hazard
Division 1.6	Extremely insensitive articles

### **Class 2 - Gases**

Division 2.1	Flammable gases
Division 2.2	Non-flammable, non-toxic* gases
Division 2.3	Toxic* gases

### **Class 3 - Flammable liquids (and Combustible liquids [U.S.])**

### **Class 4 - Flammable solids; Spontaneously combustible materials; and Dangerous when wet materials/Water-reactive substances**

Division 4.1	Flammable solids
Division 4.2	Spontaneously combustible materials
Division 4.3	Water-reactive substances/Dangerous when wet materials

### **Class 5 - Oxidizing substances and Organic peroxides**

Division 5.1	Oxidizing substances
Division 5.2	Organic peroxides

### **Class 6 - Toxic\* substances and Infectious substances**

Division 6.1	Toxic* substances
Division 6.2	Infectious substances

### **Class 7 - Radioactive materials**

### **Class 8 - Corrosive substances**

### **Class 9 - Miscellaneous hazardous materials/Products, Substances or Organisms**

\* The words "poison" or "poisonous" are synonymous with the word "toxic".

## INTRODUCTION TO THE TABLE OF PLACARDS

### **USE THIS TABLE ONLY IF YOU HAVE NOT BEEN ABLE TO IDENTIFY THE MATERIAL(S) IN TRANSPORT BY ID NUMBER OR NAME**

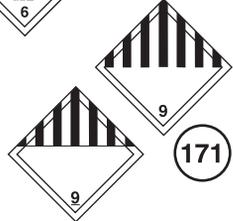
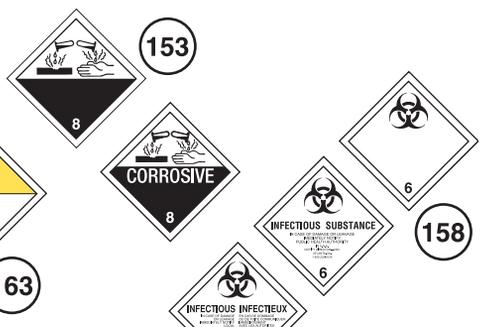
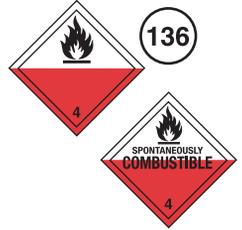
The next two pages display the placards used on transport vehicles carrying dangerous goods. As you approach a reported or suspected dangerous goods incident involving a placarded vehicle:

- 1. Approach the incident cautiously from upwind to a point from which you can safely identify and/or read the placard or orange panel information.** If wind direction allows, consider approaching the incident from uphill. Use binoculars, if available.
- 2. Match the vehicle placard(s) with one of the placards displayed on the following pages.**
- 3. Consult the numbered guide associated with the sample placard. Use that information for now.** For example, a FLAMMABLE (Class 3) placard leads to GUIDE 127. A CORROSIVE (Class 8) placard leads to GUIDE 153. If multiple placards point to more than one guide, initially use the most conservative guide (i.e., the guide requiring the greatest degree of protective actions).
- 4. Remember that the guides associated with the placards provide the most significant risk and/or hazard information.**
- 5. When specific information, such as ID number or shipping name, becomes available, the more specific guide recommended for that material must be consulted.**
- 6. If GUIDE 111 is being used because only the DANGER/DANGEROUS placard is displayed or the nature of the spilled, leaking, or burning material is not known, as soon as possible, get more specific information concerning the material(s) involved.**
- 7. Asterisks (\*) on orange placards represent explosives "Compatibility Group" letters; refer to the Glossary (page 359).**
- 8. Double asterisks (\*\*) on orange placards represent the division of the explosive.**



# RESPONSE GUIDE TO USE ON-SCENE

USING THE SHIPPING DOCUMENT, NUMBERED PLACARD, OR ORANGE PANEL NUMBER



**DANGER**



THIS UNIT IS UNDER FUMIGATION WITH \_\_\_\_\_ APPLIED ON \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_

**DO NOT ENTER**

**DANGER**

This unit is under fumigation with \_\_\_\_\_

Cette unité est sous fumigation par \_\_\_\_\_

(Nom du fumigant) \_\_\_\_\_ (Nom du fumigant) \_\_\_\_\_

Applied on \_\_\_\_\_ Depuis le \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

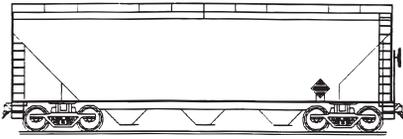
DO NOT ENTER DÉFENSE D'ENTRER

**INHALATION HAZARD**



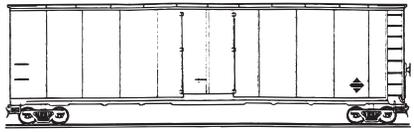
**MARINE POLLUTANT**

## RAIL CAR IDENTIFICATION CHART\*



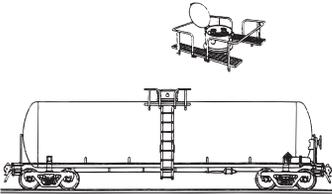
**Hopper Car  
Dry Bulk**

140



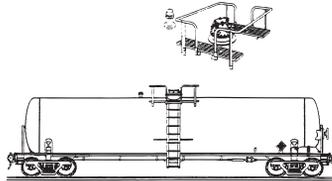
**Box Car  
Mixed Cargo**

111



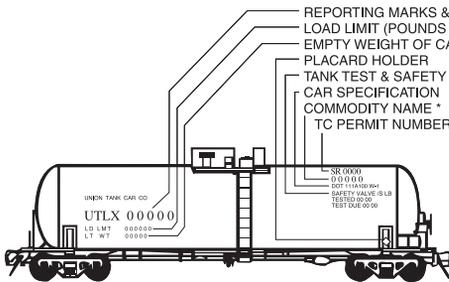
**Pressure tank car  
Compressed  
liquified gases**

117



**Non-pressure  
tank car  
Liquids**

131



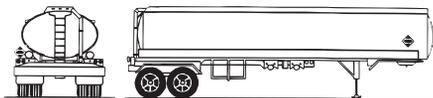
**CAUTION:** Emergency response personnel must be aware that rail tank cars vary widely in construction, fittings and purpose. Tank cars could transport products that may be solids, liquids or gases. The products may be under pressure. It is essential that products be identified by consulting shipping documents or train consist or contacting dispatch centers before emergency response is initiated.

The information stenciled on the sides or ends of tank cars, as illustrated above, may be used to identify the product utilizing:

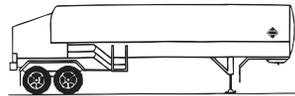
- a. the commodity name shown; or
- b. the other information shown, especially reporting marks and car number which, when supplied to a dispatch center, will facilitate the identification of the product.

\* The recommended guides should be considered as last resort if product cannot be identified by any other means.

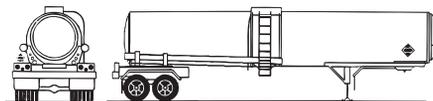
## ROAD TRAILER IDENTIFICATION CHART\*



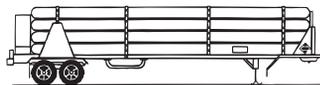
DOT406, TC406 Non-pressure  
Liquid Tank  
(MC306, TC306) **131**



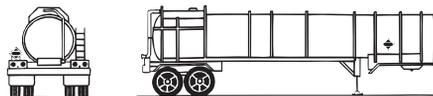
MC338, TC338 Cryogenic Liquid  
Tank  
(TC341, CGA341) **117**



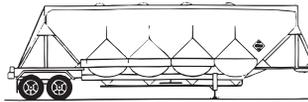
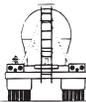
DOT407, TC407 Low pressure  
Chemical Tank  
(MC307, TC307) **137**



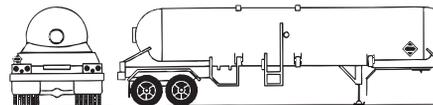
Compressed Gas/  
Tube Trailer **117**



DOT412, TC412 Corrosive  
Liquid Tank  
(MC312, TC312) **137**



Dry Bulk Cargo  
Trailer **134**



MC331, TC331 High pressure Tank **117**



Mixed Cargo **111**



**137** DOT407, TC407 Vacuum Loaded Tank  
DOT412, TC412, (TC350)

**CAUTION:** This chart depicts only the most general shapes of road trailers. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated above, that are used for shipping chemical products. The suggested guides are for the most hazardous products that may be transported in these trailer types.

\* The recommended guides should be considered as last resort if product cannot be identified by any other means.

**HAZARD IDENTIFICATION CODES**  
**DISPLAYED ON SOME INTERMODAL CONTAINERS**

Hazard identification codes, referred to as “hazard identification numbers” under European and some South American regulations, may be found in the top half of an orange panel on some intermodal bulk containers. The 4-digit identification number is in the bottom half of the orange panel.



The hazard identification code in the top half of the orange panel consists of two or three digits. In general, the digits indicate the following hazards:

- 2 - EMISSION OF GAS DUE TO PRESSURE OR CHEMICAL REACTION
  - 3 - FLAMMABILITY OF LIQUIDS (VAPORS) AND GASES OR SELF-HEATING LIQUID
  - 4 - FLAMMABILITY OF SOLIDS OR SELF-HEATING SOLID
  - 5 - OXIDIZING (FIRE-INTENSIFYING) EFFECT
  - 6 - TOXICITY OR RISK OF INFECTION
  - 7 - RADIOACTIVITY
  - 8 - CORROSIVITY
  - 9 - MISCELLANEOUS DANGEROUS SUBSTANCE
- Doubling of a digit indicates an intensification of that particular hazard (i.e. 33, 66, 88).
  - Where the hazard associated with a material can be adequately indicated by a single digit, the digit is followed by a zero (i.e. 30, 40, 50).
  - A hazard identification code prefixed by the letter “X” indicates that the material will react dangerously with water (i.e. X88).
  - When 9 appears as a 2<sup>nd</sup> or 3<sup>rd</sup> digit, this may present a risk of spontaneous violent reaction.

**HAZARD IDENTIFICATION CODES**  
**DISPLAYED ON SOME INTERMODAL CONTAINERS**

The hazard identification codes listed below have the following meanings:

20	Inert gas
22	Refrigerated gas
223	Refrigerated gas, flammable
225	Refrigerated gas, oxidizing (fire-intensifying)
23	Flammable gas
236	Flammable gas, toxic
239	Flammable gas which can spontaneously lead to violent reaction
25	Oxidizing (fire-intensifying) gas
26	Toxic gas
263	Toxic gas, flammable
265	Toxic gas, oxidizing (fire-intensifying)
266	Highly toxic gas
268	Toxic gas, corrosive
<hr/>	
30	Flammable liquid
323	Flammable liquid which reacts with water, emitting flammable gas
X323	Flammable liquid which reacts dangerously with water, emitting flammable gas
33	Highly flammable liquid
333	Pyrophoric liquid
X333	Pyrophoric liquid which reacts dangerously with water
336	Highly flammable liquid, toxic
338	Highly flammable liquid, corrosive
X338	Highly flammable liquid, corrosive, which reacts dangerously with water
339	Highly flammable liquid which can spontaneously lead to violent reaction
36	Flammable liquid, toxic, or self-heating liquid, toxic
362	Flammable liquid, toxic, which reacts with water, emitting flammable gas
X362	Flammable liquid, toxic, which reacts dangerously with water, emitting flammable gas
368	Flammable liquid, toxic, corrosive
38	Flammable liquid, corrosive
382	Flammable liquid, corrosive, which reacts with water, emitting flammable gas
X382	Flammable liquid, corrosive, which reacts dangerously with water, emitting flammable gas
39	Flammable liquid which can spontaneously lead to violent reaction
<hr/>	
40	Flammable solid, or self-reactive material, or self-heating material
423	Solid which reacts with water, emitting flammable gas

**HAZARD IDENTIFICATION CODES**  
**DISPLAYED ON SOME INTERMODAL CONTAINERS**

X423	Flammable solid which reacts dangerously with water, emitting flammable gas
43	Spontaneously flammable (pyrophoric) solid
44	Flammable solid, in the molten state at an elevated temperature
446	Flammable solid, toxic, in the molten state at an elevated temperature
46	Flammable solid, toxic, or self-heating solid, toxic
462	Toxic solid which reacts with water, emitting flammable gas
X462	Solid which reacts dangerously with water, emitting toxic gas
48	Flammable or self-heating solid, corrosive
482	Corrosive solid which reacts with water, emitting flammable gas
X482	Solid which reacts dangerously with water, emitting corrosive gas
<hr/>	
50	Oxidizing (fire-intensifying) substance
539	Flammable organic peroxide
55	Strongly oxidizing (fire-intensifying) substance
556	Strongly oxidizing (fire-intensifying) substance, toxic
558	Strongly oxidizing (fire-intensifying) substance, corrosive
559	Strongly oxidizing (fire-intensifying) substance which can spontaneously lead to violent reaction
56	Oxidizing (fire-intensifying) substance, toxic
568	Oxidizing (fire-intensifying) substance, toxic, corrosive
58	Oxidizing (fire-intensifying) substance, corrosive
59	Oxidizing (fire intensifying) substance which can spontaneously lead to violent reaction
<hr/>	
60	Toxic material
606	Infectious substance
623	Toxic liquid which reacts with water, emitting flammable gas
63	Toxic liquid, flammable
638	Toxic liquid, flammable, corrosive
639	Toxic liquid, flammable, which can spontaneously lead to violent reaction
64	Toxic solid, flammable or self-heating
642	Toxic solid which reacts with water, emitting flammable gas
65	Toxic material, oxidizing (fire-intensifying)
66	Highly toxic material
663	Highly toxic liquid, flammable
664	Highly toxic solid, flammable or self-heating
665	Highly toxic material, oxidizing (fire-intensifying)
668	Highly toxic material, corrosive

**HAZARD IDENTIFICATION CODES**  
**DISPLAYED ON SOME INTERMODAL CONTAINERS**

669	Highly toxic material which can spontaneously lead to violent reaction
68	Toxic material, corrosive
69	Toxic material which can spontaneously lead to violent reaction
<hr/>	
70	Radioactive material
72	Radioactive gas
723	Radioactive gas, flammable
73	Radioactive liquid, flammable
74	Radioactive solid, flammable
75	Radioactive material, oxidizing (fire-intensifying)
76	Radioactive material, toxic
78	Radioactive material, corrosive
<hr/>	
80	Corrosive material
X80	Corrosive material which reacts dangerously with water
823	Corrosive liquid which reacts with water, emitting flammable gas
83	Corrosive liquid, flammable
X83	Corrosive liquid, flammable, which reacts dangerously with water
839	Corrosive liquid, flammable, which can spontaneously lead to violent reaction
X839	Corrosive liquid, flammable, which can spontaneously lead to violent reaction and which reacts dangerously with water
84	Corrosive solid, flammable or self-heating
842	Corrosive solid which reacts with water, emitting flammable gas
85	Corrosive material, oxidizing (fire-intensifying)
856	Corrosive material, oxidizing and toxic
86	Corrosive material, toxic
88	Highly corrosive material
X88	Highly corrosive material which reacts dangerously with water
883	Highly corrosive liquid, flammable
884	Highly corrosive solid, flammable or self-heating
885	Highly corrosive material, oxidizing (fire-intensifying)
886	Highly corrosive material, toxic
X886	Highly corrosive material, toxic, which reacts dangerously with water
89	Corrosive material which can spontaneously lead to violent reaction
<hr/>	
90	Miscellaneous dangerous substance; environmentally hazardous substance
99	Miscellaneous dangerous substance transported at elevated temperature

**Note:** If an entry is highlighted in either the yellow-bordered or blue-bordered pages AND THERE IS NO FIRE, go directly to the Table of Initial Isolation and Protective Action Distances (green-bordered pages) and look up the ID number and name of material to obtain initial isolation and protective action distances. IF THERE IS A FIRE, or IF A FIRE IS INVOLVED, go directly to the appropriate guide (orange-bordered pages) and use the evacuation information shown under PUBLIC SAFETY.

ID No.	Guide No.	Name of Material
---	112	Ammonium nitrate-fuel oil mixtures
---	158	Biological agents
---	112	Blasting agent, n.o.s.
---	112	Explosive A
---	112	Explosive B
---	114	Explosive C
---	112	Explosives, division 1.1, 1.2, 1.3, 1.5 or 1.6
---	114	Explosives, division 1.4
---	153	Toxins
1001	116	Acetylene
1001	116	Acetylene, dissolved
1002	122	Air, compressed
1003	122	Air, refrigerated liquid (cryogenic liquid)
1003	122	Air, refrigerated liquid (cryogenic liquid), non-pressurized
1005	125	Ammonia, anhydrous
1005	125	Ammonia, anhydrous, liquefied
1005	125	Ammonia solution, with more than 50% Ammonia
1005	125	Anhydrous ammonia
1005	125	Anhydrous ammonia, liquefied
1006	121	Argon
1006	121	Argon, compressed
1008	125	Boron trifluoride
1008	125	Boron trifluoride, compressed
1009	126	Bromotrifluoromethane
1009	126	Refrigerant gas R-13B1
1010	116P	Butadienes, inhibited
1010	116P	Butadienes, stabilized
1010	116P	Butadienes and hydrocarbon mixture, stabilized

ID No.	Guide No.	Name of Material
1011	115	Butane
1011	115	Butane mixture
1012	115	Butylene
1013	120	Carbon dioxide
1013	120	Carbon dioxide, compressed
1014	122	Carbon dioxide and Oxygen mixture
1014	122	Carbon dioxide and Oxygen mixture, compressed
1014	122	Oxygen and Carbon dioxide mixture
1014	122	Oxygen and Carbon dioxide mixture, compressed
1015	126	Carbon dioxide and Nitrous oxide mixture
1015	126	Nitrous oxide and Carbon dioxide mixture
1016	119	Carbon monoxide
1016	119	Carbon monoxide, compressed
1017	124	Chlorine
1018	126	Chlorodifluoromethane
1018	126	Refrigerant gas R-22
1020	126	Chloropentafluoroethane
1020	126	Refrigerant gas R-115
1021	126	1-Chloro-1,2,2,2-tetrafluoroethane
1021	126	Chlorotetrafluoroethane
1021	126	Refrigerant gas R-124
1022	126	Chlorotrifluoromethane
1022	126	Refrigerant gas R-13
1023	119	Coal gas
1023	119	Coal gas, compressed
1026	119	Cyanogen
1026	119	Cyanogen, liquefied
1026	119	Cyanogen gas

**ID Guide** **Name of Material**  
**No. No.**

1027 115 Cyclopropane  
1027 115 Cyclopropane, liquefied  
1028 126 Dichlorodifluoromethane  
1028 126 Refrigerant gas R-12  
1029 126 Dichlorofluoromethane  
1029 126 Refrigerant gas R-21  
1030 115 1,1-Difluoroethane  
1030 115 Difluoroethane  
1030 115 Refrigerant gas R-152a  
1032 118 Dimethylamine, anhydrous  
1033 115 Dimethyl ether  
1035 115 Ethane  
1035 115 Ethane, compressed  
1036 118 Ethylamine  
1037 115 Ethyl chloride  
1038 115 Ethylene, refrigerated liquid  
(cryogenic liquid)  
1039 115 Ethyl methyl ether  
1039 115 Methyl ethyl ether  
1040 119P Ethylene oxide  
1040 119P Ethylene oxide with Nitrogen  
1041 115 Carbon dioxide and Ethylene  
oxide mixture, with more than  
9% but not more than 87%  
Ethylene oxide  
1041 115 Carbon dioxide and Ethylene  
oxide mixtures, with more  
than 6% Ethylene oxide  
1041 115 Ethylene oxide and Carbon  
dioxide mixture, with more  
than 9% but not more than  
87% Ethylene oxide  
1041 115 Ethylene oxide and Carbon  
dioxide mixtures, with more  
than 6 % Ethylene oxide

**ID Guide** **Name of Material**  
**No. No.**

1043 125 Fertilizer, ammoniating solution,  
with free Ammonia  
1044 126 Fire extinguishers with  
compressed gas  
1044 126 Fire extinguishers with  
liquefied gas  
1045 124 Fluorine  
1045 124 Fluorine, compressed  
1046 121 Helium  
1046 121 Helium, compressed  
1048 125 Hydrogen bromide, anhydrous  
1049 115 Hydrogen  
1049 115 Hydrogen, compressed  
1050 125 Hydrogen chloride, anhydrous  
1051 117 AC  
1051 117 Hydrocyanic acid, aqueous  
solutions, with more than  
20% Hydrogen cyanide  
1051 117 Hydrocyanic acid, liquefied  
1051 117 Hydrogen cyanide, anhydrous,  
stabilized  
1051 117 Hydrogen cyanide, stabilized  
1052 125 Hydrogen fluoride, anhydrous  
1053 117 Hydrogen sulfide  
1053 117 Hydrogen sulfide, liquefied  
1053 117 Hydrogen sulphide  
1053 117 Hydrogen sulphide, liquefied  
1055 115 Isobutylene  
1056 121 Krypton  
1056 121 Krypton, compressed  
1057 115 Lighter refills (cigarettes)  
(flammable gas)  
1057 115 Lighters (cigarettes)  
(flammable gas)  
1058 120 Liquefied gas (nonflammable)

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
1058	120	Liquefied gases, non-flammable, charged with Nitrogen, Carbon dioxide or Air	1075	115	Isobutylene
1060	116P	Methylacetylene and Propadiene mixture, stabilized	1075	115	Liquefied petroleum gas
1060	116P	Propadiene and Methylacetylene mixture, stabilized	1075	115	LPG
1061	118	Methylamine, anhydrous	1075	115	Petroleum gases, liquefied
1062	123	Methyl bromide	1075	115	Propane
1063	115	Methyl chloride	1075	115	Propane mixture
1063	115	Refrigerant gas R-40	1075	115	Propylene
1064	117	Methyl mercaptan	1076	125	CG
1065	121	Neon	1076	125	Diphosgene
1065	121	Neon, compressed	1076	125	DP
1066	121	Nitrogen	1076	125	Phosgene
1066	121	Nitrogen, compressed	1077	115	Propylene
1067	124	Dinitrogen tetroxide	1078	126	Dispersant gas, n.o.s.
1067	124	Dinitrogen tetroxide, liquefied	1078	126	Refrigerant gas, n.o.s.
1067	124	Nitrogen dioxide	1079	125	Sulfur dioxide
1067	124	Nitrogen dioxide, liquefied	1079	125	Sulfur dioxide, liquefied
1069	125	Nitrosyl chloride	1079	125	Sulphur dioxide
1070	122	Nitrous oxide	1079	125	Sulphur dioxide, liquefied
1070	122	Nitrous oxide, compressed	1080	126	Sulfur hexafluoride
1071	119	Oil gas	1080	126	Sulphur hexafluoride
1071	119	Oil gas, compressed	1081	116P	Tetrafluoroethylene, inhibited
1072	122	Oxygen	1081	116P	Tetrafluoroethylene, stabilized
1072	122	Oxygen, compressed	1082	119P	Trifluorochloroethylene
1073	122	Oxygen, refrigerated liquid (cryogenic liquid)	1082	119P	Trifluorochloroethylene, inhibited
1075	115	Butane	1082	119P	Trifluorochloroethylene, stabilized
1075	115	Butane mixture	1083	118	Trimethylamine, anhydrous
1075	115	Butylene	1085	116P	Vinyl bromide, inhibited
1075	115	Isobutane	1085	116P	Vinyl bromide, stabilized
1075	115	Isobutane mixture	1086	116P	Vinyl chloride, inhibited
			1086	116P	Vinyl chloride, stabilized
			1087	116P	Vinyl methyl ether

**ID Guide** **Name of Material**  
**No. No.**

1087 **116P** Vinyl methyl ether, inhibited  
1087 **116P** Vinyl methyl ether, stabilized  
1088 **127** Acetal  
1089 **129** Acetaldehyde  
1090 **127** Acetone  
1091 **127** Acetone oils  
1092 **131P** Acrolein, inhibited  
1092 **131P** Acrolein, stabilized  
1093 **131P** Acrylonitrile, inhibited  
1093 **131P** Acrylonitrile, stabilized  
1098 **131** Allyl alcohol  
1099 **131** Allyl bromide  
1100 **131** Allyl chloride  
1104 **129** Amyl acetates  
1105 **129** Amyl alcohols  
1105 **129** Pentanols  
1106 **132** Amylamines  
1107 **129** Amyl chloride  
1108 **128** n-Amylene  
1108 **128** 1-Pentene  
1109 **129** Amyl formates  
1110 **127** n-Amyl methyl ketone  
1110 **127** Amyl methyl ketone  
1110 **127** Methyl amyl ketone  
1111 **130** Amyl mercaptan  
1112 **140** Amyl nitrate  
1113 **129** Amyl nitrite  
1114 **130** Benzene  
1120 **129** Butanols  
1123 **129** Butyl acetates  
1125 **132** n-Butylamine  
1126 **130** 1-Bromobutane  
1126 **130** n-Butyl bromide

**ID Guide** **Name of Material**  
**No. No.**

1127 **130** Butyl chloride  
1127 **130** Chlorobutanes  
1128 **129** n-Butyl formate  
1129 **129** Butyraldehyde  
1130 **128** Camphor oil  
1131 **131** Carbon bisulfide  
1131 **131** Carbon bisulphide  
1131 **131** Carbon disulfide  
1131 **131** Carbon disulphide  
1133 **128** Adhesives (flammable)  
1134 **130** Chlorobenzene  
1135 **131** Ethylene chlorohydrin  
1136 **128** Coal tar distillates, flammable  
1139 **127** Coating solution  
1143 **131P** Crotonaldehyde, inhibited  
1143 **131P** Crotonaldehyde, stabilized  
1144 **128** Crotonylene  
1145 **128** Cyclohexane  
1146 **128** Cyclopentane  
1147 **130** Decahydronaphthalene  
1148 **129** Diacetone alcohol  
1149 **128** Butyl ethers  
1149 **128** Dibutyl ethers  
1150 **130P** 1,2-Dichloroethylene  
1150 **130P** Dichloroethylene  
1152 **130** Dichloropentanes  
1153 **127** Ethylene glycol diethyl ether  
1154 **132** Diethylamine  
1155 **127** Diethyl ether  
1155 **127** Ethyl ether  
1156 **127** Diethyl ketone  
1157 **128** Diisobutyl ketone  
1158 **132** Diisopropylamine

ID No.	Guide No.	Name of Material
1159	127	Diisopropyl ether
1160	132	Dimethylamine, aqueous solution
1160	132	Dimethylamine, solution
1161	129	Dimethyl carbonate
1162	155	Dimethyldichlorosilane
1163	131	1,1-Dimethylhydrazine
1163	131	Dimethylhydrazine, unsymmetrical
1164	130	Dimethyl sulfide
1164	130	Dimethyl sulphide
1165	127	Dioxane
1166	127	Dioxolane
1167	128P	Divinyl ether, inhibited
1167	128P	Divinyl ether, stabilized
1169	127	Extracts, aromatic, liquid
1170	127	Ethanol
1170	127	Ethanol, solution
1170	127	Ethyl alcohol
1170	127	Ethyl alcohol, solution
1171	127	Ethylene glycol monoethyl ether
1172	129	Ethylene glycol monoethyl ether acetate
1173	129	Ethyl acetate
1175	130	Ethylbenzene
1176	129	Ethyl borate
1177	130	2-Ethylbutyl acetate
1177	130	Ethylbutyl acetate
1178	130	2-Ethylbutyraldehyde
1179	127	Ethyl butyl ether
1180	130	Ethyl butyrate
1181	155	Ethyl chloroacetate
1182	155	Ethyl chloroformate
1183	139	Ethyldichlorosilane

ID No.	Guide No.	Name of Material
1184	131	Ethylene dichloride
1185	131P	Ethyleneimine, inhibited
1185	131P	Ethyleneimine, stabilized
1188	127	Ethylene glycol monomethyl ether
1189	129	Ethylene glycol monomethyl ether acetate
1190	129	Ethyl formate
1191	129	Ethylhexaldehydes
1191	129	Octyl aldehydes
1192	129	Ethyl lactate
1193	127	Ethyl methyl ketone
1193	127	Methyl ethyl ketone
1194	131	Ethyl nitrite, solution
1195	129	Ethyl propionate
1196	155	Ethyltrichlorosilane
1197	127	Extracts, flavoring, liquid
1197	127	Extracts, flavouring, liquid
1198	132	Formaldehyde, solution, flammable
1198	132	Formaldehyde, solutions (Formalin)
1199	132P	Furaldehydes
1199	132P	Furfural
1199	132P	Furfuraldehydes
1201	127	Fusel oil
1202	128	Diesel fuel
1202	128	Fuel oil
1202	128	Fuel oil, no. 1,2,4,5,6
1202	128	Gas oil
1202	128	Heating oil, light
1203	128	Gasohol
1203	128	Gasoline
1203	128	Motor spirit

ID No.	Guide No.	Name of Material
1203	128	Petrol
1204	127	Nitroglycerin, solution in alcohol, with not more than 1% Nitroglycerin
1206	128	Heptanes
1207	130	Hexaldehyde
1208	128	Hexanes
1208	128	Neohexane
1210	129	Ink, printer's, flammable
1210	129	Printing ink, flammable
1210	129	Printing ink related material
1212	129	Isobutanol
1212	129	Isobutyl alcohol
1213	129	Isobutyl acetate
1214	132	Isobutylamine
1216	128	Isooctenes
1218	130P	Isoprene, inhibited
1218	130P	Isoprene, stabilized
1219	129	Isopropanol
1219	129	Isopropyl alcohol
1220	129	Isopropyl acetate
1221	132	Isopropylamine
1222	130	Isopropyl nitrate
1223	128	Kerosene
1224	127	Ketones, liquid, n.o.s.
1226	128	Lighters for cigars, cigarettes (flammable liquid)
1228	131	Mercaptan mixture, liquid, flammable, poisonous, n.o.s.
1228	131	Mercaptan mixture, liquid, flammable, toxic, n.o.s.
1228	131	Mercaptan mixtures, liquid, n.o.s.
1228	131	Mercaptans, liquid, flammable, poisonous, n.o.s.

ID No.	Guide No.	Name of Material
1228	131	Mercaptans, liquid, flammable, toxic, n.o.s.
1229	129	Mesityl oxide
1230	131	Methanol
1230	131	Methyl alcohol
1231	129	Methyl acetate
1233	130	Methylamyl acetate
1234	127	Methylal
1235	132	Methylamine, aqueous solution
1237	129	Methyl butyrate
1238	155	Methyl chloroformate
1239	131	Methyl chloromethyl ether
1242	139	Methyldichlorosilane
1243	129	Methyl formate
1244	131	Methylhydrazine
1245	127	Methyl isobutyl ketone
1246	127P	Methyl isopropenyl ketone, inhibited
1246	127P	Methyl isopropenyl ketone, stabilized
1247	129P	Methyl methacrylate monomer, inhibited
1247	129P	Methyl methacrylate monomer, stabilized
1248	129	Methyl propionate
1249	127	Methyl propyl ketone
1250	155	Methyltrichlorosilane
1251	131P	Methyl vinyl ketone
1251	131P	Methyl vinyl ketone, stabilized
1259	131	Nickel carbonyl
1261	129	Nitromethane
1262	128	Isooctane
1262	128	Octanes
1263	128	Paint (flammable)

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
1263	128	Paint related material (flammable)	1292	129	Ethyl silicate
1264	129	Paraldehyde	1292	129	Tetraethyl silicate
1265	128	Isopentane	1293	127	Tinctures, medicinal
1265	128	n-Pentane	1294	130	Toluene
1265	128	Pentanes	1295	139	Trichlorosilane
1266	127	Perfumery products, with flammable solvents	1296	132	Triethylamine
1267	128	Petroleum crude oil	1297	132	Trimethylamine, aqueous solution
1268	128	Petroleum distillates, n.o.s.	1298	155	Trimethylchlorosilane
1268	128	Petroleum products, n.o.s.	1299	128	Turpentine
1270	128	Oil, petroleum	1300	128	Turpentine substitute
1270	128	Petroleum oil	1301	129P	Vinyl acetate
1272	129	Pine oil	1301	129P	Vinyl acetate, inhibited
1274	129	n-Propanol	1301	129P	Vinyl acetate, stabilized
1274	129	normal Propyl alcohol	1302	127P	Vinyl ethyl ether
1274	129	Propyl alcohol, normal	1302	127P	Vinyl ethyl ether, inhibited
1275	129	Propionaldehyde	1302	127P	Vinyl ethyl ether, stabilized
1276	129	n-Propyl acetate	1303	130P	Vinylidene chloride, inhibited
1277	132	Monopropylamine	1303	130P	Vinylidene chloride, stabilized
1277	132	Propylamine	1304	127P	Vinyl isobutyl ether
1278	129	1-Chloropropane	1304	127P	Vinyl isobutyl ether, inhibited
1278	129	Propyl chloride	1304	127P	Vinyl isobutyl ether, stabilized
1279	130	1,2-Dichloropropane	1305	155P	Vinyltrichlorosilane
1279	130	Dichloropropane	1305	155P	Vinyltrichlorosilane, inhibited
1279	130	Propylene dichloride	1305	155P	Vinyltrichlorosilane, stabilized
1280	127P	Propylene oxide	1306	129	Wood preservatives, liquid
1281	129	Propyl formates	1307	130	Xylenes
1282	129	Pyridine	1308	170	Zirconium metal, liquid suspension
1286	127	Rosin oil	1308	170	Zirconium suspended in a flammable liquid
1287	127	Rubber solution	1308	170	Zirconium suspended in a liquid (flammable)
1288	128	Shale oil	1309	170	Aluminum powder, coated
1289	132	Sodium methylate, solution in alcohol			

ID No.	Guide No.	Name of Material
1310	113	Ammonium picrate, wetted with not less than 10% water
1312	133	Borneol
1313	133	Calcium resinate
1314	133	Calcium resinate, fused
1318	133	Cobalt resinate, precipitated
1320	113	Dinitrophenol, wetted with not less than 15% water
1321	113	Dinitrophenolates, wetted with not less than 15% water
1322	113	Dinitroresorcinol, wetted with not less than 15% water
1323	170	Ferrocium
1324	133	Films, nitrocellulose base
1325	133	Flammable solid, n.o.s.
1325	133	Flammable solid, organic, n.o.s.
1325	133	Fusee (rail or highway)
1325	133	Medicines, flammable, solid, n.o.s.
1326	170	Hafnium powder, wetted with not less than 25% water
1327	133	Bhusa, wet, damp or contaminated with oil
1327	133	Hay, wet, damp or contaminated with oil
1327	133	Straw, wet, damp or contaminated with oil
1328	133	Hexamethylenetetramine
1328	133	Hexamine
1330	133	Manganese resinate
1331	133	Matches, "strike anywhere"
1332	133	Metaldehyde
1333	170	Cerium, slabs, ingots or rods
1334	133	Naphthalene, crude
1334	133	Naphthalene, refined

ID No.	Guide No.	Name of Material
1336	113	Nitroguanidine (Picrite), wetted with not less than 20% water
1336	113	Nitroguanidine, wetted with not less than 20% water
1336	113	Picrite, wetted
1337	113	Nitrostarch, wetted with not less than 20% water
1337	113	Nitrostarch, wetted with not less than 30% solvent
1338	133	Phosphorus, amorphous
1338	133	Phosphorus, amorphous, red
1338	133	Red phosphorus
1338	133	Red phosphorus, amorphous
1339	139	Phosphorus heptasulfide, free from yellow and white Phosphorus
1339	139	Phosphorus heptasulphide, free from yellow and white Phosphorus
1340	139	Phosphorus pentasulfide, free from yellow and white Phosphorus
1340	139	Phosphorus pentasulphide, free from yellow and white Phosphorus
1341	139	Phosphorus sesquisulfide, free from yellow and white Phosphorus
1341	139	Phosphorus sesquisulphide, free from yellow and white Phosphorus
1343	139	Phosphorus trisulfide, free from yellow and white Phosphorus
1343	139	Phosphorus trisulphide, free from yellow and white Phosphorus
1344	113	Picric acid, wet, with not less than 10% water

ID No.	Guide No.	Name of Material
1344	113	Trinitrophenol, wetted with not less than 30% water
1345	133	Rubber scrap, powdered or granulated
1345	133	Rubber shoddy, powdered or granulated
1346	170	Silicon powder, amorphous
1347	113	Silver picrate, wetted with not less than 30% water
1348	113	Sodium dinitro-o-cresolate, wetted with not less than 15% water
1348	113	Sodium dinitro-ortho-cresolate, wetted
1349	113	Sodium picramate, wetted with not less than 20% water
1350	133	Sulfur
1350	133	Sulphur
1352	170	Titanium powder, wetted with not less than 25% water
1353	133	Fabrics impregnated with weakly nitrated Nitrocellulose, n.o.s.
1353	133	Fibers impregnated with weakly nitrated Nitrocellulose, n.o.s.
1353	133	Fibres impregnated with weakly nitrated Nitrocellulose, n.o.s.
1353	133	Toe puffs, nitrocellulose base
1354	113	Trinitrobenzene, wetted with not less than 30% water
1355	113	Trinitrobenzoic acid, wetted with not less than 30% water
1356	113	TNT, wetted with not less than 30% water
1356	113	Trinitrotoluene, wetted with not less than 30% water
1357	113	Urea nitrate, wetted with not less than 20% water

ID No.	Guide No.	Name of Material
1358	170	Zirconium metal, powder, wet
1358	170	Zirconium powder, wetted with not less than 25% water
1360	139	Calcium phosphide
1361	133	Carbon, animal or vegetable origin
1361	133	Charcoal
1362	133	Carbon, activated
1363	135	Copra
1364	133	Cotton waste, oily
1365	133	Cotton
1365	133	Cotton, wet
1366	135	Diethylzinc
1369	135	p-Nitrosodimethylaniline
1370	135	Dimethylzinc
1372	133	Fiber, animal or vegetable, n.o.s., burnt, wet or damp
1372	133	Fibers, animal or vegetable, burnt, wet or damp
1372	133	Fibres, animal or vegetable, burnt, wet or damp
1373	133	Fabrics, animal or vegetable or synthetic, n.o.s. with oil
1373	133	Fibers, animal or vegetable or synthetic, n.o.s. with oil
1373	133	Fibres, animal or vegetable or synthetic, n.o.s. with oil
1374	133	Fish meal, unstabilized
1374	133	Fish scrap, unstabilized
1376	135	Iron oxide, spent
1376	135	Iron sponge, spent
1378	170	Metal catalyst, wetted
1379	133	Paper, unsaturated oil treated
1380	135	Pentaborane

ID No.	Guide No.	Name of Material
1381	136	Phosphorus, white, dry or under water or in solution
1381	136	Phosphorus, yellow, dry or under water or in solution
1381	136	White phosphorus, dry
1381	136	White phosphorus, in solution
1381	136	White phosphorus, under water
1381	136	Yellow phosphorus, dry
1381	136	Yellow phosphorus, in solution
1381	136	Yellow phosphorus, under water
1382	135	Potassium sulfide, anhydrous
1382	135	Potassium sulfide, with less than 30% water of crystallization
1382	135	Potassium sulfide, with less than 30% water of hydration
1382	135	Potassium sulphide, anhydrous
1382	135	Potassium sulphide, with less than 30% water of crystallization
1382	135	Potassium sulphide, with less than 30% water of hydration
1383	135	Aluminum powder, pyrophoric
1383	135	Pyrophoric alloy, n.o.s.
1383	135	Pyrophoric metal, n.o.s.
1384	135	Sodium dithionite
1384	135	Sodium hydrosulfite
1384	135	Sodium hydrosulphite
1385	135	Sodium sulfide, anhydrous
1385	135	Sodium sulfide, with less than 30% water of crystallization
1385	135	Sodium sulphide, anhydrous
1385	135	Sodium sulphide, with less than 30% water of crystallization

ID No.	Guide No.	Name of Material
1386	135	Seed cake, with more than 1.5% oil and not more than 11% moisture
1387	133	Wool waste, wet
1389	138	Alkali metal amalgam
1389	138	Alkali metal amalgam, liquid
1389	138	Alkali metal amalgam, solid
1390	139	Alkali metal amides
1391	138	Alkali metal dispersion
1391	138	Alkaline earth metal dispersion
1392	138	Alkaline earth metal amalgam
1392	138	Alkaline earth metal amalgam, liquid
1393	138	Alkaline earth metal alloy, n.o.s.
1394	138	Aluminum carbide
1395	139	Aluminum ferrosilicon powder
1396	138	Aluminum powder, uncoated
1397	139	Aluminum phosphide
1398	138	Aluminum silicon powder, uncoated
1400	138	Barium
1401	138	Calcium
1402	138	Calcium carbide
1403	138	Calcium cyanamide, with more than 0.1% Calcium carbide
1404	138	Calcium hydride
1405	138	Calcium silicide
1406	138	Calcium silicon
1407	138	Caesium
1407	138	Cesium
1408	139	Ferrosilicon
1409	138	Hydrides, metal, n.o.s.
1409	138	Metal hydrides, water-reactive, n.o.s.

**ID Guide Name of Material**  
**No. No.**

1410 **138** Lithium aluminum hydride  
1411 **138** Lithium aluminum hydride, ethereal  
**1412 139** Lithium amide  
1413 **138** Lithium borohydride  
1414 **138** Lithium hydride  
1415 **138** Lithium  
1417 **138** Lithium silicon  
1418 **138** Magnesium alloys powder  
1418 **138** Magnesium powder  
**1419 139** Magnesium aluminum phosphide  
1420 **138** Potassium, metal alloys  
1420 **138** Potassium, metal alloys, liquid  
1421 **138** Alkali metal alloy, liquid, n.o.s.  
1422 **138** Potassium sodium alloys  
1422 **138** Potassium sodium alloys, liquid  
1422 **138** Sodium potassium alloys  
1422 **138** Sodium potassium alloys, liquid  
1423 **138** Rubidium  
1423 **138** Rubidium metal  
1426 **138** Sodium borohydride  
1427 **138** Sodium hydride  
1428 **138** Sodium  
1431 **138** Sodium methylate  
1431 **138** Sodium methylate, dry  
**1432 139** Sodium phosphide  
1433 **139** Stannic phosphides  
1435 **138** Zinc ashes  
1435 **138** Zinc dross  
1435 **138** Zinc residue  
1435 **138** Zinc skimmings  
1436 **138** Zinc dust  
1436 **138** Zinc powder

**ID Guide Name of Material**  
**No. No.**

1437 **138** Zirconium hydride  
1438 **140** Aluminum nitrate  
1439 **141** Ammonium dichromate  
1442 **143** Ammonium perchlorate  
1444 **140** Ammonium persulfate  
1444 **140** Ammonium persulphate  
1445 **141** Barium chlorate  
1445 **141** Barium chlorate, solid  
1446 **141** Barium nitrate  
1447 **141** Barium perchlorate  
1447 **141** Barium perchlorate, solid  
1448 **141** Barium permanganate  
1449 **141** Barium peroxide  
1450 **141** Bromates, inorganic, n.o.s.  
1451 **140** Caesium nitrate  
1451 **140** Cesium nitrate  
1452 **140** Calcium chlorate  
1453 **140** Calcium chlorite  
1454 **140** Calcium nitrate  
1455 **140** Calcium perchlorate  
1456 **140** Calcium permanganate  
1457 **140** Calcium peroxide  
1458 **140** Borate and Chlorate mixtures  
1458 **140** Chlorate and Borate mixtures  
1459 **140** Chlorate and Magnesium chloride mixture  
1459 **140** Chlorate and Magnesium chloride mixture, solid  
1459 **140** Magnesium chloride and Chlorate mixture  
1459 **140** Magnesium chloride and Chlorate mixture, solid  
1461 **140** Chlorates, inorganic, n.o.s.  
1462 **143** Chlorites, inorganic, n.o.s.

**ID No.** **Guide No.** **Name of Material**

1463 141 Chromic acid, solid  
1463 141 Chromium trioxide, anhydrous  
1465 140 Didymium nitrate  
1466 140 Ferric nitrate  
1467 143 Guanidine nitrate  
1469 141 Lead nitrate  
1470 141 Lead perchlorate  
1470 141 Lead perchlorate, solid  
1470 141 Lead perchlorate, solution  
1471 140 Lithium hypochlorite, dry  
1471 140 Lithium hypochlorite mixture  
1471 140 Lithium hypochlorite mixtures, dry  
1472 143 Lithium peroxide  
1473 140 Magnesium bromate  
1474 140 Magnesium nitrate  
1475 140 Magnesium perchlorate  
1476 140 Magnesium peroxide  
1477 140 Nitrates, inorganic, n.o.s.  
1479 140 Medicines, oxidizing substances, solid, n.o.s.  
1479 140 Oxidizing solid, n.o.s.  
1479 140 Oxidizing substances, solid, n.o.s.  
1481 140 Perchlorates, inorganic, n.o.s.  
1482 140 Permanganates, inorganic, n.o.s.  
1483 140 Peroxides, inorganic, n.o.s.  
1484 140 Potassium bromate  
1485 140 Potassium chlorate  
1486 140 Potassium nitrate  
1487 140 Potassium nitrate and Sodium nitrite mixture  
1487 140 Sodium nitrite and Potassium nitrate mixture

**ID No.** **Guide No.** **Name of Material**

1488 140 Potassium nitrite  
1489 140 Potassium perchlorate  
1490 140 Potassium permanganate  
1491 144 Potassium peroxide  
1492 140 Potassium persulfate  
1492 140 Potassium persulphate  
1493 140 Silver nitrate  
1494 141 Sodium bromate  
1495 140 Sodium chlorate  
1496 143 Sodium chlorite  
1498 140 Sodium nitrate  
1499 140 Potassium nitrate and Sodium nitrate mixture  
1499 140 Sodium nitrate and Potassium nitrate mixture  
1500 140 Sodium nitrite  
1502 140 Sodium perchlorate  
1503 140 Sodium permanganate  
1504 144 Sodium peroxide  
1505 140 Sodium persulfate  
1505 140 Sodium persulphate  
1506 143 Strontium chlorate  
1506 143 Strontium chlorate, solid  
1506 143 Strontium chlorate, solution  
1507 140 Strontium nitrate  
1508 140 Strontium perchlorate  
1509 143 Strontium peroxide  
1510 143 Tetranitromethane  
1511 140 Urea hydrogen peroxide  
1512 140 Zinc ammonium nitrite  
1513 140 Zinc chlorate  
1514 140 Zinc nitrate  
1515 140 Zinc permanganate

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
1516	143	Zinc peroxide	1557	152	Arsenic sulfide
1517	113	Zirconium picramate, wetted with not less than 20% water	1557	152	Arsenic sulphide
1541	155	Acetone cyanohydrin, stabilized	1557	152	Arsenic trisulfide
1544	151	Alkaloids, solid, n.o.s. (poisonous)	1557	152	Arsenic trisulphide
1544	151	Alkaloid salts, solid, n.o.s. (poisonous)	1558	152	Arsenic
1545	155	Allyl isothiocyanate, inhibited	1559	151	Arsenic pentoxide
1545	155	Allyl isothiocyanate, stabilized	1560	157	Arsenic chloride
1546	151	Ammonium arsenate	1560	157	Arsenic trichloride
1547	153	Aniline	1561	151	Arsenic trioxide
1548	153	Aniline hydrochloride	1562	152	Arsenical dust
1549	157	Antimony compound, inorganic, n.o.s.	1564	154	Barium compound, n.o.s.
1549	157	Antimony compound, inorganic, solid, n.o.s.	1565	157	Barium cyanide
1549	157	Antimony tribromide, solid	1566	154	Beryllium compound, n.o.s.
1549	157	Antimony tribromide, solution	1567	134	Beryllium powder
1549	157	Antimony trifluoride, solid	1569	131	Bromoacetone
1549	157	Antimony trifluoride, solution	1570	152	Brucine
1550	151	Antimony lactate	1571	113	Barium azide, wetted with not less than 50% water
1551	151	Antimony potassium tartrate	1572	151	Cacodylic acid
1553	154	Arsenic acid, liquid	1573	151	Calcium arsenate
1554	154	Arsenic acid, solid	1574	151	Calcium arsenate and Calcium arsenite mixture, solid
1555	151	Arsenic bromide	1574	151	Calcium arsenite, solid
1556	152	Arsenic compound, liquid, n.o.s.	1574	151	Calcium arsenite and Calcium arsenate mixture, solid
1556	152	Arsenic compound, liquid, n.o.s., inorganic	1575	157	Calcium cyanide
1556	152	MD	1577	153	Chlorodinitrobenzenes
1556	152	Methyldichloroarsine	1577	153	Chlorodinitrobenzenes, liquid
1556	152	PD	1577	153	Chlorodinitrobenzenes, solid
1557	152	Arsenic compound, solid, n.o.s.	1577	153	Dinitrochlorobenzenes
1557	152	Arsenic compound, solid, n.o.s., inorganic	1578	152	Chloronitrobenzenes
			1578	152	Chloronitrobenzenes, liquid
			1578	152	Chloronitrobenzenes, solid

**ID Guide**  
**No. No.**

1579 153 4-Chloro-o-toluidine  
hydrochloride

1579 153 4-Chloro-o-toluidine  
hydrochloride, solid

1580 154 Chloropicrin

1581 123 Chloropicrin and Methyl  
bromide mixture

1581 123 Methyl bromide and  
Chloropicrin mixture

1582 119 Chloropicrin and Methyl  
chloride mixture

1582 119 Methyl chloride and  
Chloropicrin mixture

1583 154 Chloropicrin mixture, n.o.s.

1585 151 Copper acetoarsenite

1586 151 Copper arsenite

1587 151 Copper cyanide

1588 157 Cyanides, inorganic, n.o.s.

1588 157 Cyanides, inorganic, solid,  
n.o.s.

1589 125 CK

1589 125 Cyanogen chloride, inhibited

1589 125 Cyanogen chloride, stabilized

1590 153 Dichloroanilines

1590 153 Dichloroanilines, liquid

1590 153 Dichloroanilines, solid

1591 152 o-Dichlorobenzene

1593 160 Dichloromethane

1593 160 Methylene chloride

1594 152 Diethyl sulfate

1594 152 Diethyl sulphate

1595 156 Dimethyl sulfate

1595 156 Dimethyl sulphate

1596 153 Dinitroanilines

1597 152 Dinitrobenzenes

**ID Guide**  
**No. No.**

1597 152 Dinitrobenzenes, liquid

1597 152 Dinitrobenzenes, solid

1598 153 Dinitro-o-cresol

1599 153 Dinitrophenol, solution

1600 152 Dinitrotoluenes, molten

1601 151 Disinfectant, solid, poisonous,  
n.o.s.

1601 151 Disinfectant, solid, toxic, n.o.s.

1601 151 Disinfectants, solid, n.o.s.  
(poisonous)

1602 151 Dye, liquid, poisonous, n.o.s.

1602 151 Dye, liquid, toxic, n.o.s.

1602 151 Dye intermediate, liquid,  
poisonous, n.o.s.

1602 151 Dye intermediate, liquid, toxic,  
n.o.s.

1603 155 Ethyl bromoacetate

1604 132 Ethylenediamine

1605 154 Ethylene dibromide

1606 151 Ferric arsenate

1607 151 Ferric arsenite

1608 151 Ferrous arsenate

1610 159 Halogenated irritating liquid, n.o.s.

1611 151 Hexaethyl tetraphosphate

1611 151 Hexaethyl tetraphosphate,  
liquid

1611 151 Hexaethyl tetraphosphate, solid

1612 123 Hexaethyl tetraphosphate and  
compressed gas mixture

1613 154 Hydrocyanic acid, aqueous  
solution, with less than 5%  
Hydrogen cyanide

1613 154 Hydrocyanic acid, aqueous  
solution, with not more than  
20% Hydrogen cyanide

**ID Guide**  
**No. No.**

1613 154 Hydrogen cyanide, aqueous solution, with not more than 20% Hydrogen cyanide

1614 152 Hydrogen cyanide, anhydrous, stabilized (absorbed)

1614 152 Hydrogen cyanide, stabilized (absorbed)

1616 151 Lead acetate

1617 151 Lead arsenates

1618 151 Lead arsenites

1620 151 Lead cyanide

1621 151 London purple

1622 151 Magnesium arsenate

1623 151 Mercuric arsenate

1624 154 Mercuric chloride

1625 141 Mercuric nitrate

1626 157 Mercuric potassium cyanide

1627 141 Mercurous nitrate

1629 151 Mercury acetate

1630 151 Mercury ammonium chloride

1631 154 Mercury benzoate

1634 154 Mercuric bromide

1634 154 Mercurous bromide

1634 154 Mercury bromides

1636 154 Mercuric cyanide

1636 154 Mercury cyanide

1637 151 Mercury gluconate

1638 151 Mercury iodide

1639 151 Mercury nucleate

1640 151 Mercury oleate

1641 151 Mercury oxide

1642 151 Mercuric oxycyanide

1642 151 Mercury oxycyanide, desensitized

**ID Guide**  
**No. No.**

1643 151 Mercury potassium iodide

1644 151 Mercury salicylate

1645 151 Mercuric sulfate

1645 151 Mercuric sulphate

1645 151 Mercury sulfate

1645 151 Mercury sulphate

1646 151 Mercury thiocyanate

1647 151 Ethylene dibromide and Methyl bromide mixture, liquid

1647 151 Methyl bromide and Ethylene dibromide mixture, liquid

1648 127 Acetonitrile

1648 127 Methyl cyanide

1649 131 Motor fuel anti-knock mixture

1649 131 Tetraethyl lead, liquid

1650 153 beta-Naphthylamine

1650 153 beta-Naphthylamine, solid

1650 153 Naphthylamine (beta)

1650 153 Naphthylamine (beta), solid

1651 153 Naphthylthiourea

1652 153 Naphthylurea

1653 151 Nickel cyanide

1654 151 Nicotine

1655 151 Nicotine compound, solid, n.o.s.

1655 151 Nicotine preparation, solid, n.o.s.

1656 151 Nicotine hydrochloride

1656 151 Nicotine hydrochloride, liquid

1656 151 Nicotine hydrochloride, solid

1656 151 Nicotine hydrochloride, solution

1657 151 Nicotine salicylate

1658 151 Nicotine sulfate, solid

1658 151 Nicotine sulfate, solution

1658 151 Nicotine sulphate, solid

**ID Guide**  
**No. No.**

1658 151 Nicotine sulphate, solution  
1659 151 Nicotine tartrate  
1660 124 Nitric oxide  
1660 124 Nitric oxide, compressed  
1661 153 Nitroanilines  
1662 152 Nitrobenzene  
1663 153 Nitrophenols  
1664 152 Nitrotoluenes  
1664 152 Nitrotoluenes, liquid  
1664 152 Nitrotoluenes, solid  
1665 152 Nitroxylens  
1665 152 Nitroxylens, liquid  
1665 152 Nitroxylens, solid  
1669 151 Pentachloroethane  
1670 157 Perchloromethyl mercaptan  
1671 153 Phenol, solid  
1672 151 Phenylcarbylamine chloride  
1673 153 Phenylenediamines  
1674 151 Phenylmercuric acetate  
1677 151 Potassium arsenate  
1678 154 Potassium arsenite  
1679 157 Potassium cuprocyanide  
1680 157 Potassium cyanide  
1680 157 Potassium cyanide, solid  
1683 151 Silver arsenite  
1684 151 Silver cyanide  
1685 151 Sodium arsenate  
1686 154 Sodium arsenite, aqueous solution  
1687 153 Sodium azide  
1688 152 Sodium cacodylate  
1689 157 Sodium cyanide  
1689 157 Sodium cyanide, solid

**ID Guide**  
**No. No.**

1690 154 Sodium fluoride  
1690 154 Sodium fluoride, solid  
1691 151 Strontium arsenite  
1692 151 Strychnine  
1692 151 Strychnine salts  
1693 159 Tear gas devices  
1693 159 Tear gas substance, liquid, n.o.s.  
1693 159 Tear gas substance, solid, n.o.s.  
1694 159 Bromobenzyl cyanides  
1694 159 Bromobenzyl cyanides, liquid  
1694 159 Bromobenzyl cyanides, solid  
1694 159 CA  
1695 131 Chloroacetone, stabilized  
1697 153 Chloroacetophenone  
1697 153 Chloroacetophenone, liquid  
1697 153 Chloroacetophenone, solid  
1697 153 CN  
1698 154 Adamsite  
1698 154 Diphenylamine chloroarsine  
1698 154 DM  
1699 151 DA  
1699 151 Diphenylchloroarsine  
1699 151 Diphenylchloroarsine, liquid  
1699 151 Diphenylchloroarsine, solid  
1700 159 Tear gas candles  
1700 159 Tear gas grenades  
1701 152 Xylol bromide  
1701 152 Xylol bromide, liquid  
1702 151 1,1,2,2-Tetrachloroethane  
1702 151 Tetrachloroethane  
1704 153 Tetraethyl dithiopyrophosphate

ID No.	Guide No.	Name of Material
1704	153	Tetraethyl dithiopyrophosphate, mixture, dry or liquid
1707	151	Thallium compound, n.o.s.
1707	151	Thallium sulfate, solid
1707	151	Thallium sulphate, solid
1708	153	Toluidines
1708	153	Toluidines, liquid
1708	153	Toluidines, solid
1709	151	2,4-Toluediamine
1709	151	2,4-Toluylenediamine
1709	151	2,4-Toluylenediamine, solid
1710	160	Trichloroethylene
1711	153	Xylidines
1711	153	Xylidines, liquid
1711	153	Xylidines, solid
1712	151	Zinc arsenate
1712	151	Zinc arsenate and Zinc arsenite mixture
1712	151	Zinc arsenite
1712	151	Zinc arsenite and Zinc arsenate mixture
1713	151	Zinc cyanide
1714	139	Zinc phosphide
1715	137	Acetic anhydride
1716	156	Acetyl bromide
1717	155	Acetyl chloride
1718	153	Acid butyl phosphate
1718	153	Butyl acid phosphate
1719	154	Caustic alkali liquid, n.o.s.
1722	155	Allyl chlorocarbonate
1722	155	Allyl chloroformate
1723	132	Allyl iodide
1724	155	Allyltrichlorosilane, stabilized

ID No.	Guide No.	Name of Material
1725	137	Aluminum bromide, anhydrous
1726	137	Aluminum chloride, anhydrous
1727	154	Ammonium bifluoride, solid
1727	154	Ammonium hydrogendifluoride, solid
1727	154	Ammonium hydrogen fluoride, solid
1728	155	Amyltrichlorosilane
1729	156	Anisoyl chloride
1730	157	Antimony pentachloride, liquid
1731	157	Antimony pentachloride, solution
1732	157	Antimony pentafluoride
1733	157	Antimony trichloride
1733	157	Antimony trichloride, liquid
1733	157	Antimony trichloride, solid
1733	157	Antimony trichloride, solution
1736	137	Benzoyl chloride
1737	156	Benzyl bromide
1738	156	Benzyl chloride
1739	137	Benzyl chloroformate
1740	154	Hydrogendifluorides, n.o.s.
1741	125	Boron trichloride
1742	157	Boron trifluoride acetic acid complex
1742	157	Boron trifluoride acetic acid complex, liquid
1743	157	Boron trifluoride propionic acid complex
1743	157	Boron trifluoride propionic acid complex, liquid
1744	154	Bromine
1744	154	Bromine, solution
1745	144	Bromine pentafluoride

**ID Guide** **Name of Material**  
**No. No.**

1746 144 Bromine trifluoride

1747 155 Butyltrichlorosilane

1748 140 Calcium hypochlorite, dry

1748 140 Calcium hypochlorite mixture, dry, with more than 39% available Chlorine (8.8% available Oxygen)

1749 124 Chlorine trifluoride

1750 153 Chloroacetic acid, liquid

1750 153 Chloroacetic acid, solution

1751 153 Chloroacetic acid, solid

1752 156 Chloroacetyl chloride

1753 156 Chlorophenyltrichlorosilane

1754 137 Chlorosulfonic acid

1754 137 Chlorosulfonic acid and Sulfur trioxide mixture

1754 137 Chlorosulphonic acid

1754 137 Chlorosulphonic acid and Sulphur trioxide mixture

1754 137 Sulfur trioxide and Chlorosulfonic acid mixture

1754 137 Sulphur trioxide and Chlorosulphonic acid mixture

1755 154 Chromic acid, solution

1756 154 Chromic fluoride, solid

1757 154 Chromic fluoride, solution

1758 137 Chromium oxychloride

1759 154 Corrosive solid, n.o.s.

1759 154 Ferrous chloride, solid

1759 154 Medicines, corrosive, solid, n.o.s.

1760 154 Chemical kit

1760 154 Compound, cleaning liquid (corrosive)

**ID Guide** **Name of Material**  
**No. No.**

1760 154 Compound, tree or weed killing, liquid (corrosive)

1760 154 Corrosive liquid, n.o.s.

1760 154 Ferrous chloride, solution

1760 154 Medicines, corrosive, liquid, n.o.s.

1760 154 Titanium sulfate, solution

1760 154 Titanium sulphate, solution

1761 154 Cupriethylenediamine, solution

1762 156 Cyclohexenyltrichlorosilane

1763 156 Cyclohexyltrichlorosilane

1764 153 Dichloroacetic acid

1765 156 Dichloroacetyl chloride

1766 156 Dichlorophenyltrichlorosilane

1767 155 Diethyldichlorosilane

1768 154 Difluorophosphoric acid, anhydrous

1769 156 Diphenyldichlorosilane

1770 153 Diphenylmethyl bromide

1771 156 Dodecyltrichlorosilane

1773 157 Ferric chloride

1773 157 Ferric chloride, anhydrous

1774 154 Fire extinguisher charges, corrosive liquid

1775 154 Fluoboric acid

1775 154 Fluoroboric acid

1776 154 Fluorophosphoric acid, anhydrous

1777 137 Fluorosulfonic acid

1777 137 Fluorosulphonic acid

1778 154 Fluorosilicic acid

1778 154 Fluosilicic acid

1778 154 Hydrofluorosilicic acid

1779 153 Formic acid

1780 156 Fumaryl chloride

ID No.	Guide No.	Name of Material
1781	156	Hexadecyltrichlorosilane
1782	154	Hexafluorophosphoric acid
1783	153	Hexamethylenediamine, solution
1784	156	Hexyltrichlorosilane
1786	157	Hydrofluoric acid and Sulfuric acid mixture
1786	157	Hydrofluoric acid and Sulphuric acid mixture
1786	157	Sulfuric acid and Hydrofluoric acid mixture
1786	157	Sulphuric acid and Hydrofluoric acid mixture
1787	154	Hydriodic acid
1787	154	Hydriodic acid, solution
1788	154	Hydrobromic acid
1788	154	Hydrobromic acid, solution
1789	157	Hydrochloric acid
1789	157	Hydrochloric acid, solution
1789	157	Muriatic acid
1790	157	Hydrofluoric acid
1790	157	Hydrofluoric acid, solution
1791	154	Hypochlorite solution
1791	154	Hypochlorite solution, with more than 5% available Chlorine
1792	157	Iodine monochloride
1793	153	Isopropyl acid phosphate
1794	154	Lead sulfate, with more than 3% free acid
1794	154	Lead sulphate, with more than 3% free acid
1796	157	Nitrating acid mixture
1798	157	Aqua regia
1798	157	Nitrohydrochloric acid
1799	156	Nonyltrichlorosilane
1800	156	Octadecyltrichlorosilane

ID No.	Guide No.	Name of Material
1801	156	Octyltrichlorosilane
1802	140	Perchloric acid, with not more than 50% acid
1803	153	Phenolsulfonic acid, liquid
1803	153	Phenolsulphonic acid, liquid
1804	156	Phenyltrichlorosilane
1805	154	Phosphoric acid
1805	154	Phosphoric acid, liquid
1805	154	Phosphoric acid, solid
1805	154	Phosphoric acid, solution
1806	137	Phosphorus pentachloride
1807	137	Phosphorus pentoxide
1808	137	Phosphorus tribromide
1809	137	Phosphorus trichloride
1810	137	Phosphorus oxychloride
1811	154	Potassium hydrogendifluoride
1811	154	Potassium hydrogen difluoride, solid
1812	154	Potassium fluoride
1812	154	Potassium fluoride, solid
1813	154	Caustic potash, dry, solid
1813	154	Potassium hydroxide, dry, solid
1813	154	Potassium hydroxide, flake
1813	154	Potassium hydroxide, solid
1814	154	Caustic potash, liquid
1814	154	Caustic potash, solution
1814	154	Potassium hydroxide, solution
1815	132	Propionyl chloride
1816	155	Propyltrichlorosilane
1817	137	Pyrosulfuryl chloride
1817	137	Pyrosulphuryl chloride
1818	157	Silicon tetrachloride
1819	154	Sodium aluminate, solution

**ID Guide** **Name of Material**  
**No. No.**

1823 154 Caustic soda, bead  
1823 154 Caustic soda, flake  
1823 154 Caustic soda, granular  
1823 154 Caustic soda, solid  
1823 154 Sodium hydroxide, bead  
1823 154 Sodium hydroxide, dry  
1823 154 Sodium hydroxide, flake  
1823 154 Sodium hydroxide, granular  
1823 154 Sodium hydroxide, solid  
1824 154 Caustic soda, solution  
1824 154 Sodium hydroxide, solution  
1825 157 Sodium monoxide  
1826 157 Nitrating acid mixture, spent  
1827 137 Stannic chloride, anhydrous  
1827 137 Tin tetrachloride  
1828 137 Sulfur chlorides  
1828 137 Sulphur chlorides  
1829 137 Sulfur trioxide  
1829 137 Sulfur trioxide, inhibited  
1829 137 Sulfur trioxide, stabilized  
1829 137 Sulfur trioxide, uninhibited  
1829 137 Sulphur trioxide  
1829 137 Sulphur trioxide, inhibited  
1829 137 Sulphur trioxide, stabilized  
1829 137 Sulphur trioxide, uninhibited  
1830 137 Sulfuric acid  
1830 137 Sulfuric acid, with more than 51% acid  
1830 137 Sulphuric acid  
1830 137 Sulphuric acid, with more than 51% acid  
1831 137 Sulfuric acid, fuming

**ID Guide** **Name of Material**  
**No. No.**

1831 137 Sulfuric acid, fuming, with less than 30% free Sulfur trioxide  
1831 137 Sulfuric acid, fuming, with not less than 30% free Sulfur trioxide  
1831 137 Sulphuric acid, fuming  
1831 137 Sulphuric acid, fuming, with less than 30% free Sulphur trioxide  
1831 137 Sulphuric acid, fuming, with not less than 30% free Sulphur trioxide  
1832 137 Sulfuric acid, spent  
1832 137 Sulphuric acid, spent  
1833 154 Sulfurous acid  
1833 154 Sulphurous acid  
1834 137 Sulfuryl chloride  
1834 137 Sulphuryl chloride  
1835 153 Tetramethylammonium hydroxide  
1835 153 Tetramethylammonium hydroxide, solution  
1836 137 Thionyl chloride  
1837 157 Thiophosphoryl chloride  
1838 137 Titanium tetrachloride  
1839 153 Trichloroacetic acid  
1840 154 Zinc chloride, solution  
1841 171 Acetaldehyde ammonia  
1843 141 Ammonium dinitro-o-cresolate  
1843 141 Ammonium dinitro-o-cresolate, solid  
1845 120 Carbon dioxide, solid  
1845 120 Dry ice  
1846 151 Carbon tetrachloride

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
1847	153	Potassium sulfide, hydrated, with not less than 30% water of crystallization	1866	127	Resin solution
1847	153	Potassium sulfide, hydrated, with not less than 30% water of hydration	1868	134	Decaborane
1847	153	Potassium sulphide, hydrated, with not less than 30% water of crystallization	1869	138	Magnesium
1847	153	Potassium sulphide, hydrated, with not less than 30% water of hydration	1869	138	Magnesium, in pellets, turnings or ribbons
1848	132	Propionic acid	1869	138	Magnesium alloys, with more than 50% Magnesium, in pellets, turnings or ribbons
1849	153	Sodium sulfide, hydrated, with not less than 30% water	1870	138	Potassium borohydride
1849	153	Sodium sulphide, hydrated, with not less than 30% water	1871	170	Titanium hydride
1851	151	Medicine, liquid, poisonous, n.o.s.	1872	141	Lead dioxide
1851	151	Medicine, liquid, toxic, n.o.s.	1873	143	Perchloric acid, with more than 50% but not more than 72% acid
1854	135	Barium alloys, pyrophoric	1884	157	Barium oxide
1855	135	Calcium, metal and alloys, pyrophoric	1885	153	Benzidine
1855	135	Calcium, pyrophoric	1886	156	Benzylidene chloride
1855	135	Calcium alloys, pyrophoric	1887	160	Bromochloromethane
1856	133	Rags, oily	1888	151	Chloroform
1857	133	Textile waste, wet	1889	157	Cyanogen bromide
1858	126	Hexafluoropropylene	1891	131	Ethyl bromide
1858	126	Refrigerant gas R-1216	1892	151	ED
1859	125	Silicon tetrafluoride	1892	151	Ethylidichloroarsine
1859	125	Silicon tetrafluoride, compressed	1894	151	Phenylmercuric hydroxide
1860	116P	Vinyl fluoride, inhibited	1895	151	Phenylmercuric nitrate
1860	116P	Vinyl fluoride, stabilized	1897	160	Perchloroethylene
1862	130	Ethyl crotonate	1897	160	Tetrachloroethylene
1863	128	Fuel, aviation, turbine engine	1898	156	Acetyl iodide
1865	131	n-Propyl nitrate	1902	153	Diisooctyl acid phosphate
			1903	153	Disinfectant, liquid, corrosive, n.o.s.
			1903	153	Disinfectants, corrosive, liquid, n.o.s.
			1905	154	Selenic acid
			1906	153	Acid, sludge

**ID Guide**  
**No. No.**

1906 153 Sludge acid  
1907 154 Soda lime, with more than 4% Sodium hydroxide  
1908 154 Chlorite solution  
1908 154 Chlorite solution, with more than 5% available Chlorine  
1908 154 Sodium chlorite, solution, with more than 5% available Chlorine  
1910 157 Calcium oxide  
1911 119 Diborane  
1911 119 Diborane, compressed  
1911 119 Diborane mixtures  
1912 115 Methyl chloride and Methylene chloride mixture  
1912 115 Methylene chloride and Methyl chloride mixture  
1913 120 Neon, refrigerated liquid (cryogenic liquid)  
1914 130 Butyl propionates  
1915 127 Cyclohexanone  
1916 152 2,2'-Dichlorodiethyl ether  
1916 152 Dichloroethyl ether  
1917 129P Ethyl acrylate, inhibited  
1917 129P Ethyl acrylate, stabilized  
1918 130 Cumene  
1918 130 Isopropylbenzene  
1919 129P Methyl acrylate, inhibited  
1919 129P Methyl acrylate, stabilized  
1920 128 Nonanes  
1921 131P Propyleneimine, inhibited  
1921 131P Propyleneimine, stabilized  
1922 132 Pyrrolidine  
1923 135 Calcium dithionite  
1923 135 Calcium hydrosulfite

**ID Guide**  
**No. No.**

1923 135 Calcium hydrosulphite  
1928 135 Methyl magnesium bromide in Ethyl ether  
1929 135 Potassium dithionite  
1929 135 Potassium hydrosulfite  
1929 135 Potassium hydrosulphite  
1931 171 Zinc dithionite  
1931 171 Zinc hydrosulfite  
1931 171 Zinc hydrosulphite  
1932 135 Zirconium scrap  
1935 157 Cyanide solution, n.o.s.  
1938 156 Bromoacetic acid  
1938 156 Bromoacetic acid, solution  
1939 137 Phosphorus oxybromide  
1939 137 Phosphorus oxybromide, solid  
1940 153 Thioglycolic acid  
1941 171 Dibromodifluoromethane  
1942 140 Ammonium nitrate, with not more than 0.2% combustible substances  
1944 133 Matches, safety  
1945 133 Matches, wax "vesta"  
1950 126 Aerosol dispensers  
1950 126 Aerosols  
1951 120 Argon, refrigerated liquid (cryogenic liquid)  
1952 126 Carbon dioxide and Ethylene oxide mixtures, with not more than 6% Ethylene oxide  
1952 126 Carbon dioxide and Ethylene oxide mixtures, with not more than 9% Ethylene oxide  
1952 126 Ethylene oxide and Carbon dioxide mixtures, with not more than 6% Ethylene oxide

**ID Guide Name of Material**  
**No. No.**

1952 126 Ethylene oxide and Carbon dioxide mixtures, with not more than 9% Ethylene oxide

1953 119 Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone A)

1953 119 Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone B)

1953 119 Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone C)

1953 119 Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone D)

1953 119 Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone A)

1953 119 Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone B)

1953 119 Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone C)

1953 119 Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone D)

1953 119 Compressed gas, poisonous, flammable, n.o.s.

1953 119 Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)

1953 119 Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)

1953 119 Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)

**ID Guide Name of Material**  
**No. No.**

1953 119 Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)

1953 119 Compressed gas, toxic, flammable, n.o.s.

1953 119 Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)

1953 119 Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)

1953 119 Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)

1953 119 Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)

1953 119 Liquefied gas, flammable, poisonous, n.o.s.

1953 119 Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone A)

1953 119 Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone B)

1953 119 Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone C)

1953 119 Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone D)

1953 119 Liquefied gas, flammable, toxic, n.o.s.

1953 119 Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone A)

1953 119 Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone B)

**ID Guide No. No. Name of Material**

1953 119 Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone C)

1953 119 Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone D)

1954 115 Compressed gas, flammable, n.o.s.

1954 115 Dispersant gas, n.o.s. (flammable)

1954 115 Insecticide gas, flammable, n.o.s.

1954 115 Liquefied gas, flammable, n.o.s.

1954 115 Refrigerant gas, n.o.s. (flammable)

1954 115 Refrigerating machines, containing flammable, non-poisonous, non-corrosive, liquefied gas

1955 123 Compressed gas, poisonous, n.o.s.

1955 123 Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone A)

1955 123 Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone B)

1955 123 Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone C)

1955 123 Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone D)

1955 123 Compressed gas, toxic, n.o.s.

1955 123 Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone A)

1955 123 Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone B)

**ID Guide No. No. Name of Material**

1955 123 Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone C)

1955 123 Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone D)

1955 123 Liquefied gas, poisonous, n.o.s.

1955 123 Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone A)

1955 123 Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone B)

1955 123 Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone C)

1955 123 Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone D)

1955 123 Liquefied gas, toxic, n.o.s.

1955 123 Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone A)

1955 123 Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone B)

1955 123 Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone C)

1955 123 Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone D)

1955 123 Organic phosphate compound mixed with compressed gas

1955 123 Organic phosphate mixed with compressed gas

1955 123 Organic phosphorus compound mixed with compressed gas

1956 126 Accumulators, pressurized, pneumatic or hydraulic

1956 126 Compressed gas, n.o.s.

1956 126 Hexafluoropropylene oxide

1956 126 Liquefied gas, n.o.s.

1957 115 Deuterium

1957 115 Deuterium, compressed

1958 126 1,2-Dichloro-1,1,2,2-tetrafluoroethane

**ID Guide Name of Material**  
**No. No.**

1958 126 Dichlorotetrafluoroethane  
1958 126 Refrigerant gas R-114  
1959 116P 1,1-Difluoroethylene  
1959 116P Refrigerant gas R-1132a  
1960 115 Engine starting fluid  
1961 115 Ethane, refrigerated liquid  
1961 115 Ethane-Propane mixture, refrigerated liquid  
1961 115 Propane-Ethane mixture, refrigerated liquid  
1962 116P Ethylene  
1962 116P Ethylene, compressed  
1963 120 Helium, refrigerated liquid (cryogenic liquid)  
1964 115 Hydrocarbon gas, compressed, n.o.s.  
1964 115 Hydrocarbon gas mixture, compressed, n.o.s.  
1965 115 Hydrocarbon gas, liquefied, n.o.s.  
1965 115 Hydrocarbon gas mixture, liquefied, n.o.s.  
1966 115 Hydrogen, refrigerated liquid (cryogenic liquid)  
1967 123 Insecticide gas, poisonous, n.o.s.  
1967 123 Insecticide gas, toxic, n.o.s.  
1967 123 Parathion and compressed gas mixture  
1968 126 Insecticide gas, n.o.s.  
1969 115 Isobutane  
1969 115 Isobutane mixture  
1970 120 Krypton, refrigerated liquid (cryogenic liquid)  
1971 115 Methane  
1971 115 Methane, compressed

**ID Guide Name of Material**  
**No. No.**

1971 115 Natural gas, compressed  
1972 115 Liquefied natural gas (cryogenic liquid)  
1972 115 LNG (cryogenic liquid)  
1972 115 Methane, refrigerated liquid (cryogenic liquid)  
1972 115 Natural gas, refrigerated liquid (cryogenic liquid)  
1973 126 Chlorodifluoromethane and Chloropentafluoroethane mixture  
1973 126 Chloropentafluoroethane and Chlorodifluoromethane mixture  
1973 126 Refrigerant gas R-502  
1974 126 Bromochlorodifluoromethane  
1974 126 Chlorodifluorobromomethane  
1974 126 Refrigerant gas R-12B1  
1975 124 Dinitrogen tetroxide and Nitric oxide mixture  
1975 124 Nitric oxide and Dinitrogen tetroxide mixture  
1975 124 Nitric oxide and Nitrogen dioxide mixture  
1975 124 Nitric oxide and Nitrogen tetroxide mixture  
1975 124 Nitrogen dioxide and Nitric oxide mixture  
1975 124 Nitrogen tetroxide and Nitric oxide mixture  
1976 126 Octafluorocyclobutane  
1976 126 Refrigerant gas RC-318  
1977 120 Nitrogen, refrigerated liquid (cryogenic liquid)  
1978 115 Propane  
1978 115 Propane mixture

**ID Guide** **Name of Material**  
**No. No.**

1979 **121** Rare gases mixture  
1979 **121** Rare gases mixture, compressed  
1980 **121** Oxygen and Rare gases mixture  
1980 **121** Oxygen and Rare gases mixture, compressed  
1980 **121** Rare gases and Oxygen mixture  
1980 **121** Rare gases and Oxygen mixture, compressed  
1981 **121** Nitrogen and Rare gases mixture  
1981 **121** Nitrogen and Rare gases mixture, compressed  
1981 **121** Rare gases and Nitrogen mixture  
1981 **121** Rare gases and Nitrogen mixture, compressed  
1982 **126** Refrigerant gas R-14  
1982 **126** Refrigerant gas R-14, compressed  
1982 **126** Tetrafluoromethane  
1982 **126** Tetrafluoromethane, compressed  
1983 **126** 1-Chloro-2,2,2-trifluoroethane  
1983 **126** Chlorotrifluoroethane  
1983 **126** Refrigerant gas R-133a  
1984 **126** Refrigerant gas R-23  
1984 **126** Trifluoromethane  
1986 **131** Alcohols, flammable, poisonous, n.o.s.  
1986 **131** Alcohols, flammable, toxic, n.o.s.  
1986 **131** Alcohols, poisonous, n.o.s.  
1986 **131** Alcohols, toxic, n.o.s.  
1986 **131** Denatured alcohol (toxic)  
1986 **131** Propargyl alcohol  
1987 **127** Alcohols, n.o.s.  
1987 **127** Denatured alcohol

**ID Guide** **Name of Material**  
**No. No.**

1988 **131** Aldehydes, flammable, poisonous, n.o.s.  
1988 **131** Aldehydes, flammable, toxic, n.o.s.  
1988 **131** Aldehydes, poisonous, n.o.s.  
1988 **131** Aldehydes, toxic, n.o.s.  
1989 **129** Aldehydes, n.o.s.  
1990 **129** Benzaldehyde  
1991 **131P** Chloroprene, inhibited  
1991 **131P** Chloroprene, stabilized  
1992 **131** Flammable liquid, poisonous, n.o.s.  
1992 **131** Flammable liquid, toxic, n.o.s.  
1993 **128** Combustible liquid, n.o.s.  
1993 **128** Compound, cleaning liquid (flammable)  
1993 **128** Compound, tree or weed killing, liquid (flammable)  
1993 **128** Diesel fuel  
1993 **128** Flammable liquid, n.o.s.  
1993 **128** Fuel oil  
1993 **128** Medicines, flammable, liquid, n.o.s.  
1993 **128** Refrigerating machine  
1994 **131** Iron pentacarbonyl  
1999 **130** Asphalt  
1999 **130** Tars, liquid  
2000 **133** Celluloid, in blocks, rods, rolls, sheets, tubes, etc., except scrap  
2001 **133** Cobalt naphthenates, powder  
2002 **135** Celluloid, scrap  
2003 **135** Metal alkyls, n.o.s.  
2003 **135** Metal alkyls, water-reactive, n.o.s.

**ID No.** **Guide No.** **Name of Material**

2003 135 Metal aryls, n.o.s  
2003 135 Metal aryls, water-reactive, n.o.s.  
2004 135 Magnesium diamide  
2005 135 Magnesium diphenyl  
2006 135 Plastic, nitrocellulose-based, spontaneously combustible, n.o.s.  
2006 135 Plastics, nitrocellulose-based, self-heating, n.o.s.  
2008 135 Zirconium powder, dry  
2009 135 Zirconium, dry, finished sheets, strips or coiled wire  
2010 138 Magnesium hydride  
2011 139 Magnesium phosphide  
2012 139 Potassium phosphide  
2013 139 Strontium phosphide  
2014 140 Hydrogen peroxide, aqueous solution, with not less than 20% but not more than 60% Hydrogen peroxide (stabilized as necessary)  
2015 143 Hydrogen peroxide, aqueous solution, stabilized, with more than 60% Hydrogen peroxide  
2015 143 Hydrogen peroxide, stabilized  
2016 151 Ammunition, poisonous, non-explosive  
2016 151 Ammunition, toxic, non-explosive  
2017 159 Ammunition, tear-producing, non-explosive  
2018 152 Chloroanilines, solid  
2019 152 Chloroanilines, liquid  
2020 153 Chlorophenols, solid  
2021 153 Chlorophenols, liquid

**ID No.** **Guide No.** **Name of Material**

2022 153 Cresylic acid  
2023 131P 1-Chloro-2,3-epoxypropane  
2023 131P Epichlorohydrin  
2024 151 Mercury compound, liquid, n.o.s.  
2025 151 Mercury compound, solid, n.o.s.  
2026 151 Phenylmercuric compound, n.o.s.  
2027 151 Sodium arsenite, solid  
2028 153 Bombs, smoke, non-explosive, with corrosive liquid, without initiating device  
2029 132 Hydrazine, anhydrous  
2029 132 Hydrazine, aqueous solutions, with more than 64% Hydrazine  
2030 153 Hydrazine, aqueous solution, with more than 37% Hydrazine  
2030 153 Hydrazine, aqueous solution, with not less than 37% but not more than 64% Hydrazine  
2030 153 Hydrazine hydrate  
2031 157 Nitric acid, other than red fuming  
2032 157 Nitric acid, fuming  
2032 157 Nitric acid, red fuming  
2033 154 Potassium monoxide  
2034 115 Hydrogen and Methane mixture, compressed  
2034 115 Methane and Hydrogen mixture, compressed  
2035 115 Refrigerant gas R-143a  
2035 115 1,1,1-Trifluoroethane  
2035 115 Trifluoroethane, compressed  
2036 121 Xenon

**ID Guide** **Name of Material**  
**No. No.**

2036 **121** Xenon, compressed  
2037 **115** Gas cartridges  
2037 **115** Receptacles, small, containing gas  
2038 **152** Dinitrotoluenes  
2038 **152** Dinitrotoluenes, liquid  
2038 **152** Dinitrotoluenes, solid  
2044 **115** 2,2-Dimethylpropane  
2045 **130** Isobutyl aldehyde  
2045 **130** Isobutyraldehyde  
2046 **130** Cymenes  
2047 **129** Dichloropropenes  
2048 **130** Dicyclopentadiene  
2049 **130** Diethylbenzene  
2050 **128** Diisobutylene, isomeric compounds  
2051 **132** 2-Dimethylaminoethanol  
2051 **132** Dimethylethanolamine  
2052 **128** Dipentene  
2053 **129** Methylamyl alcohol  
2053 **129** Methyl isobutyl carbinol  
2053 **129** M.I.B.C.  
2054 **132** Morpholine  
2055 **128P** Styrene monomer, inhibited  
2055 **128P** Styrene monomer, stabilized  
2056 **127** Tetrahydrofuran  
2057 **128** Tripropylene  
2058 **129** Valeraldehyde  
2059 **127** Nitrocellulose, solution, flammable  
2059 **127** Nitrocellulose, solution, in a flammable liquid  
2067 **140** Ammonium nitrate fertilizers

**ID Guide** **Name of Material**  
**No. No.**

2068 **140** Ammonium nitrate fertilizers, with Calcium carbonate  
2069 **140** Ammonium nitrate fertilizers, with Ammonium sulfate  
2069 **140** Ammonium nitrate fertilizers, with Ammonium sulphate  
2069 **140** Ammonium nitrate mixed fertilizers  
2070 **143** Ammonium nitrate fertilizers, with Phosphate or Potash  
2071 **140** Ammonium nitrate fertilizer, with not more than 0.4% combustible material  
2071 **140** Ammonium nitrate fertilizers  
2072 **140** Ammonium nitrate fertilizer, n.o.s.  
2072 **140** Ammonium nitrate fertilizers  
2073 **125** Ammonia, solution, with more than 35% but not more than 50% Ammonia  
2074 **153P** Acrylamide  
2074 **153P** Acrylamide, solid  
2075 **153** Chloral, anhydrous, inhibited  
2075 **153** Chloral, anhydrous, stabilized  
2076 **153** Cresols  
2076 **153** Cresols, liquid  
2076 **153** Cresols, solid  
2077 **153** alpha-Naphthylamine  
2077 **153** Naphthylamine (alpha)  
2078 **156** Toluene diisocyanate  
2079 **154** Diethylenetriamine  
2186 **125** Hydrogen chloride, refrigerated liquid  
2187 **120** Carbon dioxide, refrigerated liquid  
2188 **119** Arsine  
2188 **119** SA

**ID Guide**  
**No. No.**

2189 119 Dichlorosilane  
2190 124 Oxygen difluoride  
2190 124 Oxygen difluoride, compressed  
2191 123 Sulfuryl fluoride  
2191 123 Sulphuryl fluoride  
2192 119 Germane  
2193 126 Hexafluoroethane  
2193 126 Hexafluoroethane, compressed  
2193 126 Refrigerant gas R-116  
2193 126 Refrigerant gas R-116,  
compressed  
2194 125 Selenium hexafluoride  
2195 125 Tellurium hexafluoride  
2196 125 Tungsten hexafluoride  
2197 125 Hydrogen iodide, anhydrous  
2198 125 Phosphorus pentafluoride  
2198 125 Phosphorus pentafluoride,  
compressed  
2199 119 Phosphine  
2200 116P Propadiene, inhibited  
2200 116P Propadiene, stabilized  
2201 122 Nitrous oxide, refrigerated  
liquid  
2202 117 Hydrogen selenide, anhydrous  
2203 116 Silane  
2203 116 Silane, compressed  
2204 119 Carbonyl sulfide  
2204 119 Carbonyl sulphide  
2205 153 Adiponitrile  
2206 155 Isocyanate solution, poisonous,  
n.o.s.  
2206 155 Isocyanate solution, toxic,  
n.o.s.  
2206 155 Isocyanate solutions, n.o.s.

**ID Guide**  
**No. No.**

2206 155 Isocyanates, n.o.s.  
2206 155 Isocyanates, poisonous, n.o.s.  
2206 155 Isocyanates, toxic, n.o.s.  
2208 140 Bleaching powder  
2208 140 Calcium hypochlorite mixture,  
dry, with more than 10% but  
not more than 39% available  
Chlorine  
2209 132 Formaldehyde, solutions  
(Formalin) (corrosive)  
2210 135 Maneb  
2210 135 Maneb preparation, with not  
less than 60% Maneb  
2211 133 Polymeric beads, expandable  
2211 133 Polystyrene beads, expandable  
2212 171 Asbestos  
2212 171 Asbestos, blue  
2212 171 Asbestos, brown  
2212 171 Blue asbestos  
2212 171 Brown asbestos  
2213 133 Paraformaldehyde  
2214 156 Phthalic anhydride  
2215 156 Maleic acid  
2215 156 Maleic anhydride  
2215 156 Maleic anhydride, molten  
2216 171 Fish meal, stabilized  
2216 171 Fish scrap, stabilized  
2217 135 Seed cake, with not more than  
1.5% oil and not more than  
11% moisture  
2218 132P Acrylic acid, inhibited  
2218 132P Acrylic acid, stabilized  
2219 129 Allyl glycidyl ether  
2222 128 Anisole  
2224 152 Benzonitrile

**ID Guide**  
**No. No.**

**Name of Material**

2225 156 Benzenesulfonyl chloride  
2225 156 Benzenesulphonyl chloride  
2226 156 Benzotrichloride  
2227 130P n-Butyl methacrylate  
2227 130P n-Butyl methacrylate, inhibited  
2227 130P n-Butyl methacrylate, stabilized  
2232 153 Chloroacetaldehyde  
2232 153 2-Chloroethanal  
2233 152 Chloroanisidines  
2234 130 Chlorobenzotrifluorides  
2235 153 Chlorobenzyl chlorides  
2235 153 Chlorobenzyl chlorides, liquid  
2236 156 3-Chloro-4-methylphenyl isocyanate  
2236 156 3-Chloro-4-methylphenyl isocyanate, liquid  
2237 153 Chloronitroanilines  
2238 129 Chlorotoluenes  
2239 153 Chlorotoluidines  
2239 153 Chlorotoluidines, liquid  
2239 153 Chlorotoluidines, solid  
2240 154 Chromosulfuric acid  
2240 154 Chromosulphuric acid  
2241 128 Cycloheptane  
2242 128 Cycloheptene  
2243 130 Cyclohexyl acetate  
2244 129 Cyclopentanol  
2245 128 Cyclopentanone  
2246 128 Cyclopentene  
2247 128 n-Decane  
2248 132 Di-n-butylamine  
2249 131 Dichlorodimethyl ether, symmetrical  
2250 156 Dichlorophenyl isocyanates

**ID Guide**  
**No. No.**

**Name of Material**

2251 128P Bicyclo[2.2.1]hepta-2,5-diene  
2251 128P Bicyclo[2.2.1]hepta-2,5-diene, inhibited  
2251 128P Bicyclo[2.2.1]hepta-2,5-diene, stabilized  
2251 128P Dicycloheptadiene  
2251 128P 2,5-Norbornadiene  
2251 128P 2,5-Norbornadiene, inhibited  
2251 128P 2,5-Norbornadiene, stabilized  
2252 127 1,2-Dimethoxyethane  
2253 153 N,N-Dimethylaniline  
2254 133 Matches, fusee  
2256 130 Cyclohexene  
2257 138 Potassium  
2257 138 Potassium, metal  
2258 132 1,2-Propylenediamine  
2258 132 1,3-Propylenediamine  
2259 153 Triethylenetetramine  
2260 132 Tripropylamine  
2261 153 Xylenols  
2261 153 Xylenols, solid  
2262 156 Dimethylcarbamoyl chloride  
2263 128 Dimethylcyclohexanes  
2264 132 N,N-Dimethylcyclohexylamine  
2264 132 Dimethylcyclohexylamine  
2265 129 N,N-Dimethylformamide  
2266 132 Dimethyl-N-propylamine  
2267 156 Dimethyl thiophosphoryl chloride  
2269 153 3,3'-Iminodipropylamine  
2270 132 Ethylamine, aqueous solution, with not less than 50% but not more than 70% Ethylamine  
2271 128 Ethyl amyl ketone  
2272 153 N-Ethylaniline

ID No.	Guide No.	Name of Material
2273	153	2-Ethylaniline
2274	153	N-Ethyl-N-benzylaniline
2275	129	2-Ethylbutanol
2276	132	2-Ethylhexylamine
2277	130P	Ethyl methacrylate
2277	130P	Ethyl methacrylate, inhibited
2277	130P	Ethyl methacrylate, stabilized
2278	128	n-Heptene
2279	151	Hexachlorobutadiene
2280	153	Hexamethylenediamine, solid
2281	156	Hexamethylene diisocyanate
2282	129	Hexanols
2283	130P	Isobutyl methacrylate
2283	130P	Isobutyl methacrylate, inhibited
2283	130P	Isobutyl methacrylate, stabilized
2284	131	Isobutyronitrile
2285	156	Isocyanatobenzotrifluorides
2286	128	Pentamethylheptane
2287	128	Isoheptenes
2288	128	Isohexenes
2289	153	Isophoronediamine
2290	156	IPDI
2290	156	Isophorone diisocyanate
2291	151	Lead compound, soluble, n.o.s.
2293	128	4-Methoxy-4-methylpentan-2-one
2294	153	N-Methylaniline
2295	155	Methyl chloroacetate
2296	128	Methylcyclohexane
2297	128	Methylcyclohexanone
2298	128	Methylcyclopentane
2299	155	Methyl dichloroacetate
2300	153	2-Methyl-5-ethylpyridine

ID No.	Guide No.	Name of Material
2301	128	2-Methylfuran
2302	127	5-Methylhexan-2-one
2303	128	Isopropenylbenzene
2304	133	Naphthalene, molten
2305	153	Nitrobenzenesulfonic acid
2305	153	Nitrobenzenesulphonic acid
2306	152	Nitrobenzotrifluorides
2306	152	Nitrobenzotrifluorides, liquid
2307	152	3-Nitro-4-chlorobenzotrifluoride
2308	157	Nitrosylsulfuric acid
2308	157	Nitrosylsulfuric acid, liquid
2308	157	Nitrosylsulfuric acid, solid
2308	157	Nitrosylsulphuric acid
2308	157	Nitrosylsulphuric acid, liquid
2308	157	Nitrosylsulphuric acid, solid
2309	128P	Octadiene
2310	131	Pentan-2,4-dione
2310	131	2,4-Pentanedione
2310	131	Pentane-2,4-dione
2311	153	Phenetidines
2312	153	Phenol, molten
2313	129	Picolines
2315	171	Articles containing Polychlorinated biphenyls (PCB)
2315	171	PCB
2315	171	Polychlorinated biphenyls
2315	171	Polychlorinated biphenyls, liquid
2315	171	Polychlorinated biphenyls, solid
2316	157	Sodium cuprocyanide, solid
2317	157	Sodium cuprocyanide, solution
2318	135	Sodium hydrosulfide, solid, with less than 25% water of crystallization

ID No.	Guide No.	Name of Material
2318	135	Sodium hydrosulfide, with less than 25% water of crystallization
2318	135	Sodium hydrosulphide, solid, with less than 25% water of crystallization
2318	135	Sodium hydrosulphide, with less than 25% water of crystallization
2319	128	Terpene hydrocarbons, n.o.s.
2320	153	Tetraethylenepentamine
2321	153	Trichlorobenzenes, liquid
2322	152	Trichlorobutene
2323	130	Triethyl phosphite
2324	128	Triisobutylene
2325	129	1,3,5-Trimethylbenzene
2326	153	Trimethylcyclohexylamine
2327	153	Trimethylhexamethylenediamines
2328	156	Trimethylhexamethylene diisocyanate
2329	130	Trimethyl phosphite
2330	128	Undecane
2331	154	Zinc chloride, anhydrous
2332	129	Acetaldehyde oxime
2333	131	Allyl acetate
2334	131	Allylamine
2335	131	Allyl ethyl ether
2336	131	Allyl formate
2337	131	Phenyl mercaptan
2338	127	Benzotrifluoride
2339	130	2-Bromobutane
2340	130	2-Bromoethyl ethyl ether
2341	130	1-Bromo-3-methylbutane
2342	130	Bromomethylpropanes
2343	130	2-Bromopentane

ID No.	Guide No.	Name of Material
2344	129	2-Bromopropane
2344	129	Bromopropanes
2345	130	3-Bromopropyne
2346	127	Butanedione
2346	127	Diacetyl
2347	130	Butyl mercaptan
2348	130P	Butyl acrylate
2348	130P	Butyl acrylates, inhibited
2348	130P	Butyl acrylates, stabilized
2350	127	Butyl methyl ether
2351	129	Butyl nitrites
2352	127P	Butyl vinyl ether, inhibited
2352	127P	Butyl vinyl ether, stabilized
2353	132	Butyryl chloride
2354	131	Chloromethyl ethyl ether
2356	129	2-Chloropropane
2357	132	Cyclohexylamine
2358	128P	Cyclooctatetraene
2359	132	Diallylamine
2360	131P	Diallyl ether
2361	132	Diisobutylamine
2362	130	1,1-Dichloroethane
2363	129	Ethyl mercaptan
2364	128	n-Propyl benzene
2366	128	Diethyl carbonate
2367	130	alpha-Methylvaleraldehyde
2367	130	Methyl valeraldehyde (alpha)
2368	128	alpha-Pinene
2368	128	Pinene (alpha)
2369	152	Ethylene glycol monobutyl ether
2370	128	1-Hexene
2371	128	Isopentenes
2372	129	1,2-Di-(dimethylamino)ethane

ID No.	Guide No.	Name of Material
2373	127	Diethoxymethane
2374	127	3,3-Diethoxypropene
2375	129	Diethyl sulfide
2375	129	Diethyl sulphide
2376	127	2,3-Dihydropyran
2377	127	1,1-Dimethoxyethane
2378	131	2-Dimethylaminoacetonitrile
2379	132	1,3-Dimethylbutylamine
2380	127	Dimethyldiethoxysilane
2381	130	Dimethyl disulfide
2381	130	Dimethyl disulphide
2382	131	1,2-Dimethylhydrazine
2382	131	Dimethylhydrazine, symmetrical
2383	132	Dipropylamine
2384	127	Di-n-propyl ether
2384	127	Dipropyl ether
2385	129	Ethyl isobutyrate
2386	132	1-Ethylpiperidine
2387	130	Fluorobenzene
2388	130	Fluorotoluenes
2389	128	Furan
2390	129	2-Iodobutane
2391	129	Iodomethylpropanes
2392	129	Iodopropanes
2393	129	Isobutyl formate
2394	129	Isobutyl propionate
2395	132	Isobutyryl chloride
2396	131P	Methacrylaldehyde
2396	131P	Methacrylaldehyde, inhibited
2396	131P	Methacrylaldehyde, stabilized
2397	127	3-Methylbutan-2-one
2398	127	Methyl tert-butyl ether
2399	132	1-Methylpiperidine

ID No.	Guide No.	Name of Material
2400	130	Methyl isovalerate
2401	132	Piperidine
2402	130	Propanethiols
2403	129P	Isopropenyl acetate
2404	131	Propionitrile
2405	129	Isopropyl butyrate
2406	127	Isopropyl isobutyrate
2407	155	Isopropyl chloroformate
2409	129	Isopropyl propionate
2410	129	1,2,3,6-Tetrahydropyridine
2410	129	1,2,5,6-Tetrahydropyridine
2411	131	Butyronitrile
2412	130	Tetrahydrothiophene
2413	128	Tetrapropyl orthotitanate
2414	130	Thiophene
2416	129	Trimethyl borate
2417	125	Carbonyl fluoride
2417	125	Carbonyl fluoride, compressed
2418	125	Sulfur tetrafluoride
2418	125	Sulphur tetrafluoride
2419	116	Bromotrifluoroethylene
2420	125	Hexafluoroacetone
2421	124	Nitrogen trioxide
2422	126	Octafluorobut-2-ene
2422	126	Refrigerant gas R-1318
2424	126	Octafluoropropane
2424	126	Refrigerant gas R-218
2426	140	Ammonium nitrate, liquid (hot concentrated solution)
2427	140	Potassium chlorate, aqueous solution
2427	140	Potassium chlorate, solution
2428	140	Sodium chlorate, aqueous solution

**ID Guide**  
**No. No.**

2429 140 Calcium chlorate, aqueous solution  
2429 140 Calcium chlorate, solution  
2430 153 Alkyl phenols, solid, n.o.s. (including C2-C12 homologues)  
2431 153 Anisidines  
2431 153 Anisidines, liquid  
2431 153 Anisidines, solid  
2432 153 N,N-Diethylaniline  
2433 152 Chloronitrotoluenes  
2433 152 Chloronitrotoluenes, liquid  
2433 152 Chloronitrotoluenes, solid  
2434 156 Dibenzylchlorosilane  
2435 156 Ethylphenyldichlorosilane  
2436 129 Thioacetic acid  
2437 156 Methylphenyldichlorosilane  
2438 132 Trimethylacetyl chloride  
2439 154 Sodium hydrogendifluoride  
2440 154 Stannic chloride, pentahydrate  
2440 154 Tin tetrachloride, pentahydrate  
2441 135 Titanium trichloride, pyrophoric  
2441 135 Titanium trichloride mixture, pyrophoric  
2442 156 Trichloroacetyl chloride  
2443 137 Vanadium oxytrichloride  
2444 137 Vanadium tetrachloride  
2445 135 Lithium alkyls  
2445 135 Lithium alkyls, liquid  
2446 153 Nitroresols  
2446 153 Nitroresols, solid  
2447 136 Phosphorus, white, molten  
2447 136 White phosphorus, molten  
2447 136 Yellow phosphorus, molten

**ID Guide**  
**No. No.**

2448 133 Sulfur, molten  
2448 133 Sulphur, molten  
2451 122 Nitrogen trifluoride  
2451 122 Nitrogen trifluoride, compressed  
2452 116P Ethylacetylene, inhibited  
2452 116P Ethylacetylene, stabilized  
2453 115 Ethyl fluoride  
2453 115 Refrigerant gas R-161  
2454 115 Methyl fluoride  
2454 115 Refrigerant gas R-41  
2455 116 Methyl nitrite  
2456 130P 2-Chloropropene  
2457 128 2,3-Dimethylbutane  
2458 130 Hexadiene  
2459 128 2-Methyl-1-butene  
2460 128 2-Methyl-2-butene  
2461 128 Methylpentadiene  
2463 138 Aluminum hydride  
2464 141 Beryllium nitrate  
2465 140 Dichloroisocyanuric acid, dry  
2465 140 Dichloroisocyanuric acid salts  
2465 140 Sodium dichloroisocyanurate  
2465 140 Sodium dichloro-s-triazinetrione  
2466 143 Potassium superoxide  
2467 140 Sodium percarbonates  
2468 140 Trichloroisocyanuric acid, dry  
2468 140 (mono)-(Trichloro)-tetra-(monopotassium dichloro)-penta-s-triazinetrione, dry  
2469 140 Zinc bromate  
2470 152 Phenylacetoneitrile, liquid  
2471 154 Osmium tetroxide  
2473 154 Sodium arsenilate

ID No.	Guide No.	Name of Material
2474	157	Thiophosgene
2475	157	Vanadium trichloride
2477	131	Methyl isothiocyanate
2478	155	Isocyanate solution, flammable, poisonous, n.o.s.
2478	155	Isocyanate solution, flammable, toxic, n.o.s.
2478	155	Isocyanate solutions, n.o.s.
2478	155	Isocyanates, flammable, poisonous, n.o.s.
2478	155	Isocyanates, flammable, toxic, n.o.s.
2478	155	Isocyanates, n.o.s.
2480	155	Methyl isocyanate
2481	155	Ethyl isocyanate
2482	155	n-Propyl isocyanate
2483	155	Isopropyl isocyanate
2484	155	tert-Butyl isocyanate
2485	155	n-Butyl isocyanate
2486	155	Isobutyl isocyanate
2487	155	Phenyl isocyanate
2488	155	Cyclohexyl isocyanate
2490	153	Dichloroisopropyl ether
2491	153	Ethanolamine
2491	153	Ethanolamine, solution
2491	153	Monoethanolamine
2493	132	Hexamethyleneimine
2495	144	Iodine pentafluoride
2496	156	Propionic anhydride
2498	129	1,2,3,6-Tetrahydrobenzaldehyde
2501	152	1-Aziridinyl phosphine oxide (Tris)
2501	152	Tri-(1-aziridinyl)phosphine oxide, solution

ID No.	Guide No.	Name of Material
2501	152	Tris-(1-aziridinyl)phosphine oxide, solution
2502	132	Valeryl chloride
2503	137	Zirconium tetrachloride
2504	159	Acetylene tetrabromide
2504	159	Tetrabromoethane
2505	154	Ammonium fluoride
2506	154	Ammonium hydrogen sulfate
2506	154	Ammonium hydrogen sulphate
2507	154	Chloroplatinic acid, solid
2508	156	Molybdenum pentachloride
2509	154	Potassium hydrogen sulfate
2509	154	Potassium hydrogen sulphate
2511	153	2-Chloropropionic acid
2511	153	2-Chloropropionic acid, solid
2511	153	2-Chloropropionic acid, solution
2512	152	Aminophenols
2513	156	Bromoacetyl bromide
2514	130	Bromobenzene
2515	159	Bromoform
2516	151	Carbon tetrabromide
2517	115	1-Chloro-1,1-difluoroethane
2517	115	Chlorodifluoroethanes
2517	115	Difluorochloroethanes
2517	115	Refrigerant gas R-142b
2518	153	1,5,9-Cyclododecatriene
2520	130P	Cyclooctadienes
2521	131P	Diketene, inhibited
2521	131P	Diketene, stabilized
2522	153P	2-Dimethylaminoethyl methacrylate
2522	153P	Dimethylaminoethyl methacrylate
2524	129	Ethyl orthoformate

ID No.	Guide No.	Name of Material
2525	156	Ethyl oxalate
2526	132	Furfurylamine
2527	130P	Isobutyl acrylate
2527	130P	Isobutyl acrylate, inhibited
2527	130P	Isobutyl acrylate, stabilized
2528	130	Isobutyl isobutyrate
2529	132	Isobutyric acid
2530	132	Isobutyric anhydride
2531	153P	Methacrylic acid, inhibited
2531	153P	Methacrylic acid, stabilized
2533	156	Methyl trichloroacetate
2534	119	Methylchlorosilane
2535	132	4-Methylmorpholine
2535	132	N-Methylmorpholine
2535	132	Methylmorpholine
2536	127	Methyltetrahydrofuran
2538	133	Nitronaphthalene
2541	128	Terpinolene
2542	153	Tributylamine
2545	135	Hafnium powder, dry
2546	135	Titanium powder, dry
2547	143	Sodium superoxide
2548	124	Chlorine pentafluoride
2552	151	Hexafluoroacetone hydrate
2552	151	Hexafluoroacetone hydrate, liquid
2554	130P	Methylallyl chloride
2555	113	Nitrocellulose with water, not less than 25% water
2556	113	Nitrocellulose with alcohol
2556	113	Nitrocellulose with not less than 25% alcohol
2557	133	Nitrocellulose mixture, without plasticizer, without pigment

ID No.	Guide No.	Name of Material
2557	133	Nitrocellulose mixture, without plasticizer, with pigment
2557	133	Nitrocellulose mixture, with plasticizer, without pigment
2557	133	Nitrocellulose mixture, with plasticizer, with pigment
2557	133	Nitrocellulose with plasticizing substance
2558	131	Epibromohydrin
2560	129	2-Methylpentan-2-ol
2561	128	3-Methyl-1-butene
2564	153	Trichloroacetic acid, solution
2565	153	Dicyclohexylamine
2567	154	Sodium pentachlorophenate
2570	154	Cadmium compound
2571	156	Alkylsulfuric acids
2571	156	Alkylsulphuric acids
2571	156	Ethylsulfuric acid
2571	156	Ethylsulphuric acid
2572	153	Phenylhydrazine
2573	141	Thallium chlorate
2574	151	Tricresyl phosphate
2576	137	Phosphorus oxybromide, molten
2577	156	Phenylacetyl chloride
2578	157	Phosphorus trioxide
2579	153	Piperazine
2580	154	Aluminum bromide, solution
2581	154	Aluminum chloride, solution
2582	154	Ferric chloride, solution
2583	153	Alkyl sulfonic acids, solid, with more than 5% free Sulfuric acid

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
2583	153	Alkyl sulphonic acids, solid, with more than 5% free Sulphuric acid	2585	153	Aryl sulfonic acids, solid, with not more than 5% free Sulfuric acid
2583	153	Aryl sulfonic acids, solid, with more than 5% free Sulfuric acid	2585	153	Aryl sulphonic acids, solid, with not more than 5% free Sulphuric acid
2583	153	Aryl sulphonic acids, solid, with more than 5% free Sulphuric acid	2585	153	Toluene sulfonic acid, solid, with not more than 5% free Sulfuric acid
2583	153	Toluene sulfonic acid, solid, with more than 5% free Sulfuric acid	2585	153	Toluene sulphonic acid, solid, with not more than 5% free Sulphuric acid
2583	153	Toluene sulphonic acid, solid, with more than 5% free Sulphuric acid	2586	153	Alkyl sulfonic acids, liquid, with not more than 5% free Sulfuric acid
2584	153	Alkyl sulfonic acids, liquid, with more than 5% free Sulfuric acid	2586	153	Alkyl sulphonic acids, liquid, with not more than 5% free Sulphuric acid
2584	153	Alkyl sulphonic acids, liquid, with more than 5% free Sulphuric acid	2586	153	Aryl sulfonic acids, liquid, with not more than 5% free Sulfuric acid
2584	153	Aryl sulfonic acids, liquid, with more than 5% free Sulfuric acid	2586	153	Aryl sulphonic acids, liquid, with not more than 5% free Sulphuric acid
2584	153	Aryl sulphonic acids, liquid, with more than 5% free Sulphuric acid	2586	153	Toluene sulfonic acid, liquid, with not more than 5% free Sulfuric acid
2584	153	Dodecylbenzenesulfonic acid	2586	153	Toluene sulphonic acid, liquid, with not more than 5% free Sulphuric acid
2584	153	Dodecylbenzenesulphonic acid	2587	153	Benzoquinone
2584	153	Toluene sulfonic acid, liquid, with more than 5% free Sulfuric acid	2588	151	Pesticide, solid, poisonous
2584	153	Toluene sulphonic acid, liquid, with more than 5% free Sulphuric acid	2588	151	Pesticide, solid, poisonous, n.o.s.
2585	153	Alkyl sulfonic acids, solid, with not more than 5% free Sulfuric acid	2588	151	Pesticide, solid, toxic, n.o.s.
2585	153	Alkyl sulphonic acids, solid, with not more than 5% free Sulphuric acid	2589	155	Vinyl chloroacetate
			2590	171	Asbestos, white
			2590	171	White asbestos

ID No.	Guide No.	Name of Material
2591	120	Xenon, refrigerated liquid (cryogenic liquid)
2599	126	Chlorotrifluoromethane and Trifluoromethane azeotropic mixture with approximately 60% Chlorotrifluoromethane
2599	126	Refrigerant gas R-13 and Refrigerant gas R-23 azeotropic mixture with 60% Refrigerant gas R-13
2599	126	Refrigerant gas R-23 and Refrigerant gas R-13 azeotropic mixture with 60% Refrigerant gas R-13
2599	126	Refrigerant gas R-503 (azeotropic mixture of Refrigerant gas R-13 and Refrigerant gas R-23 with approximately 60% Refrigerant gas R-13)
2599	126	Trifluoromethane and Chlorotrifluoromethane azeotropic mixture with approximately 60% Chlorotrifluoromethane
2600	119	Carbon monoxide and Hydrogen mixture
2600	119	Carbon monoxide and Hydrogen mixture, compressed
2600	119	Hydrogen and Carbon monoxide mixture
2600	119	Hydrogen and Carbon monoxide mixture, compressed
2601	115	Cyclobutane
2602	126	Dichlorodifluoromethane and Difluoroethane azeotropic mixture with approximately 74% Dichlorodifluoromethane

ID No.	Guide No.	Name of Material
2602	126	Difluoroethane and Dichlorodifluoromethane azeotropic mixture with approximately 74% Dichlorodifluoromethane
2602	126	Refrigerant gas R-12 and Refrigerant gas R-152a azeotropic mixture with 74% Refrigerant gas R-12
2602	126	Refrigerant gas R-152a and Refrigerant gas R-12 azeotropic mixture with 74% Refrigerant gas R-12
2602	126	Refrigerant gas R-500 (azeotropic mixture of Refrigerant gas R-12 and Refrigerant gas R-152a with approximately 74% Refrigerant gas R-12)
2603	131	Cycloheptatriene
2604	132	Boron trifluoride diethyl etherate
2605	155	Methoxymethyl isocyanate
2606	155	Methyl orthosilicate
2607	129P	Acrolein dimer, stabilized
2608	129	Nitropropanes
2609	156	Triallyl borate
2610	132	Triallylamine
2611	131	Propylene chlorohydrin
2612	127	Methyl propyl ether
2614	129	Methallyl alcohol
2615	127	Ethyl propyl ether
2616	129	Triisopropyl borate
2617	129	Methylcyclohexanols
2618	130P	Vinyltoluenes, inhibited
2618	130P	Vinyltoluenes, stabilized
2619	132	Benzyl dimethylamine
2620	130	Amyl butyrates

ID No.	Guide No.	Name of Material
2621	127	Acetyl methyl carbinol
2622	131P	Glycidaldehyde
2623	133	Firelighters, solid, with flammable liquid
2624	138	Magnesium silicide
2626	140	Chloric acid, aqueous solution, with not more than 10% Chloric acid
2627	140	Nitrites, inorganic, n.o.s.
2628	151	Potassium fluoroacetate
2629	151	Sodium fluoroacetate
2630	151	Selenates
2630	151	Selenites
2630	151	Sodium selenite
2642	154	Fluoroacetic acid
2643	155	Methyl bromoacetate
2644	151	Methyl iodide
2645	153	Phenacyl bromide
2646	151	Hexachlorocyclopentadiene
2647	153	Malononitrile
2648	154	1,2-Dibromobutan-3-one
2649	153	1,3-Dichloroacetone
2650	153	1,1-Dichloro-1-nitroethane
2651	153	4,4'-Diaminodiphenylmethane
2653	156	Benzyl iodide
2655	151	Potassium fluorosilicate
2655	151	Potassium silicofluoride
2656	154	Quinoline
2657	153	Selenium disulfide
2657	153	Selenium disulphide
2658	152	Selenium powder
2659	151	Sodium chloroacetate
2660	153	Mononitrotoluidines
2660	153	Nitrotoluidines (mono)

ID No.	Guide No.	Name of Material
2661	153	Hexachloroacetone
2662	153	Hydroquinone
2662	153	Hydroquinone, solid
2664	160	Dibromomethane
2666	156	Ethyl cyanoacetate
2667	152	Butyltoluenes
2668	131	Chloroacetonitrile
2669	152	Chlorocresols
2669	152	Chlorocresols, liquid
2669	152	Chlorocresols, solid
2669	152	Chlorocresols, solution
2670	157	Cyanuric chloride
2671	153	Aminopyridines
2672	154	Ammonia, solution, with more than 10% but not more than 35% Ammonia
2672	154	Ammonium hydroxide
2672	154	Ammonium hydroxide, with more than 10% but not more than 35% Ammonia
2673	151	2-Amino-4-chlorophenol
2674	154	Sodium fluorosilicate
2674	154	Sodium silicofluoride
2676	119	Stibine
2677	154	Rubidium hydroxide, solution
2678	154	Rubidium hydroxide
2678	154	Rubidium hydroxide, solid
2679	154	Lithium hydroxide, solution
2680	154	Lithium hydroxide
2680	154	Lithium hydroxide, monohydrate
2680	154	Lithium hydroxide, solid
2681	154	Caesium hydroxide, solution
2681	154	Cesium hydroxide, solution
2682	157	Caesium hydroxide

ID No.	Guide No.	Name of Material
2682	157	Cesium hydroxide
2683	132	Ammonium sulfide, solution
2683	132	Ammonium sulphide, solution
2684	132	3-Diethylaminopropylamine
2684	132	Diethylaminopropylamine
2685	132	N,N-Diethylethylenediamine
2686	132	2-Diethylaminoethanol
2686	132	Diethylaminoethanol
2687	133	Dicyclohexylammonium nitrite
2688	159	1-Bromo-3-chloropropane
2688	159	1-Chloro-3-bromopropane
2689	153	Glycerol alpha-monochlorohydrin
2690	152	N,n-Butylimidazole
2691	137	Phosphorus pentabromide
2692	157	Boron tribromide
2693	154	Bisulfites, aqueous solution, n.o.s.
2693	154	Bisulfites, inorganic, aqueous solution, n.o.s.
2693	154	Bisulphites, aqueous solution, n.o.s.
2693	154	Bisulphites, inorganic, aqueous solution, n.o.s.
2698	156	Tetrahydrophthalic anhydrides
2699	154	Trifluoroacetic acid
2705	153P	1-Pentol
2707	127	Dimethyldioxanes
2708	127	Butoxyl
2709	128	Butylbenzenes
2710	128	Dipropyl ketone
2711	129	Dibromobenzene
2713	153	Acridine
2714	133	Zinc resinate
2715	133	Aluminum resinate

ID No.	Guide No.	Name of Material
2716	153	1,4-Butynediol
2717	133	Camphor
2717	133	Camphor, synthetic
2719	141	Barium bromate
2720	141	Chromium nitrate
2721	141	Copper chlorate
2722	140	Lithium nitrate
2723	140	Magnesium chlorate
2724	140	Manganese nitrate
2725	140	Nickel nitrate
2726	140	Nickel nitrite
2727	141	Thallium nitrate
2728	140	Zirconium nitrate
2729	152	Hexachlorobenzene
2730	152	Nitroanisoles
2730	152	Nitroanisoles, liquid
2730	152	Nitroanisoles, solid
2732	152	Nitrobromobenzenes
2732	152	Nitrobromobenzenes, liquid
2732	152	Nitrobromobenzenes, solid
2733	132	Alkylamines, n.o.s.
2733	132	Amines, flammable, corrosive, n.o.s.
2733	132	Polyalkylamines, n.o.s.
2733	132	Polyamines, flammable, corrosive, n.o.s.
2734	132	Alkylamines, n.o.s.
2734	132	Amines, liquid, corrosive, flammable, n.o.s.
2734	132	Polyalkylamines, n.o.s.
2734	132	Polyamines, liquid, corrosive, flammable, n.o.s.
2735	153	Alkylamines, n.o.s.
2735	153	Amines, liquid, corrosive, n.o.s.

ID No.	Guide No.	Name of Material
2735	153	Polyalkylamines, n.o.s.
2735	153	Polyamines, liquid, corrosive, n.o.s.
2738	153	N-Butylaniline
2739	156	Butyric anhydride
2740	155	n-Propyl chloroformate
2741	141	Barium hypochlorite, with more than 22% available Chlorine
2742	155	sec-Butyl chloroformate
2742	155	Chloroformates, n.o.s.
2742	155	Chloroformates, poisonous, corrosive, flammable, n.o.s.
2742	155	Chloroformates, toxic, corrosive, flammable, n.o.s.
2742	155	Isobutyl chloroformate
2743	155	n-Butyl chloroformate
2744	155	Cyclobutyl chloroformate
2745	157	Chloromethyl chloroformate
2746	156	Phenyl chloroformate
2747	156	tert-Butylcyclohexyl chloroformate
2748	156	2-Ethylhexyl chloroformate
2749	130	Tetramethylsilane
2750	153	1,3-Dichloropropanol-2
2751	155	Diethylthiophosphoryl chloride
2752	127	1,2-Epoxy-3-ethoxypropane
2753	153	N-Ethylbenzyltoluidines
2753	153	N-Ethylbenzyltoluidines, liquid
2753	153	N-Ethylbenzyltoluidines, solid
2754	153	N-Ethyltoluidines
2757	151	Carbamate pesticide, solid, poisonous
2757	151	Carbamate pesticide, solid, toxic

ID No.	Guide No.	Name of Material
2758	131	Carbamate pesticide, liquid, flammable, poisonous
2758	131	Carbamate pesticide, liquid, flammable, toxic
2759	151	Arsenical pesticide, solid, poisonous
2759	151	Arsenical pesticide, solid, toxic
2760	131	Arsenical pesticide, liquid, flammable, poisonous
2760	131	Arsenical pesticide, liquid, flammable, toxic
2761	151	Aldrin, solid
2761	151	Dieldrin
2761	151	Organochlorine pesticide, solid, poisonous
2761	151	Organochlorine pesticide, solid, toxic
2762	131	Aldrin, liquid
2762	131	Organochlorine pesticide, liquid, flammable, poisonous
2762	131	Organochlorine pesticide, liquid, flammable, toxic
2763	151	Triazine pesticide, solid, poisonous
2763	151	Triazine pesticide, solid, toxic
2764	131	Triazine pesticide, liquid, flammable, poisonous
2764	131	Triazine pesticide, liquid, flammable, toxic
2765	152	Phenoxy pesticide, solid, poisonous
2765	152	Phenoxy pesticide, solid, toxic
2766	131	Phenoxy pesticide, liquid, flammable, poisonous
2766	131	Phenoxy pesticide, liquid, flammable, toxic

**ID Guide**  
**No. No.**

**Name of Material**

2767 151 Phenyl urea pesticide, solid, poisonous  
2767 151 Phenyl urea pesticide, solid, toxic  
2768 131 Phenyl urea pesticide, liquid, flammable, poisonous  
2768 131 Phenyl urea pesticide, liquid, flammable, toxic  
2769 151 Benzoic derivative pesticide, solid, poisonous  
2769 151 Benzoic derivative pesticide, solid, toxic  
2770 131 Benzoic derivative pesticide, liquid, flammable, poisonous  
2770 131 Benzoic derivative pesticide, liquid, flammable, toxic  
2771 151 Dithiocarbamate pesticide, solid, poisonous  
2771 151 Dithiocarbamate pesticide, solid, toxic  
2771 151 Thiocarbamate pesticide, solid, poisonous  
2771 151 Thiocarbamate pesticide, solid, toxic  
2772 131 Dithiocarbamate pesticide, liquid, flammable, poisonous  
2772 131 Dithiocarbamate pesticide, liquid, flammable, toxic  
2772 131 Thiocarbamate pesticide, liquid, flammable, poisonous  
2772 131 Thiocarbamate pesticide, liquid, flammable, toxic  
2773 151 Phthalimide derivative pesticide, solid, poisonous  
2773 151 Phthalimide derivative pesticide, solid, toxic  
2774 131 Phthalimide derivative pesticide, liquid, flammable, poisonous

**ID Guide**  
**No. No.**

**Name of Material**

2774 131 Phthalimide derivative pesticide, liquid, flammable, toxic  
2775 151 Copper based pesticide, solid, poisonous  
2775 151 Copper based pesticide, solid, toxic  
2776 131 Copper based pesticide, liquid, flammable, poisonous  
2776 131 Copper based pesticide, liquid, flammable, toxic  
2777 151 Mercury based pesticide, solid, poisonous  
2777 151 Mercury based pesticide, solid, toxic  
2778 131 Mercury based pesticide, liquid, flammable, poisonous  
2778 131 Mercury based pesticide, liquid, flammable, toxic  
2779 153 Substituted nitrophenol pesticide, solid, poisonous  
2779 153 Substituted nitrophenol pesticide, solid, toxic  
2780 131 Substituted nitrophenol pesticide, liquid, flammable, poisonous  
2780 131 Substituted nitrophenol pesticide, liquid, flammable, toxic  
2781 151 Bipyridilium pesticide, solid, poisonous  
2781 151 Bipyridilium pesticide, solid, toxic  
2782 131 Bipyridilium pesticide, liquid, flammable, poisonous  
2782 131 Bipyridilium pesticide, liquid, flammable, toxic  
2783 152 Methyl parathion, solid  
2783 152 Organophosphorus pesticide, solid, poisonous

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
2783	152	Organophosphorus pesticide, solid, toxic	2797	154	Battery fluid, alkali, with electronic equipment or actuating device
2783	152	Parathion	2798	137	Benzene phosphorus dichloride
2783	152	Tetraethyl pyrophosphate, solid	2798	137	Phenylphosphorus dichloride
2784	131	Organophosphorus pesticide, liquid, flammable, poisonous	2799	137	Benzene phosphorus thiodichloride
2784	131	Organophosphorus pesticide, liquid, flammable, toxic	2799	137	Phenylphosphorus thiodichloride
2785	152	4-Thiapentanal	2800	154	Batteries, wet, non-spillable
2785	152	Thia-4-pentanal	2801	154	Dye, liquid, corrosive, n.o.s.
2786	153	Organotin pesticide, solid, poisonous	2801	154	Dye intermediate, liquid, corrosive, n.o.s.
2786	153	Organotin pesticide, solid, toxic	2802	154	Copper chloride
2787	131	Organotin pesticide, liquid, flammable, poisonous	2803	172	Gallium
2787	131	Organotin pesticide, liquid, flammable, toxic	2805	138	Lithium hydride, fused solid
2788	153	Organotin compound, liquid, n.o.s.	2806	138	Lithium nitride
2789	132	Acetic acid, glacial	2807	171	Magnetized material
2789	132	Acetic acid, solution, more than 80% acid	2809	172	Mercury
2790	153	Acetic acid, solution, more than 10% but not more than 80% acid	2809	172	Mercury metal
2793	170	Ferrous metal borings, shavings, turnings or cuttings	2810	153	Buzz
2794	154	Batteries, wet, filled with acid	2810	153	BZ
2795	154	Batteries, wet, filled with alkali	2810	153	Compound, tree or weed killing, liquid (toxic)
2796	157	Battery fluid, acid	2810	153	CS
2796	157	Sulfuric acid, with not more than 51% acid	2810	153	DC
2796	157	Sulphuric acid, with not more than 51% acid	2810	153	GA
2797	154	Battery fluid, alkali	2810	153	GB
2797	154	Battery fluid, alkali, with battery	2810	153	GD
			2810	153	GF
			2810	153	H
			2810	153	HD
			2810	153	HL
			2810	153	HN-1

**ID Guide**  
**No. No.**

2810 153 HN-2  
2810 153 HN-3  
2810 153 L (Lewisite)  
2810 153 Lewisite  
2810 153 Mustard  
2810 153 Mustard Lewisite  
2810 153 Poison B, liquid, n.o.s.  
2810 153 Poisonous liquid, n.o.s.  
2810 153 Poisonous liquid, n.o.s.  
(Inhalation Hazard Zone A)  
2810 153 Poisonous liquid, n.o.s.  
(Inhalation Hazard Zone B)  
2810 153 Poisonous liquid, organic,  
n.o.s.  
2810 153 Poisonous liquid, organic,  
n.o.s. (Inhalation Hazard  
Zone A)  
2810 153 Poisonous liquid, organic,  
n.o.s. (Inhalation Hazard  
Zone B)  
2810 153 Sarin  
2810 153 Soman  
2810 153 Tabun  
2810 153 Thickened GD  
2810 153 Toxic liquid, n.o.s.  
2810 153 Toxic liquid, n.o.s. (Inhalation  
Hazard Zone A)  
2810 153 Toxic liquid, n.o.s. (Inhalation  
Hazard Zone B)  
2810 153 Toxic liquid, organic, n.o.s.  
2810 153 Toxic liquid, organic, n.o.s.  
(Inhalation Hazard Zone A)  
2810 153 Toxic liquid, organic, n.o.s.  
(Inhalation Hazard Zone B)  
2810 153 VX  
2811 154 CX

**ID Guide**  
**No. No.**

2811 154 Poisonous solid, organic, n.o.s.  
2811 154 Selenium oxide  
2811 154 Toxic solid, organic, n.o.s.  
2812 154 Sodium aluminate, solid  
2813 138 Substances, which in contact  
with water emit flammable  
gases, solid, n.o.s.  
2813 138 Water-reactive solid, n.o.s.  
2813 138 Water-reactive substances,  
solid, n.o.s.  
2814 158 Infectious substance, affecting  
humans  
2815 153 N-Aminoethylpiperazine  
2817 154 Ammonium bifluoride, solution  
2817 154 Ammonium hydrogendifluoride,  
solution  
2817 154 Ammonium hydrogen fluoride,  
solution  
2818 154 Ammonium polysulfide, solution  
2818 154 Ammonium polysulphide,  
solution  
2819 153 Amyl acid phosphate  
2820 153 Butyric acid  
2821 153 Phenol solution  
2822 153 2-Chloropyridine  
2823 153 Crotonic acid  
2823 153 Crotonic acid, liquid  
2823 153 Crotonic acid, solid  
2826 155 Ethyl chlorothioformate  
2829 153 Caproic acid  
2829 153 Hexanoic acid  
2830 139 Lithium ferrosilicon  
2831 160 1,1,1-Trichloroethane  
2834 154 Phosphorous acid  
2834 154 Phosphorous acid, ortho

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
2835	138	Sodium aluminum hydride	2855	151	Zinc fluorosilicate
2837	154	Bisulfates, aqueous solution	2855	151	Zinc silicofluoride
2837	154	Bisulphates, aqueous solution	2856	151	Fluorosilicates, n.o.s.
2837	154	Sodium bisulfate, solution	2856	151	Silicofluorides, n.o.s.
2837	154	Sodium bisulphate, solution	2857	126	Refrigerating machines, containing Ammonia solutions (UN2073)
2837	154	Sodium hydrogen sulfate, solution	2857	126	Refrigerating machines, containing Ammonia solutions (UN2672)
2837	154	Sodium hydrogen sulphate, solution	2857	126	Refrigerating machines, containing non-flammable, liquefied gas
2838	129P	Vinyl butyrate, inhibited	2857	126	Refrigerating machines, containing non-flammable, non-poisonous gases
2838	129P	Vinyl butyrate, stabilized	2857	126	Refrigerating machines, containing non-flammable, non-poisonous, liquefied gas
2839	153	Aldol	2857	126	Refrigerating machines, containing non-flammable, non-poisonous, non-corrosive, liquefied gas
2840	129	Butyraldoxime	2857	126	Refrigerating machines, containing non-flammable, non-toxic gases
2841	131	Di-n-amylamine	2857	126	Refrigerating machines, containing non-flammable, non-toxic, liquefied gas
2842	129	Nitroethane	2857	126	Refrigerating machines, containing non-flammable, non-toxic, non-corrosive, liquefied gas
2844	138	Calcium manganese silicon	2858	170	Zirconium, dry, coiled wire, finished metal sheets or strips
2845	135	Ethyl phosphonous dichloride, anhydrous	2859	154	Ammonium metavanadate
2845	135	Methyl phosphonous dichloride	2861	151	Ammonium polyvanadate
2845	135	Pyrophoric liquid, n.o.s.	2862	151	Vanadium pentoxide
2845	135	Pyrophoric liquid, organic, n.o.s.			
2846	135	Pyrophoric solid, n.o.s.			
2846	135	Pyrophoric solid, organic, n.o.s.			
2849	153	3-Chloropropanol-1			
2850	128	Propylene tetramer			
2851	157	Boron trifluoride, dihydrate			
2852	113	Dipicryl sulfide, wetted with not less than 10% water			
2852	113	Dipicryl sulphide, wetted with not less than 10% water			
2853	151	Magnesium fluorosilicate			
2853	151	Magnesium silicofluoride			
2854	151	Ammonium fluorosilicate			
2854	151	Ammonium silicofluoride			

ID No.	Guide No.	Name of Material
2863	154	Sodium ammonium vanadate
2864	151	Potassium metavanadate
2865	154	Hydroxylamine sulfate
2865	154	Hydroxylamine sulphate
2869	157	Titanium trichloride mixture
2870	135	Aluminum borohydride
2870	135	Aluminum borohydride in devices
2871	170	Antimony powder
2872	159	Dibromochloropropanes
2873	153	Dibutylaminoethanol
2874	153	Furfuryl alcohol
2875	151	Hexachlorophene
2876	153	Resorcinol
2878	170	Titanium sponge granules
2878	170	Titanium sponge powders
2879	157	Selenium oxychloride
2880	140	Calcium hypochlorite, hydrated, with not less than 5.5% but not more than 16% water
2880	140	Calcium hypochlorite, hydrated mixture, with not less than 5.5% but not more than 16% water
2881	135	Metal catalyst, dry
2881	135	Nickel catalyst, dry
2900	158	Infectious substance, affecting animals only
2901	124	Bromine chloride
2902	151	Pesticide, liquid, poisonous, n.o.s.
2902	151	Pesticide, liquid, toxic, n.o.s.
2903	131	Pesticide, liquid, poisonous, flammable, n.o.s.
2903	131	Pesticide, liquid, toxic, flammable, n.o.s.

ID No.	Guide No.	Name of Material
2904	154	Chlorophenates, liquid
2904	154	Chlorophenolates, liquid
2904	154	Phenolates, liquid
2905	154	Chlorophenates, solid
2905	154	Chlorophenolates, solid
2905	154	Phenolates, solid
2907	133	Isosorbide dinitrate mixture
2908	161	Radioactive material, empty packages
2908	161	Radioactive material, excepted package, empty packaging
2909	161	Radioactive material, articles manufactured from depleted Uranium
2909	161	Radioactive material, articles manufactured from natural Thorium
2909	161	Radioactive material, articles manufactured from natural Uranium
2909	161	Radioactive material, excepted package, articles manufactured from depleted Uranium
2909	161	Radioactive material, excepted package, articles manufactured from natural Thorium
2909	161	Radioactive material, excepted package, articles manufactured from natural Uranium
2910	161	Radioactive material, excepted package, articles manufactured from depleted Uranium
2910	161	Radioactive material, excepted package, articles manufactured from natural Thorium

<b>ID No.</b>	<b>Guide No.</b>	<b>Name of Material</b>	<b>ID No.</b>	<b>Guide No.</b>	<b>Name of Material</b>
2910	161	Radioactive material, excepted package, articles manufactured from natural Uranium	2920	132	Corrosive liquid, flammable, n.o.s.
2910	161	Radioactive material, excepted package, empty packaging	2920	132	Dichlorobutene
2910	161	Radioactive material, excepted package, instruments or articles	2921	134	Corrosive solid, flammable, n.o.s.
2910	161	Radioactive material, excepted package, limited quantity of material	2922	154	Corrosive liquid, poisonous, n.o.s.
2910	161	Radioactive material, limited quantity, n.o.s.	2922	154	Corrosive liquid, toxic, n.o.s.
2911	161	Radioactive material, excepted package, instruments or articles	2922	154	Sodium hydrosulfide, solution
2911	161	Radioactive material, instruments or articles	2922	154	Sodium hydrosulphide, solution
2912	162	Radioactive material, low specific activity (LSA), n.o.s.	2923	154	Corrosive solid, poisonous, n.o.s.
2912	162	Radioactive material, low specific activity (LSA-I)	2923	154	Corrosive solid, toxic, n.o.s.
2913	162	Radioactive material, surface contaminated objects (SCO)	2924	132	Flammable liquid, corrosive, n.o.s.
2913	162	Radioactive material, surface contaminated objects (SCO-I)	2925	134	Flammable solid, corrosive, n.o.s.
2913	162	Radioactive material, surface contaminated objects (SCO-II)	2925	134	Flammable solid, corrosive, organic, n.o.s.
2915	163	Radioactive material, Type A package	2926	134	Flammable solid, poisonous, n.o.s.
2916	163	Radioactive material, Type B(U) package	2926	134	Flammable solid, poisonous, organic, n.o.s.
2917	163	Radioactive material, Type B(M) package	2926	134	Flammable solid, toxic, organic, n.o.s.
2918	165	Radioactive material, fissile, n.o.s.	2927	154	Ethyl phosphonothioic dichloride, anhydrous
2919	163	Radioactive material, transported under special arrangement	2927	154	Ethyl phosphorodichloridate
			2927	154	Poisonous liquid, corrosive, n.o.s.
			2927	154	Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)
			2927	154	Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)
			2927	154	Toxic liquid, corrosive, organic, n.o.s.
			2927	154	Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone A)

**ID Guide**  
**No. No.**

**Name of Material**

2927 154 Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone B)

2928 154 Poisonous solid, corrosive, n.o.s.

2928 154 Toxic solid, corrosive, organic, n.o.s.

2929 131 Poisonous liquid, flammable, n.o.s.

2929 131 Poisonous liquid, flammable, n.o.s. (Inhalation Hazard Zone A)

2929 131 Poisonous liquid, flammable, n.o.s. (Inhalation Hazard Zone B)

2929 131 Poisonous liquid, flammable, organic, n.o.s.

2929 131 Poisonous liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone A)

2929 131 Poisonous liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone B)

2929 131 Toxic liquid, flammable, n.o.s.

2929 131 Toxic liquid, flammable, n.o.s. (Inhalation Hazard Zone A)

2929 131 Toxic liquid, flammable, n.o.s. (Inhalation Hazard Zone B)

2929 131 Toxic liquid, flammable, organic, n.o.s.

2929 131 Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone A)

2929 131 Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone B)

2930 134 Poisonous solid, flammable, n.o.s.

2930 134 Poisonous solid, flammable, organic, n.o.s.

**ID Guide**  
**No. No.**

**Name of Material**

2930 134 Toxic solid, flammable, n.o.s.

2930 134 Toxic solid, flammable, organic, n.o.s.

2931 151 Vanadyl sulfate

2931 151 Vanadyl sulphate

2933 129 Methyl 2-chloropropionate

2934 129 Isopropyl 2-chloropropionate

2935 129 Ethyl 2-chloropropionate

2936 153 Thiolactic acid

2937 153 alpha-Methylbenzyl alcohol

2937 153 alpha-Methylbenzyl alcohol, liquid

2937 153 Methylbenzyl alcohol (alpha)

2938 152 Methyl benzoate

2940 135 Cyclooctadiene phosphines

2940 135 9-Phosphabicyclononanes

2941 153 Fluoroanilines

2942 153 2-Trifluoromethylaniline

2943 129 Tetrahydrofurfurylamine

2945 132 N-Methylbutylamine

2946 153 2-Amino-5-diethylaminopentane

2947 155 Isopropyl chloroacetate

2948 153 3-Trifluoromethylaniline

2949 154 Sodium hydrosulfide, with not less than 25% water of crystallization

2949 154 Sodium hydrosulphide, with not less than 25% water of crystallization

2950 138 Magnesium granules, coated

2956 149 5-tert-Butyl-2,4,6-trinitro-m-xylene

2956 149 Musk xylene

2965 139 Boron trifluoride dimethyl etherate

ID No.	Guide No.	Name of Material
2966	153	Thioglycol
2967	154	Sulfamic acid
2967	154	Sulphamic acid
2968	135	Maneb, stabilized
2968	135	Maneb preparation, stabilized
2969	171	Castor beans, meal, pomace or flake
2974	164	Radioactive material, special form, n.o.s.
2975	162	Thorium metal, pyrophoric
2976	162	Thorium nitrate, solid
2977	166	Radioactive material, Uranium hexafluoride, fissile
2977	166	Uranium hexafluoride, fissile containing more than 1% Uranium-235
2978	166	Radioactive material, Uranium hexafluoride
2978	166	Radioactive material, Uranium hexafluoride, non-fissile or fissile-excepted
2978	166	Uranium hexafluoride
2978	166	Uranium hexafluoride, fissile-excepted
2978	166	Uranium hexafluoride, low specific activity
2978	166	Uranium hexafluoride, non-fissile
2979	162	Uranium metal, pyrophoric
2980	162	Uranium nitrate, hexahydrate, solution
2980	162	Uranyl nitrate, hexahydrate, solution
2981	162	Uranyl nitrate, solid
2982	163	Radioactive material, n.o.s.

ID No.	Guide No.	Name of Material
2983	129P	Ethylene oxide and Propylene oxide mixture, with not more than 30% Ethylene oxide
2983	129P	Propylene oxide and Ethylene oxide mixture, with not more than 30% Ethylene oxide
2984	140	Hydrogen peroxide, aqueous solution, with not less than 8% but less than 20% Hydrogen peroxide
2985	155	Chlorosilanes, flammable, corrosive, n.o.s.
2985	155	Chlorosilanes, n.o.s.
2986	155	Chlorosilanes, corrosive, flammable, n.o.s.
2986	155	Chlorosilanes, n.o.s.
2987	156	Chlorosilanes, corrosive, n.o.s.
2987	156	Chlorosilanes, n.o.s.
2988	139	Chlorosilanes, n.o.s.
2988	139	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.
2989	133	Lead phosphite, dibasic
2990	171	Life-saving appliances, self-inflating
2991	131	Carbamate pesticide, liquid, poisonous, flammable
2991	131	Carbamate pesticide, liquid, toxic, flammable
2992	151	Carbamate pesticide, liquid, poisonous
2992	151	Carbamate pesticide, liquid, toxic
2993	131	Arsenical pesticide, liquid, poisonous, flammable
2993	131	Arsenical pesticide, liquid, toxic, flammable

ID No.	Guide No.	Name of Material
2994	151	Arsenical pesticide, liquid, poisonous
2994	151	Arsenical pesticide, liquid, toxic
2995	131	Organochlorine pesticide, liquid, poisonous, flammable
2995	131	Organochlorine pesticide, liquid, toxic, flammable
2996	151	Organochlorine pesticide, liquid, poisonous
2996	151	Organochlorine pesticide, liquid, toxic
2997	131	Triazine pesticide, liquid, poisonous, flammable
2997	131	Triazine pesticide, liquid, toxic, flammable
2998	151	Triazine pesticide, liquid, poisonous
2998	151	Triazine pesticide, liquid, toxic
2999	131	Phenoxy pesticide, liquid, poisonous, flammable
2999	131	Phenoxy pesticide, liquid, toxic, flammable
3000	152	Phenoxy pesticide, liquid, poisonous
3000	152	Phenoxy pesticide, liquid, toxic
3001	131	Phenyl urea pesticide, liquid, poisonous, flammable
3001	131	Phenyl urea pesticide, liquid, toxic, flammable
3002	151	Phenyl urea pesticide, liquid, poisonous
3002	151	Phenyl urea pesticide, liquid, toxic
3003	131	Benzoic derivative pesticide, liquid, poisonous, flammable
3003	131	Benzoic derivative pesticide, liquid, toxic, flammable

ID No.	Guide No.	Name of Material
3004	151	Benzoic derivative pesticide, liquid, poisonous
3004	151	Benzoic derivative pesticide, liquid, toxic
3005	131	Dithiocarbamate pesticide, liquid, poisonous, flammable
3005	131	Dithiocarbamate pesticide, liquid, toxic, flammable
3005	131	Thiocarbamate pesticide, liquid, poisonous, flammable
3005	131	Thiocarbamate pesticide, liquid, toxic, flammable
3006	151	Dithiocarbamate pesticide, liquid, poisonous
3006	151	Dithiocarbamate pesticide, liquid, toxic
3006	151	Thiocarbamate pesticide, liquid, poisonous
3006	151	Thiocarbamate pesticide, liquid, toxic
3007	131	Phthalimide derivative pesticide, liquid, poisonous, flammable
3007	131	Phthalimide derivative pesticide, liquid, toxic, flammable
3008	151	Phthalimide derivative pesticide, liquid, poisonous
3008	151	Phthalimide derivative pesticide, liquid, toxic
3009	131	Copper based pesticide, liquid, poisonous, flammable
3009	131	Copper based pesticide, liquid, toxic, flammable
3010	151	Copper based pesticide, liquid, poisonous
3010	151	Copper based pesticide, liquid, toxic
3011	131	Mercury based pesticide, liquid, poisonous, flammable

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
3011	131	Mercury based pesticide, liquid, toxic, flammable	3020	153	Organotin pesticide, liquid, poisonous
3012	151	Mercury based pesticide, liquid, poisonous	3020	153	Organotin pesticide, liquid, toxic
3012	151	Mercury based pesticide, liquid, toxic	3021	131	Pesticide, liquid, flammable, poisonous, n.o.s.
3013	131	Substituted nitrophenol pesticide, liquid, poisonous, flammable	3021	131	Pesticide, liquid, flammable, toxic, n.o.s.
3013	131	Substituted nitrophenol pesticide, liquid, toxic, flammable	3022	127P	1,2-Butylene oxide, stabilized
3014	153	Substituted nitrophenol pesticide, liquid, poisonous	3023	131	2-Methyl-2-heptanethiol
3014	153	Substituted nitrophenol pesticide, liquid, toxic	3023	131	tert-Octyl mercaptan
3015	131	Bipyridilium pesticide, liquid, poisonous, flammable	3024	131	Coumarin derivative pesticide, liquid, flammable, poisonous
3015	131	Bipyridilium pesticide, liquid, toxic, flammable	3024	131	Coumarin derivative pesticide, liquid, flammable, toxic
3016	151	Bipyridilium pesticide, liquid, poisonous	3025	131	Coumarin derivative pesticide, liquid, poisonous, flammable
3016	151	Bipyridilium pesticide, liquid, toxic	3025	131	Coumarin derivative pesticide, liquid, toxic, flammable
3017	131	Organophosphorus pesticide, liquid, poisonous, flammable	3026	151	Coumarin derivative pesticide, liquid, poisonous
3017	131	Organophosphorus pesticide, liquid, toxic, flammable	3026	151	Coumarin derivative pesticide, liquid, toxic
3018	152	Methyl parathion, liquid	3027	151	Coumarin derivative pesticide, solid, poisonous
3018	152	Organophosphorus pesticide, liquid, poisonous	3027	151	Coumarin derivative pesticide, solid, toxic
3018	152	Organophosphorus pesticide, liquid, toxic	3028	154	Batteries, dry, containing Potassium hydroxide solid
3018	152	Tetraethyl pyrophosphate, liquid	3048	157	Aluminum phosphide pesticide
3019	131	Organotin pesticide, liquid, poisonous, flammable	3049	138	Metal alkyl halides, n.o.s.
3019	131	Organotin pesticide, liquid, toxic, flammable	3049	138	Metal alkyl halides, water-reactive, n.o.s.
			3049	138	Metal aryl halides, n.o.s.
			3049	138	Metal aryl halides, water-reactive, n.o.s.
			3050	138	Metal alkyl hydrides, n.o.s.

ID No.	Guide No.	Name of Material
3050	138	Metal alkyl hydrides, water-reactive, n.o.s.
3050	138	Metal aryl hydrides, n.o.s.
3050	138	Metal aryl hydrides, water-reactive, n.o.s.
3051	135	Aluminum alkyls
3052	135	Aluminum alkyl halides
3052	135	Aluminum alkyl halides, liquid
3052	135	Aluminum alkyl halides, solid
3053	135	Magnesium alkyls
3054	129	Cyclohexanethiol
3054	129	Cyclohexyl mercaptan
3055	154	2-(2-Aminoethoxy)ethanol
3056	129	n-Heptaldehyde
3057	125	Trifluoroacetyl chloride
3064	127	Nitroglycerin, solution in alcohol, with more than 1% but not more than 5% Nitroglycerin
3065	127	Alcoholic beverages
3066	153	Paint (corrosive)
3066	153	Paint related material (corrosive)
3070	126	Dichlorodifluoromethane and Ethylene oxide mixture, with not more than 12.5% Ethylene oxide
3070	126	Dichlorodifluoromethane and Ethylene oxide mixtures, with not more than 12% Ethylene oxide
3070	126	Ethylene oxide and Dichlorodifluoromethane mixture, with not more than 12.5% Ethylene oxide
3070	126	Ethylene oxide and Dichlorodifluoromethane mixtures, with not more than 12% Ethylene oxide

ID No.	Guide No.	Name of Material
3071	131	Mercaptan mixture, liquid, poisonous, flammable, n.o.s.
3071	131	Mercaptan mixture, liquid, toxic, flammable, n.o.s.
3071	131	Mercaptan mixtures, liquid, n.o.s.
3071	131	Mercaptans, liquid, n.o.s.
3071	131	Mercaptans, liquid, poisonous, flammable, n.o.s.
3071	131	Mercaptans, liquid, toxic, flammable, n.o.s.
3072	171	Life-saving appliances, not self-inflating
3073	131P	Vinylpyridines, inhibited
3073	131P	Vinylpyridines, stabilized
3076	138	Aluminum alkyl hydrides
3077	171	Environmentally hazardous substances, solid, n.o.s.
3077	171	Hazardous waste, solid, n.o.s.
3077	171	Other regulated substances, solid, n.o.s.
3078	138	Cerium, turnings or gritty powder
3079	131P	Methacrylonitrile, inhibited
3079	131P	Methacrylonitrile, stabilized
3080	155	Isocyanate solution, poisonous, flammable, n.o.s.
3080	155	Isocyanate solution, toxic, flammable, n.o.s.
3080	155	Isocyanate solutions, n.o.s.
3080	155	Isocyanates, n.o.s.
3080	155	Isocyanates, poisonous, flammable, n.o.s.
3080	155	Isocyanates, toxic, flammable, n.o.s.
3082	171	Environmentally hazardous substances, liquid, n.o.s.

ID No.	Guide No.	Name of Material
3082	171	Hazardous waste, liquid, n.o.s.
3082	171	Other regulated substances, liquid, n.o.s.
3083	124	Perchloryl fluoride
3084	140	Corrosive solid, oxidizing, n.o.s.
3085	140	Oxidizing solid, corrosive, n.o.s.
3085	140	Oxidizing substances, solid, corrosive, n.o.s.
3086	141	Poisonous solid, oxidizing, n.o.s.
3086	141	Toxic solid, oxidizing, n.o.s.
3087	141	Oxidizing solid, poisonous, n.o.s.
3087	141	Oxidizing solid, toxic, n.o.s.
3087	141	Oxidizing substances, solid, poisonous, n.o.s.
3087	141	Oxidizing substances, solid, toxic, n.o.s.
3088	135	Self-heating solid, organic, n.o.s.
3088	135	Self-heating substances, solid, n.o.s.
3089	170	Metal powder, flammable, n.o.s.
3090	138	Lithium batteries
3090	138	Lithium batteries, liquid or solid cathode
3091	138	Lithium batteries contained in equipment
3091	138	Lithium batteries packed with equipment
3092	129	1-Methoxy-2-propanol
3093	140	Corrosive liquid, oxidizing, n.o.s.
3094	138	Corrosive liquid, water-reactive, n.o.s.
3094	138	Corrosive liquid, which in contact with water emits flammable gases, n.o.s.

ID No.	Guide No.	Name of Material
3095	136	Corrosive solid, self-heating, n.o.s.
3096	138	Corrosive solid, water-reactive, n.o.s.
3096	138	Corrosive solid, which in contact with water emits flammable gases, n.o.s.
3097	140	Flammable solid, oxidizing, n.o.s.
3098	140	Oxidizing liquid, corrosive, n.o.s.
3098	140	Oxidizing substances, liquid, corrosive, n.o.s.
3099	142	Oxidizing liquid, poisonous, n.o.s.
3099	142	Oxidizing liquid, toxic, n.o.s.
3099	142	Oxidizing substances, liquid, poisonous, n.o.s.
3099	142	Oxidizing substances, liquid, toxic, n.o.s.
3100	135	Oxidizing solid, self-heating, n.o.s.
3100	135	Oxidizing substances, self-heating, n.o.s.
3100	135	Oxidizing substances, solid, self-heating, n.o.s.
3101	146	Organic peroxide type B, liquid
3102	146	Organic peroxide type B, solid
3103	146	Organic peroxide type C, liquid
3104	146	Organic peroxide type C, solid
3105	145	Organic peroxide type D, liquid
3106	145	Organic peroxide type D, solid
3107	145	Organic peroxide type E, liquid
3108	145	Organic peroxide type E, solid
3109	145	Organic peroxide type F, liquid
3110	145	Organic peroxide type F, solid
3111	148	Organic peroxide type B, liquid, temperature controlled

**ID Guide** **Name of Material**  
**No. No.**

- 3112 148 Organic peroxide type B, solid, temperature controlled
- 3113 148 Organic peroxide type C, liquid, temperature controlled
- 3114 148 Organic peroxide type C, solid, temperature controlled
- 3115 148 Organic peroxide type D, liquid, temperature controlled
- 3116 148 Organic peroxide type D, solid, temperature controlled
- 3117 148 Organic peroxide type E, liquid, temperature controlled
- 3118 148 Organic peroxide type E, solid, temperature controlled
- 3119 148 Organic peroxide type F, liquid, temperature controlled
- 3120 148 Organic peroxide type F, solid, temperature controlled
- 3121 144 Oxidizing solid, water-reactive, n.o.s.
- 3121 144 Oxidizing substances, solid, which in contact with water emit flammable gases, n.o.s.
- 3122 142 Poisonous liquid, oxidizing, n.o.s.
- 3122 142 Poisonous liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)
- 3122 142 Poisonous liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)
- 3122 142 Toxic liquid, oxidizing, n.o.s.
- 3122 142 Toxic liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)
- 3122 142 Toxic liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)
- 3123 139 Poisonous liquid, water-reactive, n.o.s.

**ID Guide** **Name of Material**  
**No. No.**

- 3123 139 Poisonous liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)
- 3123 139 Poisonous liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)
- 3123 139 Poisonous liquid, which in contact with water emits flammable gases, n.o.s.
- 3123 139 Poisonous liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone A)
- 3123 139 Poisonous liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone B)
- 3123 139 Toxic liquid, water-reactive, n.o.s.
- 3123 139 Toxic liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)
- 3123 139 Toxic liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)
- 3123 139 Toxic liquid, which in contact with water emits flammable gases, n.o.s.
- 3123 139 Toxic liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone A)
- 3123 139 Toxic liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone B)
- 3124 136 Poisonous solid, self-heating, n.o.s.
- 3124 136 Toxic solid, self-heating, n.o.s.

<b>ID No.</b>	<b>Guide No.</b>	<b>Name of Material</b>	<b>ID No.</b>	<b>Guide No.</b>	<b>Name of Material</b>
3125	139	Poisonous solid, water-reactive, n.o.s.	3130	139	Substances, which in contact with water emit flammable gases, liquid, poisonous, n.o.s.
3125	139	Poisonous solid, which in contact with water emits flammable gases, n.o.s.	3130	139	Substances, which in contact with water emit flammable gases, liquid, toxic, n.o.s.
3125	139	Toxic solid, water-reactive, n.o.s.	3130	139	Water-reactive liquid, poisonous, n.o.s.
3125	139	Toxic solid, which in contact with water emits flammable gases, n.o.s.	3130	139	Water-reactive liquid, toxic, n.o.s.
3126	136	Self-heating solid, corrosive, organic, n.o.s.	3130	139	Water-reactive substances, liquid, poisonous, n.o.s.
3126	136	Self-heating substance, solid, corrosive, n.o.s.	3130	139	Water-reactive substances, liquid, toxic, n.o.s.
3127	135	Self-heating solid, oxidizing, n.o.s.	3131	138	Substances, which in contact with water emit flammable gases, solid, corrosive, n.o.s.
3127	135	Self-heating substances, solid, oxidizing, n.o.s.	3131	138	Water-reactive solid, corrosive, n.o.s.
3128	136	Self-heating solid, organic, poisonous, n.o.s.	3131	138	Water-reactive substances, solid, corrosive, n.o.s.
3128	136	Self-heating solid, organic, toxic, n.o.s.	3132	138	Substances, which in contact with water emit flammable gases, solid, flammable, n.o.s.
3128	136	Self-heating solid, poisonous, organic, n.o.s.	3132	138	Water-reactive solid, flammable, n.o.s.
3128	136	Self-heating solid, toxic, organic, n.o.s.	3132	138	Water-reactive substances, solid, flammable, n.o.s.
3128	136	Self-heating substances, solid, poisonous, n.o.s.	3133	138	Substances, which in contact with water emit flammable gases, solid, oxidizing, n.o.s.
3128	136	Self-heating substances, solid, toxic, n.o.s.	3133	138	Water-reactive solid, oxidizing, n.o.s.
3129	138	Substances, which in contact with water emit flammable gases, liquid, corrosive, n.o.s.	3133	138	Water-reactive substances, solid, oxidizing, n.o.s.
3129	138	Water-reactive liquid, corrosive, n.o.s.			
3129	138	Water-reactive substances, liquid, corrosive, n.o.s.			

ID No.	Guide No.	Name of Material
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3134	139	Substances, which in contact with water emit flammable gases, solid, poisonous, n.o.s.
3134	139	Substances, which in contact with water emit flammable gases, solid, toxic, n.o.s.
3134	139	Water-reactive solid, poisonous, n.o.s.
3134	139	Water-reactive solid, toxic, n.o.s.
3134	139	Water-reactive substances, solid, poisonous, n.o.s.
3134	139	Water-reactive substances, solid, toxic, n.o.s.
3135	138	Substances, which in contact with water emit flammable gases, solid, self-heating, n.o.s.
3135	138	Water-reactive solid, self-heating, n.o.s.
3135	138	Water-reactive substances, solid, self-heating, n.o.s.
3136	120	Trifluoromethane, refrigerated liquid
3137	140	Oxidizing solid, flammable, n.o.s.
3137	140	Oxidizing substances, solid, flammable, n.o.s.
3138	115	Acetylene, Ethylene and Propylene in mixture, refrigerated liquid containing at least 71.5% Ethylene with not more than 22.5% Acetylene and not more than 6% Propylene
3138	115	Ethylene, Acetylene and Propylene in mixture, refrigerated liquid containing at least 71.5% Ethylene with not more than 22.5% Acetylene and not more than 6% Propylene

ID No.	Guide No.	Name of Material
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3138	115	Propylene, Ethylene and Acetylene in mixture, refrigerated liquid containing at least 71.5% Ethylene with not more than 22.5% Acetylene and not more than 6% Propylene
3139	140	Oxidizing liquid, n.o.s.
3139	140	Oxidizing substances, liquid, n.o.s.
3140	151	Alkaloids, liquid, n.o.s. (poisonous)
3140	151	Alkaloid salts, liquid, n.o.s. (poisonous)
3141	157	Antimony compound, inorganic, liquid, n.o.s.
3142	151	Disinfectant, liquid, poisonous, n.o.s.
3142	151	Disinfectant, liquid, toxic, n.o.s.
3142	151	Disinfectants, liquid, n.o.s. (poisonous)
3143	151	Dye, solid, poisonous, n.o.s.
3143	151	Dye, solid, toxic, n.o.s.
3143	151	Dye intermediate, solid, poisonous, n.o.s.
3143	151	Dye intermediate, solid, toxic, n.o.s.
3144	151	Nicotine compound, liquid, n.o.s.
3144	151	Nicotine preparation, liquid, n.o.s.
3145	153	Alkyl phenols, liquid, n.o.s. (including C2-C12 homologues)
3146	153	Organotin compound, solid, n.o.s.
3147	154	Dye, solid, corrosive, n.o.s.
3147	154	Dye intermediate, solid, corrosive, n.o.s.

ID No.	Guide No.	Name of Material
3148	138	Substances, which in contact with water emit flammable gases, liquid, n.o.s.
3148	138	Water-reactive liquid, n.o.s.
3148	138	Water-reactive substances, liquid, n.o.s.
3149	140	Hydrogen peroxide and Peroxyacetic acid mixture, with acid(s), water and not more than 5% Peroxyacetic acid, stabilized
3150	115	Devices, small, hydrocarbon gas powered, with release device
3150	115	Hydrocarbon gas refills for small devices, with release device
3151	171	Polyhalogenated biphenyls, liquid
3151	171	Polyhalogenated terphenyls, liquid
3152	171	Polyhalogenated biphenyls, solid
3152	171	Polyhalogenated terphenyls, solid
3153	115	Perfluoromethyl vinyl ether
3153	115	Perfluoro(methyl vinyl ether)
3154	115	Perfluoroethyl vinyl ether
3154	115	Perfluoro(ethyl vinyl ether)
3155	154	Pentachlorophenol
3156	122	Compressed gas, oxidizing, n.o.s.
3157	122	Liquefied gas, oxidizing, n.o.s.
3158	120	Gas, refrigerated liquid, n.o.s.
3159	126	Refrigerant gas R-134a
3159	126	1,1,1,2-Tetrafluoroethane

ID No.	Guide No.	Name of Material
3160	119	Liquefied gas, poisonous, flammable, n.o.s.
3160	119	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)
3160	119	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)
3160	119	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)
3160	119	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)
3160	119	Liquefied gas, toxic, flammable, n.o.s.
3160	119	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)
3160	119	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)
3160	119	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)
3160	119	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)
3161	115	Liquefied gas, flammable, n.o.s.
3162	123	Liquefied gas, poisonous, n.o.s.
3162	123	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone A)
3162	123	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone B)
3162	123	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone C)
3162	123	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone D)

**ID Guide Name of Material**  
**No. No.**

3162	123	Liquefied gas, toxic, n.o.s.
3162	123	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone A)
3162	123	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone B)
3162	123	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone C)
3162	123	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone D)
3163	126	Liquefied gas, n.o.s.
3164	126	Articles, pressurized, hydraulic (containing non-flammable gas)
3164	126	Articles, pressurized, pneumatic (containing non-flammable gas)
3165	131	Aircraft hydraulic power unit fuel tank
3166	128	Engines, internal combustion, flammable gas powered
3166	128	Engines, internal combustion, flammable liquid powered
3166	128	Engines, internal combustion, including when fitted in machinery or vehicles
3166	128	Vehicle, flammable gas powered
3166	128	Vehicle, flammable liquid powered
3167	115	Gas sample, non-pressurized, flammable, n.o.s., not refrigerated liquid
3168	119	Gas sample, non-pressurized, poisonous, flammable, n.o.s., not refrigerated liquid
3168	119	Gas sample, non-pressurized, toxic, flammable, n.o.s., not refrigerated liquid

**ID Guide Name of Material**  
**No. No.**

3169	123	Gas sample, non-pressurized, poisonous, n.o.s., not refrigerated liquid
3169	123	Gas sample, non-pressurized, toxic, n.o.s., not refrigerated liquid
3170	138	Aluminum dross
3170	138	Aluminum processing by-products
3170	138	Aluminum remelting by- products
3170	138	Aluminum smelting by-products
3171	154	Battery-powered equipment (wet battery)
3171	154	Battery-powered vehicle (wet battery)
3171	154	Wheelchair, electric, with batteries
3172	153	Toxins, extracted from living sources, liquid, n.o.s.
3172	153	Toxins, extracted from living sources, n.o.s.
3172	153	Toxins, extracted from living sources, solid, n.o.s.
3174	135	Titanium disulfide
3174	135	Titanium disulphide
3175	133	Solids containing flammable liquid, n.o.s.
3176	133	Flammable solid, organic, molten, n.o.s.
3178	133	Flammable solid, inorganic, n.o.s.
3178	133	Smokeless powder for small arms
3179	134	Flammable solid, poisonous, inorganic, n.o.s.
3179	134	Flammable solid, toxic, inorganic, n.o.s.

**ID No.** **Guide No.** **Name of Material**

3180 134 Flammable solid, corrosive, inorganic, n.o.s.  
3180 134 Flammable solid, inorganic, corrosive, n.o.s.  
3181 133 Metal salts of organic compounds, flammable, n.o.s.  
3182 170 Metal hydrides, flammable, n.o.s.  
3183 135 Self-heating liquid, organic, n.o.s.  
3184 136 Self-heating liquid, poisonous, organic, n.o.s.  
3184 136 Self-heating liquid, toxic, organic, n.o.s.  
3185 136 Self-heating liquid, corrosive, organic, n.o.s.  
3186 135 Self-heating liquid, inorganic, n.o.s.  
3187 136 Self-heating liquid, poisonous, inorganic, n.o.s.  
3187 136 Self-heating liquid, toxic, inorganic, n.o.s.  
3188 136 Self-heating liquid, corrosive, inorganic, n.o.s.  
3189 135 Metal powder, self-heating, n.o.s.  
3189 135 Self-heating metal powders, n.o.s.  
3190 135 Self-heating solid, inorganic, n.o.s.  
3191 136 Self-heating solid, inorganic, poisonous, n.o.s.  
3191 136 Self-heating solid, inorganic, toxic, n.o.s.  
3191 136 Self-heating solid, poisonous, inorganic, n.o.s.  
3191 136 Self-heating solid, toxic, inorganic, n.o.s.

**ID No.** **Guide No.** **Name of Material**

3192 136 Self-heating solid, corrosive, inorganic, n.o.s.  
3194 135 Pyrophoric liquid, inorganic, n.o.s.  
3200 135 Pyrophoric solid, inorganic, n.o.s.  
3203 135 Pyrophoric organometallic compound, n.o.s.  
3203 135 Pyrophoric organometallic compound, water-reactive, n.o.s.  
3205 135 Alkaline earth metal alcoholates, n.o.s.  
3206 136 Alkali metal alcoholates, self-heating, corrosive, n.o.s.  
3207 138 Organometallic compound, water-reactive, flammable, n.o.s.  
3207 138 Organometallic compound dispersion, water-reactive, flammable, n.o.s.  
3207 138 Organometallic compound solution, water-reactive, flammable, n.o.s.  
3208 138 Metallic substance, water-reactive, n.o.s.  
3209 138 Metallic substance, water-reactive, self-heating, n.o.s.  
3210 140 Chlorates, inorganic, aqueous solution, n.o.s.  
3211 140 Perchlorates, inorganic, aqueous solution, n.o.s.  
3212 140 Hypochlorites, inorganic, n.o.s.  
3213 140 Bromates, inorganic, aqueous solution, n.o.s.  
3214 140 Permanganates, inorganic, aqueous solution, n.o.s.  
3215 140 Persulfates, inorganic, n.o.s.  
3215 140 Persulphates, inorganic, n.o.s.

ID No.	Guide No.	Name of Material
3216	140	Persulfates, inorganic, aqueous solution, n.o.s.
3216	140	Persulphates, inorganic, aqueous solution, n.o.s.
3217	140	Percarbonates, inorganic, n.o.s.
3218	140	Nitrates, inorganic, aqueous solution, n.o.s.
3219	140	Nitrites, inorganic, aqueous solution, n.o.s.
3220	126	Pentafluoroethane
3220	126	Refrigerant gas R-125
3221	149	Self-reactive liquid type B
3222	149	Self-reactive solid type B
3223	149	Self-reactive liquid type C
3224	149	Self-reactive solid type C
3225	149	Self-reactive liquid type D
3226	149	Self-reactive solid type D
3227	149	Self-reactive liquid type E
3228	149	Self-reactive solid type E
3229	149	Self-reactive liquid type F
3230	149	Self-reactive solid type F
3231	150	Self-reactive liquid type B, temperature controlled
3232	150	Self-reactive solid type B, temperature controlled
3233	150	Self-reactive liquid type C, temperature controlled
3234	150	Self-reactive solid type C, temperature controlled
3235	150	Self-reactive liquid type D, temperature controlled
3236	150	Self-reactive solid type D, temperature controlled
3237	150	Self-reactive liquid type E, temperature controlled

ID No.	Guide No.	Name of Material
3238	150	Self-reactive solid type E, temperature controlled
3239	150	Self-reactive liquid type F, temperature controlled
3240	150	Self-reactive solid type F, temperature controlled
3241	133	2-Bromo-2-nitropropane-1,3-diol
3242	149	Azodicarbonamide
3243	151	Solids containing poisonous liquid, n.o.s.
3243	151	Solids containing toxic liquid, n.o.s.
3244	154	Solids containing corrosive liquid, n.o.s.
3245	171	Genetically modified micro-organisms
3246	156	Methanesulfonyl chloride
3246	156	Methanesulphonyl chloride
3247	140	Sodium peroxoborate, anhydrous
3248	131	Medicine, liquid, flammable, poisonous, n.o.s.
3248	131	Medicine, liquid, flammable, toxic, n.o.s.
3249	151	Medicine, solid, poisonous, n.o.s.
3249	151	Medicine, solid, toxic, n.o.s.
3250	153	Chloroacetic acid, molten
3251	133	Isosorbide-5-mononitrate
3252	115	Difluoromethane
3252	115	Refrigerant gas R-32
3253	154	Disodium trioxosilicate
3253	154	Disodium trioxosilicate, pentahydrate
3254	135	Tributylphosphane
3254	135	Tributylphosphine

ID No.	Guide No.	Name of Material
3255	135	tert-Butyl hypochlorite
3256	128	Elevated temperature liquid, flammable, n.o.s., with flash point above 37.8°C (100°F), at or above its flash point
3256	128	Elevated temperature liquid, flammable, n.o.s., with flash point above 60.5°C (141°F), at or above its flash point
3257	128	Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point
3258	171	Elevated temperature solid, n.o.s., at or above 240°C (464°F)
3259	154	Amines, solid, corrosive, n.o.s.
3259	154	Polyamines, solid, corrosive, n.o.s.
3260	154	Corrosive solid, acidic, inorganic, n.o.s.
3261	154	Corrosive solid, acidic, organic, n.o.s.
3262	154	Corrosive solid, basic, inorganic, n.o.s.
3263	154	Corrosive solid, basic, organic, n.o.s.
3264	154	Corrosive liquid, acidic, inorganic, n.o.s.
3265	153	Corrosive liquid, acidic, organic, n.o.s.
3266	154	Corrosive liquid, basic, inorganic, n.o.s.
3267	153	Corrosive liquid, basic, organic, n.o.s.
3268	171	Air bag inflators
3268	171	Air bag inflators, pyrotechnic
3268	171	Air bag modules

ID No.	Guide No.	Name of Material
3268	171	Air bag modules, pyrotechnic
3268	171	Seat-belt modules
3268	171	Seat-belt pre-tensioners
3268	171	Seat-belt pre-tensioners, pyrotechnic
3269	128	Polyester resin kit
3270	133	Nitrocellulose membrane filters
3271	127	Ethers, n.o.s.
3272	127	Esters, n.o.s.
3273	131	Nitriles, flammable, poisonous, n.o.s.
3273	131	Nitriles, flammable, toxic, n.o.s.
3274	132	Alcoholates solution, n.o.s., in alcohol
3275	131	Nitriles, poisonous, flammable, n.o.s.
3275	131	Nitriles, toxic, flammable, n.o.s.
3276	151	Nitriles, poisonous, liquid, n.o.s.
3276	151	Nitriles, poisonous, n.o.s.
3276	151	Nitriles, toxic, liquid, n.o.s.
3276	151	Nitriles, toxic, n.o.s.
3277	154	Chloroformates, poisonous, corrosive, n.o.s.
3277	154	Chloroformates, toxic, corrosive, n.o.s.
3278	151	Organophosphorus compound, poisonous, liquid, n.o.s.
3278	151	Organophosphorus compound, poisonous, n.o.s.
3278	151	Organophosphorus compound, toxic, liquid, n.o.s.
3278	151	Organophosphorus compound, toxic, n.o.s.
3279	131	Organophosphorus compound, poisonous, flammable, n.o.s.

**ID Guide No. No. Name of Material**

- 3279 131 Organophosphorus compound, toxic, flammable, n.o.s.
- 3280 151 Organoarsenic compound, liquid, n.o.s.
- 3280 151 Organoarsenic compound, n.o.s.
- 3281 151 Metal carbonyls, liquid, n.o.s.
- 3281 151 Metal carbonyls, n.o.s.
- 3282 151 Organometallic compound, poisonous, liquid, n.o.s.
- 3282 151 Organometallic compound, poisonous, n.o.s.
- 3282 151 Organometallic compound, toxic, liquid, n.o.s.
- 3282 151 Organometallic compound, toxic, n.o.s.
- 3283 151 Selenium compound, n.o.s.
- 3283 151 Selenium compound, solid, n.o.s.
- 3284 151 Tellurium compound, n.o.s.
- 3285 151 Vanadium compound, n.o.s.
- 3286 131 Flammable liquid, poisonous, corrosive, n.o.s.
- 3286 131 Flammable liquid, toxic, corrosive, n.o.s.
- 3287 151 Poisonous liquid, inorganic, n.o.s.
- 3287 151 Poisonous liquid, inorganic, n.o.s. (Inhalation Hazard Zone A)
- 3287 151 Poisonous liquid, inorganic, n.o.s. (Inhalation Hazard Zone B)
- 3287 151 Toxic liquid, inorganic, n.o.s.
- 3287 151 Toxic liquid, inorganic, n.o.s. (Inhalation Hazard Zone A)
- 3287 151 Toxic liquid, inorganic, n.o.s. (Inhalation Hazard Zone B)

**ID Guide No. No. Name of Material**

- 3288 151 Poisonous solid, inorganic, n.o.s.
- 3288 151 Toxic solid, inorganic, n.o.s.
- 3289 154 Poisonous liquid, corrosive, inorganic, n.o.s.
- 3289 154 Poisonous liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone A)
- 3289 154 Poisonous liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone B)
- 3289 154 Toxic liquid, corrosive, inorganic, n.o.s.
- 3289 154 Toxic liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone A)
- 3289 154 Toxic liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone B)
- 3290 154 Poisonous solid, corrosive, inorganic, n.o.s.
- 3290 154 Toxic solid, corrosive, inorganic, n.o.s.
- 3291 158 (Bio)Medical waste, n.o.s.
- 3291 158 Clinical waste, unspecified, n.o.s.
- 3291 158 Medical waste, n.o.s.
- 3291 158 Regulated medical waste, n.o.s.
- 3292 138 Batteries, containing Sodium
- 3292 138 Cells, containing Sodium
- 3293 152 Hydrazine, aqueous solution, with not more than 37% Hydrazine
- 3294 131 Hydrogen cyanide, solution in alcohol, with not more than 45% Hydrogen cyanide
- 3295 128 Hydrocarbons, liquid, n.o.s.

ID No.	Guide No.	Name of Material
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3296	126	Heptafluoropropane
3296	126	Refrigerant gas R-227
3297	126	Chlorotetrafluoroethane and Ethylene oxide mixture, with not more than 8.8% Ethylene oxide
3297	126	Ethylene oxide and Chlorotetrafluoroethane mixture, with not more than 8.8% Ethylene oxide
3298	126	Ethylene oxide and Pentafluoroethane mixture, with not more than 7.9% Ethylene oxide
3298	126	Pentafluoroethane and Ethylene oxide mixture, with not more than 7.9% Ethylene oxide
3299	126	Ethylene oxide and Tetrafluoroethane mixture, with not more than 5.6% Ethylene oxide
3299	126	Tetrafluoroethane and Ethylene oxide mixture, with not more than 5.6% Ethylene oxide
3300	119P	Carbon dioxide and Ethylene oxide mixture, with more than 87% Ethylene oxide
3300	119P	Ethylene oxide and Carbon dioxide mixture, with more than 87% Ethylene oxide
3301	136	Corrosive liquid, self-heating, n.o.s.
3302	152	2-Dimethylaminoethyl acrylate
3303	124	Compressed gas, poisonous, oxidizing, n.o.s.
3303	124	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone A)

ID No.	Guide No.	Name of Material
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3303	124	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone B)
3303	124	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone C)
3303	124	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone D)
3303	124	Compressed gas, toxic, oxidizing, n.o.s.
3303	124	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone A)
3303	124	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone B)
3303	124	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone C)
3303	124	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone D)
3304	123	Compressed gas, poisonous, corrosive, n.o.s.
3304	123	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)
3304	123	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)
3304	123	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)
3304	123	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)
3304	123	Compressed gas, toxic, corrosive, n.o.s.

**ID Guide No. No. Name of Material**

- 3304 123 Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)
- 3304 123 Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)
- 3304 123 Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)
- 3304 123 Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)
- 3305 119 Compressed gas, poisonous, flammable, corrosive, n.o.s.
- 3305 119 Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)
- 3305 119 Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)
- 3305 119 Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)
- 3305 119 Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)
- 3305 119 Compressed gas, toxic, flammable, corrosive, n.o.s.
- 3305 119 Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)
- 3305 119 Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)
- 3305 119 Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)
- 3305 119 Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)

**ID Guide No. No. Name of Material**

- 3306 124 Compressed gas, poisonous, oxidizing, corrosive, n.o.s.
- 3306 124 Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)
- 3306 124 Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)
- 3306 124 Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)
- 3306 124 Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)
- 3306 124 Compressed gas, toxic, oxidizing, corrosive, n.o.s.
- 3306 124 Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)
- 3306 124 Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)
- 3306 124 Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)
- 3306 124 Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)
- 3307 124 Liquefied gas, poisonous, oxidizing, n.o.s.
- 3307 124 Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone A)
- 3307 124 Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone B)
- 3307 124 Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone C)

**ID No. Guide No. Name of Material**

3307 124 Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone D)

3307 124 Liquefied gas, toxic, oxidizing, n.o.s.

3307 124 Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone A)

3307 124 Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone B)

3307 124 Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone C)

3307 124 Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone D)

3308 123 Liquefied gas, poisonous, corrosive, n.o.s.

3308 123 Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)

3308 123 Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)

3308 123 Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)

3308 123 Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)

3308 123 Liquefied gas, toxic, corrosive, n.o.s.

3308 123 Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)

3308 123 Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)

**ID No. Guide No. Name of Material**

3308 123 Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)

3308 123 Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)

3309 119 Liquefied gas, poisonous, flammable, corrosive, n.o.s.

3309 119 Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)

3309 119 Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)

3309 119 Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)

3309 119 Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)

3309 119 Liquefied gas, toxic, flammable, corrosive, n.o.s.

3309 119 Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)

3309 119 Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)

3309 119 Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)

3309 119 Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)

3310 124 Liquefied gas, poisonous, oxidizing, corrosive, n.o.s.

3310 124 Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)

**ID Guide No. No. Name of Material**

- 3310 124 Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)
- 3310 124 Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)
- 3310 124 Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)
- 3310 124 Liquefied gas, toxic, oxidizing, corrosive, n.o.s.
- 3310 124 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)
- 3310 124 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)
- 3310 124 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)
- 3310 124 Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)
- 3311 122 Gas, refrigerated liquid, oxidizing, n.o.s.
- 3312 115 Gas, refrigerated liquid, flammable, n.o.s.
- 3313 135 Organic pigments, self-heating
- 3314 171 Plastic molding compound
- 3314 171 Plastics moulding compound
- 3315 151 Chemical sample, poisonous
- 3315 151 Chemical sample, poisonous liquid
- 3315 151 Chemical sample, poisonous solid
- 3315 151 Chemical sample, toxic
- 3315 151 Chemical sample, toxic liquid
- 3315 151 Chemical sample, toxic solid

**ID Guide No. No. Name of Material**

- 3316 171 Chemical kit
- 3316 171 First aid kit
- 3317 113 2-Amino-4,6-dinitrophenol, wetted with not less than 20% water
- 3318 125 Ammonia solution, with more than 50% Ammonia
- 3319 113 Nitroglycerin mixture, desensitized, solid, n.o.s., with more than 2% but not more than 10% Nitroglycerin
- 3319 113 Nitroglycerin mixture with more than 2% but not more than 10% Nitroglycerin, desensitized
- 3320 157 Sodium borohydride and Sodium hydroxide solution, with not more than 12% Sodium borohydride and not more than 40% Sodium hydroxide
- 3321 162 Radioactive material, low specific activity (LSA-II)
- 3322 162 Radioactive material, low specific activity (LSA-III)
- 3323 163 Radioactive material, Type C package
- 3324 165 Radioactive material, low specific activity (LSA-II), fissile
- 3325 165 Radioactive material, low specific activity (LSA-III), fissile
- 3326 165 Radioactive material, surface contaminated objects (SCO-I), fissile
- 3326 165 Radioactive material, surface contaminated objects (SCO-II), fissile
- 3327 165 Radioactive material, Type A package, fissile

ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
3328	165	Radioactive material, Type B(U) package, fissile	3345	153	Phenoxyacetic acid derivative pesticide, solid, toxic
3329	165	Radioactive material, Type B(M) package, fissile	3346	131	Phenoxyacetic acid derivative pesticide, liquid, flammable, poisonous
3330	165	Radioactive material, Type C package, fissile	3346	131	Phenoxyacetic acid derivative pesticide, liquid, flammable, toxic
3331	165	Radioactive material, transported under special arrangement, fissile	3347	131	Phenoxyacetic acid derivative pesticide, liquid, poisonous, flammable
3332	164	Radioactive material, Type A package, special form	3347	131	Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable
3333	165	Radioactive material, Type A package, special form, fissile	3348	153	Phenoxyacetic acid derivative pesticide, liquid, poisonous
3334	171	Aviation regulated liquid, n.o.s.	3348	153	Phenoxyacetic acid derivative pesticide, liquid, toxic
3334	171	Self-defense spray, non-pressurized	3349	151	Pyrethroid pesticide, solid, poisonous
3335	171	Aviation regulated solid, n.o.s.	3349	151	Pyrethroid pesticide, solid, toxic
3336	130	Mercaptan mixture, liquid, flammable, n.o.s.	3350	131	Pyrethroid pesticide, liquid, flammable, poisonous
3336	130	Mercaptans, liquid, flammable, n.o.s.	3350	131	Pyrethroid pesticide, liquid, flammable, toxic
3337	126	Refrigerant gas R-404A	3351	131	Pyrethroid pesticide, liquid, poisonous, flammable
3338	126	Refrigerant gas R-407A	3351	131	Pyrethroid pesticide, liquid, toxic, flammable
3339	126	Refrigerant gas R-407B	3352	151	Pyrethroid pesticide, liquid, poisonous
3340	126	Refrigerant gas R-407C	3352	151	Pyrethroid pesticide, liquid, toxic
3341	135	Thiourea dioxide	3353	126	Air bag inflators, compressed gas
3342	135	Xanthates	3353	126	Air bag modules, compressed gas
3343	113	Nitroglycerin mixture, desensitized, liquid, flammable, n.o.s., with not more than 30% Nitroglycerin	3353	126	Seat-belt pre-tensioners, compressed gas
3344	113	Pentaerythrite tetranitrate mixture, desensitized, solid, n.o.s., with more than 10% but not more than 20% PETN	3354	115	Insecticide gas, flammable, n.o.s.
3345	153	Phenoxyacetic acid derivative pesticide, solid, poisonous			

**ID Guide**   **Name of Material**  
**No. No.**

- 3355 119 Insecticide gas, poisonous, flammable, n.o.s.
- 3355 119 Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)
- 3355 119 Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)
- 3355 119 Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)
- 3355 119 Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)
- 3355 119 Insecticide gas, toxic, flammable, n.o.s.
- 3355 119 Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)
- 3355 119 Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)
- 3355 119 Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)
- 3355 119 Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)
- 3356 140 Oxygen generator, chemical
- 3356 140 Oxygen generator, chemical, spent
- 3357 113 Nitroglycerin mixture, desensitized, liquid, n.o.s., with not more than 30% Nitroglycerin
- 3358 115 Refrigerating machines, containing flammable, non-toxic, liquefied gas
- 3359 171 Fumigated unit

**ID Guide**   **Name of Material**  
**No. No.**

- 3360 133 Fibers, vegetable, dry
- 3360 133 Fibres, vegetable, dry
- 3361 156 Chlorosilanes, poisonous, corrosive, n.o.s.
- 3361 156 Chlorosilanes, toxic, corrosive, n.o.s.
- 3362 155 Chlorosilanes, poisonous, corrosive, flammable, n.o.s.
- 3362 155 Chlorosilanes, toxic, corrosive, flammable, n.o.s.
- 3363 171 Dangerous goods in apparatus
- 3363 171 Dangerous goods in machinery
- 3364 113 Picric acid, wetted with not less than 10% water
- 3364 113 Trinitrophenol, wetted with not less than 10% water
- 3365 113 Picryl chloride, wetted with not less than 10% water
- 3365 113 Trinitrochlorobenzene, wetted with not less than 10% water
- 3366 113 TNT, wetted with not less than 10% water
- 3366 113 Trinitrotoluene, wetted with not less than 10% water
- 3367 113 Trinitrobenzene, wetted with not less than 10% water
- 3368 113 Trinitrobenzoic acid, wetted with not less than 10% water
- 3369 113 Sodium dinitro-o-cresolate, wetted with not less than 10% water
- 3370 113 Urea nitrate, wetted with not less than 10% water
- 3371 129 2-Methylbutanal
- 3372 138 Organometallic compound, solid, water-reactive, flammable, n.o.s.

ID No.	Guide No.	Name of Material
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3373	158	Clinical specimens
3373	158	Diagnostic specimens
3374	116	Acetylene, solvent free
3375	140	Ammonium nitrate emulsion
3375	140	Ammonium nitrate gel
3375	140	Ammonium nitrate suspension
3376	113	4-Nitrophenylhydrazine, with not less than 30% water
3377	140	Sodium perborate monohydrate
3378	140	Sodium carbonate peroxyhydrate
3379	128	Desensitized explosive, liquid, n.o.s.
3380	133	Desensitized explosive, solid, n.o.s.
3381	151	Poisonous by inhalation liquid, n.o.s. (Inhalation Hazard Zone A)
3381	151	Toxic by inhalation liquid, n.o.s. (Inhalation Hazard Zone A)
3382	151	Poisonous by inhalation liquid, n.o.s. (Inhalation Hazard Zone B)
3382	151	Toxic by inhalation liquid, n.o.s. (Inhalation Hazard Zone B)
3383	131	Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)
3383	131	Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)
3384	131	Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)
3384	131	Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)

ID No.	Guide No.	Name of Material
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3385	139	Poisonous by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)
3385	139	Toxic by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)
3386	139	Poisonous by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)
3386	139	Toxic by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)
3387	142	Poisonous by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)
3387	142	Toxic by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)
3388	142	Poisonous by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)
3388	142	Toxic by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)
3389	154	Poisonous by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)
3389	154	Toxic by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)
3390	154	Poisonous by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)
3390	154	Toxic by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)
3391	135	Organometallic substance, solid, pyrophoric
3392	135	Organometallic substance, liquid, pyrophoric

**ID Guide**  
**No. No.**

**Name of Material**

3393 135 Organometallic substance, solid, pyrophoric, water-reactive  
3394 135 Organometallic substance, liquid, pyrophoric, water-reactive  
3395 135 Organometallic substance, solid, water-reactive  
3396 138 Organometallic substance, solid, water-reactive, flammable  
3397 138 Organometallic substance, solid, water-reactive, self-heating  
3398 135 Organometallic substance, liquid, water-reactive  
3399 138 Organometallic substance, liquid, water-reactive, flammable  
3400 138 Organometallic substance, solid, self-heating  
3401 138 Alkali metal amalgam, solid  
3402 138 Alkaline earth metal amalgam, solid  
3403 138 Potassium, metal alloys, solid  
3404 138 Potassium sodium alloys, solid  
3404 138 Sodium potassium alloys, solid  
3405 141 Barium chlorate, solution  
3406 141 Barium perchlorate, solution  
3407 140 Chlorate and Magnesium chloride mixture, solution  
3407 140 Magnesium chloride and Chlorate mixture, solution  
3408 141 Lead perchlorate, solution  
3409 152 Chloronitrobenzenes, liquid  
3410 153 4-Chloro-o-toluidine hydrochloride, solution  
3411 153 beta-Naphthylamine, solution  
3411 153 Naphthylamine (beta), solution  
3413 157 Potassium cyanide, solution  
3414 157 Sodium cyanide, solution

**ID Guide**  
**No. No.**

**Name of Material**

3415 154 Sodium fluoride, solution  
3416 153 Chloroacetophenone, liquid  
3417 152 Xylyl bromide, solid  
3418 151 2,4-Toluylenediamine, solution  
3419 157 Boron trifluoride acetic acid complex, solid  
3420 157 Boron trifluoride propionic acid complex, solid  
3421 154 Potassium hydrogen difluoride, solution  
3422 154 Potassium fluoride, solution  
3423 153 Tetramethylammonium hydroxide, solid  
3424 141 Ammonium dinitro-o-cresolate, solution  
3425 156 Bromoacetic acid, solid  
3426 153P Acrylamide, solution  
3427 153 Chlorobenzyl chlorides, solid  
3428 156 3-Chloro-4-methylphenyl isocyanate, solid  
3429 153 Chlorotoluidines, liquid  
3430 153 Xylenols, liquid  
3431 152 Nitrobenzotrifluorides, solid  
3432 171 Polychlorinated biphenyls, solid  
3433 135 Lithium alkyls, solid  
3434 153 Nitrocresols, liquid  
3435 153 Hydroquinone, solution  
3436 151 Hexafluoroacetone hydrate, solid  
3437 152 Chlorocresols, solid  
3438 153 alpha-Methylbenzyl alcohol, solid  
3439 151 Nitriles, poisonous, solid, n.o.s.  
3439 151 Nitriles, toxic, solid, n.o.s.  
3440 151 Selenium compound, liquid, n.o.s.

ID No.	Guide No.	Name of Material
3441	153	Chlorodinitrobenzenes, solid
3442	153	Dichloroanilines, solid
3443	152	Dinitrobenzenes, solid
3444	151	Nicotine hydrochloride, solid
3445	151	Nicotine sulfate, solid
3445	151	Nicotine sulphate, solid
3446	152	Nitrotoluenes, solid
3447	152	Nitroxylenes, solid
3448	159	Tear gas substance, solid, n.o.s.
3449	159	Bromobenzyl cyanides, solid
3450	151	Diphenylchloroarsine, solid
3451	153	Toluidines, solid
3452	153	Xylidines, solid
3453	154	Phosphoric acid, solid
3454	152	Dinitrotoluenes, solid
3455	153	Cresols, solid
3456	157	Nitrosylsulfuric acid, solid
3456	157	Nitrosylsulphuric acid, solid
3457	152	Chloronitrotoluenes, solid
3458	152	Nitroanisoles, solid
3459	152	Nitrobromobenzenes, solid
3460	153	N-Ethylbenzyltoluidines, solid
3461	135	Aluminum alkyl halides, solid
3462	153	Toxins, extracted from living sources, solid, n.o.s.
3464	151	Organophosphorus compound, poisonous, solid, n.o.s.
3464	151	Organophosphorus compound, toxic, solid, n.o.s.
3465	151	Organoarsenic compound, solid, n.o.s.
3466	151	Metal carbonyls, solid, n.o.s.
3467	151	Organometallic compound, poisonous, solid, n.o.s.

ID No.	Guide No.	Name of Material
3467	151	Organometallic compound, toxic, solid, n.o.s.
3468	115	Hydrogen, in a metal hydride storage system
8000	171	Consumer commodity
8013	171	Gas generator assemblies
8038	171	Heat producing article
9035	123	Gas identification set
9163	171	Zirconium sulfate
9163	171	Zirconium sulphate
9191	143	Chlorine dioxide, hydrate, frozen
9192	167	Fluorine, refrigerated liquid (cryogenic liquid)
9195	135	Metal alkyl, solution, n.o.s.
9202	168	Carbon monoxide, refrigerated liquid (cryogenic liquid)
9206	137	Methyl phosphonic dichloride
9260	169	Aluminum, molten
9263	156	Chloropivaloyl chloride
9264	151	3,5-Dichloro-2,4,6-trifluoropyridine
9269	132	Trimethoxysilane
9275	158	Regulated medical waste
9279	115	Hydrogen, absorbed in metal hydride

**Note:** If an entry is highlighted in either the yellow-bordered or blue-bordered pages AND THERE IS NO FIRE, go directly to the Table of Initial Isolation and Protective Action Distances (green-bordered pages) and look up the ID number and name of material to obtain initial isolation and protective action distances. IF THERE IS A FIRE, or IF A FIRE IS INVOLVED, go directly to the appropriate guide (orange-bordered pages) and use the evacuation information shown under PUBLIC SAFETY.

Name of Material	Guide No.	ID No.
AC	117	1051
Accumulators, pressurized, pneumatic or hydraulic	126	1956
Acetal	127	1088
Acetaldehyde	129	1089
Acetaldehyde ammonia	171	1841
Acetaldehyde oxime	129	2332
Acetic acid, glacial	132	2789
Acetic acid, solution, more than 10% but not more than 80% acid	153	2790
Acetic acid, solution, more than 80% acid	132	2789
Acetic anhydride	137	1715
Acetone	127	1090
Acetone cyanohydrin, stabilized	155	1541
Acetone oils	127	1091
Acetonitrile	127	1648
Acetyl bromide	156	1716
Acetyl chloride	155	1717
Acetylene	116	1001
Acetylene, dissolved	116	1001
Acetylene, solvent free	116	3374
Acetylene, Ethylene and Propylene in mixture, refrigerated liquid containing at least 71.5% Ethylene with not more than 22.5% Acetylene and not more than 6% Propylene	115	3138
Acetylene tetrabromide	159	2504
Acetyl iodide	156	1898
Acetyl methyl carbinol	127	2621
Acid, sludge	153	1906
Acid butyl phosphate	153	1718
Acridine	153	2713
Acrolein, inhibited	131P	1092
Acrolein, stabilized	131P	1092

Name of Material	Guide No.	ID No.
Acrolein dimer, stabilized	129P	2607
Acrylamide	153P	2074
Acrylamide, solid	153P	2074
Acrylamide, solution	153P	3426
Acrylic acid, inhibited	132P	2218
Acrylic acid, stabilized	132P	2218
Acrylonitrile, inhibited	131P	1093
Acrylonitrile, stabilized	131P	1093
Adamsite	154	1698
Adhesives (flammable)	128	1133
Adiponitrile	153	2205
Aerosol dispensers	126	1950
Aerosols	126	1950
Air, compressed	122	1002
Air, refrigerated liquid (cryogenic liquid)	122	1003
Air, refrigerated liquid (cryogenic liquid), non-pressurized	122	1003
Air bag inflators	171	3268
Air bag inflators, compressed gas	126	3353
Air bag inflators, pyrotechnic	171	3268
Air bag modules	171	3268
Air bag modules, compressed gas	126	3353
Air bag modules, pyrotechnic	171	3268
Aircraft hydraulic power unit fuel tank	131	3165
Alcoholates solution, n.o.s., in alcohol	132	3274
Alcoholic beverages	127	3065
Alcohols, flammable, poisonous, n.o.s.	131	1986
Alcohols, flammable, toxic, n.o.s.	131	1986
Alcohols, n.o.s.	127	1987
Alcohols, poisonous, n.o.s.	131	1986

Name of Material	Guide ID		Name of Material	Guide ID	
	No.	No.		No.	No.
Alcohols, toxic, n.o.s.	131	1986	Alkaloid salts, solid, n.o.s.	151	1544
Aldehydes, flammable, poisonous, n.o.s.	131	1988	(poisonous)		
Aldehydes, flammable, toxic, n.o.s.	131	1988	Alkylamines, n.o.s.	132	2733
Aldehydes, n.o.s.	129	1989	Alkylamines, n.o.s.	132	2734
Aldehydes, poisonous, n.o.s.	131	1988	Alkylamines, n.o.s.	153	2735
Aldehydes, toxic, n.o.s.	131	1988	Alkyl phenols, liquid, n.o.s.	153	3145
Aldol	153	2839	(including C2-C12 homologues)		
Aldrin, liquid	131	2762	Alkyl phenols, solid, n.o.s.	153	2430
Aldrin, solid	151	2761	(including C2-C12 homologues)		
Alkali metal alcoholates, self-heating, corrosive, n.o.s.	136	3206	Alkyl sulfonic acids, liquid, with more than 5% free Sulfuric acid	153	2584
Alkali metal alloy, liquid, n.o.s.	138	1421	Alkyl sulfonic acids, liquid, with not more than 5% free Sulfuric acid	153	2586
Alkali metal amalgam	138	1389	Alkyl sulfonic acids, solid, with more than 5% free Sulfuric acid	153	2583
Alkali metal amalgam, liquid	138	1389	Alkyl sulfonic acids, solid, with not more than 5% free Sulfuric acid	153	2585
Alkali metal amalgam, solid	138	1389	Alkylsulphuric acids	156	2571
Alkali metal amalgam, solid	138	3401	Alkyl sulphonic acids, liquid, with more than 5% free Sulphuric acid	153	2584
Alkali metal amides	139	1390	Alkyl sulphonic acids, liquid, with not more than 5% free Sulphuric acid	153	2586
Alkali metal dispersion	138	1391	Alkyl sulphonic acids, solid, with more than 5% free Sulphuric acid	153	2583
Alkaline earth metal alcoholates, n.o.s.	135	3205	Alkyl sulphonic acids, solid, with not more than 5% free Sulphuric acid	153	2585
Alkaline earth metal alloy, n.o.s.	138	1393	Alkylsulphuric acids	156	2571
Alkaline earth metal amalgam	138	1392	Allyl acetate	131	2333
Alkaline earth metal amalgam, liquid	138	1392			
Alkaline earth metal amalgam, solid	138	3402			
Alkaline earth metal dispersion	138	1391			
Alkaloids, liquid, n.o.s. (poisonous)	151	3140			
Alkaloids, solid, n.o.s. (poisonous)	151	1544			
Alkaloid salts, liquid, n.o.s. (poisonous)	151	3140			

Name of Material	Guide No.	ID No.
Allyl alcohol	131	1098
Allylamine	131	2334
Allyl bromide	131	1099
Allyl chloride	131	1100
Allyl chlorocarbonate	155	1722
Allyl chloroformate	155	1722
Allyl ethyl ether	131	2335
Allyl formate	131	2336
Allyl glycidyl ether	129	2219
Allyl iodide	132	1723
Allyl isothiocyanate, inhibited	155	1545
Allyl isothiocyanate, stabilized	155	1545
Allyltrichlorosilane, stabilized	155	1724
Aluminum, molten	169	9260
Aluminum alkyl halides	135	3052
Aluminum alkyl halides, liquid	135	3052
Aluminum alkyl halides, solid	135	3052
Aluminum alkyl halides, solid	135	3461
Aluminum alkyl hydrides	138	3076
Aluminum alkyls	135	3051
Aluminum borohydride	135	2870
Aluminum borohydride in devices	135	2870
Aluminum bromide, anhydrous	137	1725
Aluminum bromide, solution	154	2580
Aluminum carbide	138	1394
Aluminum chloride, anhydrous	137	1726
Aluminum chloride, solution	154	2581
Aluminum dross	138	3170
Aluminum ferrosilicon powder	139	1395
Aluminum hydride	138	2463
Aluminum nitrate	140	1438
Aluminum phosphide	139	1397

Name of Material	Guide No.	ID No.
Aluminum phosphide pesticide	157	3048
Aluminum powder, coated	170	1309
Aluminum powder, pyrophoric	135	1383
Aluminum powder, uncoated	138	1396
Aluminum processing by-products	138	3170
Aluminum remelting by-products	138	3170
Aluminum resinate	133	2715
Aluminum silicon powder, uncoated	138	1398
Aluminum smelting by-products	138	3170
Amines, flammable, corrosive, n.o.s.	132	2733
Amines, liquid, corrosive, flammable, n.o.s.	132	2734
Amines, liquid, corrosive, n.o.s.	153	2735
Amines, solid, corrosive, n.o.s.	154	3259
2-Amino-4-chlorophenol	151	2673
2-Amino-5-diethylaminopentane	153	2946
2-Amino-4,6-dinitrophenol, wetted with not less than 20% water	113	3317
2-(2-Aminoethoxy)ethanol	154	3055
N-Aminoethylpiperazine	153	2815
Aminophenols	152	2512
Aminopyridines	153	2671
Ammonia, anhydrous	125	1005
Ammonia, anhydrous, liquefied	125	1005
Ammonia, solution, with more than 10% but not more than 35% Ammonia	154	2672
Ammonia, solution, with more than 35% but not more than 50% Ammonia	125	2073
Ammonia solution, with more than 50% Ammonia	125	1005

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Ammonia solution, with more than 50% Ammonia	125	3318	Ammonium nitrate fertilizer, with not more than 0.4% combustible material	140	2071
Ammonium arsenate	151	1546	Ammonium nitrate fertilizers	140	2067
Ammonium bifluoride, solid	154	1727	Ammonium nitrate fertilizers	140	2071
Ammonium bifluoride, solution	154	2817	Ammonium nitrate fertilizers	140	2072
Ammonium dichromate	141	1439	Ammonium nitrate fertilizers, with Ammonium sulfate	140	2069
Ammonium dinitro-o-cresolate	141	1843	Ammonium nitrate fertilizers, with Ammonium sulphate	140	2069
Ammonium dinitro-o-cresolate, solid	141	1843	Ammonium nitrate fertilizers, with Calcium carbonate	140	2068
Ammonium dinitro-o-cresolate, solution	141	3424	Ammonium nitrate fertilizers, with Phosphate or Potash	143	2070
Ammonium fluoride	154	2505	Ammonium nitrate-fuel oil mixtures	112	—
Ammonium fluorosilicate	151	2854	Ammonium nitrate gel	140	3375
Ammonium hydrogendifluoride, solid	154	1727	Ammonium nitrate mixed fertilizers	140	2069
Ammonium hydrogendifluoride, solution	154	2817	Ammonium nitrate suspension	140	3375
Ammonium hydrogen fluoride, solid	154	1727	Ammonium perchlorate	143	1442
Ammonium hydrogen fluoride, solution	154	2817	Ammonium persulfate	140	1444
Ammonium hydrogen sulfate	154	2506	Ammonium persulphate	140	1444
Ammonium hydrogen sulphate	154	2506	Ammonium picrate, wetted with not less than 10% water	113	1310
Ammonium hydroxide	154	2672	Ammonium polysulfide, solution	154	2818
Ammonium hydroxide, with more than 10% but not more than 35% Ammonia	154	2672	Ammonium polysulphide, solution	154	2818
Ammonium metavanadate	154	2859	Ammonium polyvanadate	151	2861
Ammonium nitrate, liquid (hot concentrated solution)	140	2426	Ammonium silicofluoride	151	2854
Ammonium nitrate, with not more than 0.2% combustible substances	140	1942	Ammonium sulfide, solution	132	2683
Ammonium nitrate emulsion	140	3375	Ammonium sulphide, solution	132	2683
Ammonium nitrate fertilizer, n.o.s.	140	2072	Ammunition, poisonous, non-explosive	151	2016
			Ammunition, tear-producing, non-explosive	159	2017

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Ammunition, toxic, non-explosive	151	2016	Antimony pentachloride, solution	157	1731
Amyl acetates	129	1104	Antimony pentafluoride	157	1732
Amyl acid phosphate	153	2819	Antimony potassium tartrate	151	1551
Amyl alcohols	129	1105	Antimony powder	170	2871
Amylamines	132	1106	Antimony tribromide, solid	157	1549
Amyl butyrates	130	2620	Antimony tribromide, solution	157	1549
Amyl chloride	129	1107	Antimony trichloride	157	1733
n-Amylene	128	1108	Antimony trichloride, liquid	157	1733
Amyl formates	129	1109	Antimony trichloride, solid	157	1733
Amyl mercaptan	130	1111	Antimony trichloride, solution	157	1733
n-Amyl methyl ketone	127	1110	Antimony trifluoride, solid	157	1549
Amyl methyl ketone	127	1110	Antimony trifluoride, solution	157	1549
Amyl nitrate	140	1112	Aqua regia	157	1798
Amyl nitrite	129	1113	Argon	121	1006
Amyltrimethylsilane	155	1728	Argon, compressed	121	1006
Anhydrous ammonia	125	1005	Argon, refrigerated liquid (cryogenic liquid)	120	1951
Anhydrous ammonia, liquefied	125	1005	Arsenic	152	1558
Aniline	153	1547	Arsenic acid, liquid	154	1553
Aniline hydrochloride	153	1548	Arsenic acid, solid	154	1554
Anisidines	153	2431	Arsenical dust	152	1562
Anisidines, liquid	153	2431	Arsenical pesticide, liquid, flammable, poisonous	131	2760
Anisidines, solid	153	2431	Arsenical pesticide, liquid, flammable, toxic	131	2760
Anisole	128	2222	Arsenical pesticide, liquid, poisonous	151	2994
Anisoyl chloride	156	1729	Arsenical pesticide, liquid, poisonous, flammable	131	2993
Antimony compound, inorganic, liquid, n.o.s.	157	3141	Arsenical pesticide, liquid, toxic	151	2994
Antimony compound, inorganic, n.o.s.	157	1549	Arsenical pesticide, liquid, toxic, flammable	131	2993
Antimony compound, inorganic, solid, n.o.s.	157	1549	Arsenical pesticide, solid, poisonous	151	2759
Antimony lactate	151	1550			
Antimony pentachloride, liquid	157	1730			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Arsenical pesticide, solid, toxic	151	2759	Aryl sulphonic acids, liquid, with more than 5% free Sulphuric acid	153	2584
Arsenic bromide	151	1555	Aryl sulphonic acids, liquid, with not more than 5% free Sulphuric acid	153	2586
Arsenic chloride	157	1560	Aryl sulphonic acids, solid, with more than 5% free Sulphuric acid	153	2583
Arsenic compound, liquid, n.o.s.	152	1556	Aryl sulphonic acids, solid, with not more than 5% free Sulphuric acid	153	2585
Arsenic compound, liquid, n.o.s., inorganic	152	1556	Asbestos	171	2212
Arsenic compound, solid, n.o.s.	152	1557	Asbestos, blue	171	2212
Arsenic compound, solid, n.o.s., inorganic	152	1557	Asbestos, brown	171	2212
Arsenic pentoxide	151	1559	Asbestos, white	171	2590
Arsenic sulfide	152	1557	Asphalt	130	1999
Arsenic sulphide	152	1557	Aviation regulated liquid, n.o.s.	171	3334
Arsenic trichloride	157	1560	Aviation regulated solid, n.o.s.	171	3335
Arsenic trioxide	151	1561	1-Aziridinyl phosphine oxide (Tris)	152	2501
Arsenic trisulfide	152	1557	Azodicarbonamide	149	3242
Arsenic trisulphide	152	1557	Barium	138	1400
Arsine	119	2188	Barium alloys, pyrophoric	135	1854
Articles containing Polychlorinated biphenyls (PCB)	171	2315	Barium azide, wetted with not less than 50% water	113	1571
Articles, pressurized, hydraulic (containing non-flammable gas)	126	3164	Barium bromate	141	2719
Articles, pressurized, pneumatic (containing non-flammable gas)	126	3164	Barium chlorate	141	1445
Aryl sulfonic acids, liquid, with more than 5% free Sulfuric acid	153	2584	Barium chlorate, solid	141	1445
Aryl sulfonic acids, liquid, with not more than 5% free Sulfuric acid	153	2586	Barium chlorate, solution	141	3405
Aryl sulfonic acids, solid, with more than 5% free Sulfuric acid	153	2583	Barium compound, n.o.s.	154	1564
Aryl sulfonic acids, solid, with not more than 5% free Sulfuric acid	153	2585	Barium cyanide	157	1565
			Barium hypochlorite, with more than 22% available Chlorine	141	2741
			Barium nitrate	141	1446
			Barium oxide	157	1884

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Barium perchlorate	141	1447	Benzoic derivative pesticide, liquid, poisonous, flammable	131	3003
Barium perchlorate, solid	141	1447	Benzoic derivative pesticide, liquid, toxic	151	3004
Barium perchlorate, solution	141	3406	Benzoic derivative pesticide, liquid, toxic, flammable	131	3003
Barium permanganate	141	1448	Benzoic derivative pesticide, solid, poisonous	151	2769
Barium peroxide	141	1449	Benzoic derivative pesticide, solid, toxic	151	2769
Batteries, containing Sodium	138	3292	Benzonitrile	152	2224
Batteries, dry, containing Potassium hydroxide solid	154	3028	Benzoquinone	153	2587
Batteries, wet, filled with acid	154	2794	Benzotrichloride	156	2226
Batteries, wet, filled with alkali	154	2795	Benzotrifluoride	127	2338
Batteries, wet, non-spillable	154	2800	Benzoyl chloride	137	1736
Battery fluid, acid	157	2796	Benzyl bromide	156	1737
Battery fluid, alkali	154	2797	Benzyl chloride	156	1738
Battery fluid, alkali, with battery	154	2797	Benzyl chloroformate	137	1739
Battery fluid, alkali, with electronic equipment or actuating device	154	2797	Benzylidene dimethylamine	132	2619
Battery-powered equipment (wet battery)	154	3171	Benzylidene chloride	156	1886
Battery-powered vehicle (wet battery)	154	3171	Benzyl iodide	156	2653
Benzaldehyde	129	1990	Beryllium compound, n.o.s.	154	1566
Benzene	130	1114	Beryllium nitrate	141	2464
Benzene phosphorus dichloride	137	2798	Beryllium powder	134	1567
Benzene phosphorus thiodichloride	137	2799	Bhusa, wet, damp or contaminated with oil	133	1327
Benzenesulfonyl chloride	156	2225	Bicyclo[2.2.1]hepta-2,5-diene	128P	2251
Benzenesulphonyl chloride	156	2225	Bicyclo[2.2.1]hepta-2,5-diene, inhibited	128P	2251
Benidine	153	1885	Bicyclo[2.2.1]hepta-2,5-diene, stabilized	128P	2251
Benzoic derivative pesticide, liquid, flammable, poisonous	131	2770	Biological agents	158	—
Benzoic derivative pesticide, liquid, flammable, toxic	131	2770	(Bio)Medical waste, n.o.s.	158	3291
Benzoic derivative pesticide, liquid, poisonous	151	3004	Bipyridilium pesticide, liquid, flammable, poisonous	131	2782

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Bipyridilium pesticide, liquid, flammable, toxic	131	2782	Boron trifluoride, dihydrate	157	2851
Bipyridilium pesticide, liquid, poisonous	151	3016	Boron trifluoride acetic acid complex	157	1742
Bipyridilium pesticide, liquid, poisonous, flammable	131	3015	Boron trifluoride acetic acid complex, liquid	157	1742
Bipyridilium pesticide, liquid, toxic	151	3016	Boron trifluoride acetic acid complex, solid	157	3419
Bipyridilium pesticide, liquid, toxic, flammable	131	3015	Boron trifluoride diethyl etherate	132	2604
Bipyridilium pesticide, solid, poisonous	151	2781	Boron trifluoride dimethyl etherate	139	2965
Bipyridilium pesticide, solid, toxic	151	2781	Boron trifluoride propionic acid complex	157	1743
Bisulfates, aqueous solution	154	2837	Boron trifluoride propionic acid complex, liquid	157	1743
Bisulfites, aqueous solution, n.o.s.	154	2693	Boron trifluoride propionic acid complex, solid	157	3420
Bisulfites, inorganic, aqueous solution, n.o.s.	154	2693	Bromates, inorganic, aqueous solution, n.o.s.	140	3213
Bisulphates, aqueous solution	154	2837	Bromates, inorganic, n.o.s.	141	1450
Bisulphites, aqueous solution, n.o.s.	154	2693	Bromine	154	1744
Bisulphites, inorganic, aqueous solution, n.o.s.	154	2693	Bromine, solution	154	1744
Blasting agent, n.o.s.	112	—	Bromine chloride	124	2901
Bleaching powder	140	2208	Bromine pentafluoride	144	1745
Blue asbestos	171	2212	Bromine trifluoride	144	1746
Bombs, smoke, non-explosive, with corrosive liquid, without initiating device	153	2028	Bromoacetic acid	156	1938
Borate and Chlorate mixtures	140	1458	Bromoacetic acid, solid	156	3425
Borneol	133	1312	Bromoacetic acid, solution	156	1938
Boron tribromide	157	2692	Bromoacetone	131	1569
Boron trichloride	125	1741	Bromoacetyl bromide	156	2513
Boron trifluoride	125	1008	Bromobenzene	130	2514
Boron trifluoride, compressed	125	1008	Bromobenzyl cyanides	159	1694
			Bromobenzyl cyanides, liquid	159	1694
			Bromobenzyl cyanides, solid	159	1694
			Bromobenzyl cyanides, solid	159	3449
			1-Bromobutane	130	1126

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
2-Bromobutane	130	2339	n-Butylamine	132	1125
Bromochlorodifluoromethane	126	1974	N-Butylaniline	153	2738
Bromochloromethane	160	1887	Butylbenzenes	128	2709
1-Bromo-3-chloropropane	159	2688	n-Butyl bromide	130	1126
2-Bromoethyl ethyl ether	130	2340	Butyl chloride	130	1127
Bromoform	159	2515	n-Butyl chloroformate	155	2743
1-Bromo-3-methylbutane	130	2341	sec-Butyl chloroformate	155	2742
Bromomethylpropanes	130	2342	tert-Butylcyclohexyl chloroformate	156	2747
2-Bromo-2-nitropropane-1,3-diol	133	3241	Butylene	115	1012
2-Bromopentane	130	2343	Butylene	115	1075
2-Bromopropane	129	2344	1,2-Butylene oxide, stabilized	127P	3022
Bromopropanes	129	2344	Butyl ethers	128	1149
3-Bromopropyne	130	2345	n-Butyl formate	129	1128
Bromotrifluoroethylene	116	2419	tert-Butyl hypochlorite	135	3255
Bromotrifluoromethane	126	1009	N,n-Butylimidazole	152	2690
Brown asbestos	171	2212	n-Butyl isocyanate	155	2485
Brucine	152	1570	tert-Butyl isocyanate	155	2484
Butadienes, inhibited	116P	1010	Butyl mercaptan	130	2347
Butadienes, stabilized	116P	1010	n-Butyl methacrylate	130P	2227
Butadienes and hydrocarbon mixture, stabilized	116P	1010	n-Butyl methacrylate, inhibited	130P	2227
Butane	115	1011	n-Butyl methacrylate, stabilized	130P	2227
Butane	115	1075	Butyl methyl ether	127	2350
Butanedione	127	2346	Butyl nitrites	129	2351
Butane mixture	115	1011	Butyl propionates	130	1914
Butane mixture	115	1075	Butyltoluenes	152	2667
Butanols	129	1120	Butyltrichlorosilane	155	1747
Butoxyl	127	2708	5-tert-Butyl-2,4,6-trinitro-m-xylene	149	2956
Butyl acetates	129	1123	Butyl vinyl ether, inhibited	127P	2352
Butyl acid phosphate	153	1718	Butyl vinyl ether, stabilized	127P	2352
Butyl acrylate	130P	2348	1,4-Butynediol	153	2716
Butyl acrylates, inhibited	130P	2348	Butyraldehyde	129	1129
Butyl acrylates, stabilized	130P	2348			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Butyraldoxime	129	2840	Calcium dithionite	135	1923
Butyric acid	153	2820	Calcium hydride	138	1404
Butyric anhydride	156	2739	Calcium hydrosulfite	135	1923
Butyronitrile	131	2411	Calcium hydrosulphite	135	1923
Butyryl chloride	132	2353	Calcium hypochlorite, dry	140	1748
Buzz	153	2810	Calcium hypochlorite, hydrated, with not less than 5.5% but not more than 16% water	140	2880
BZ	153	2810	Calcium hypochlorite, hydrated mixture, with not less than 5.5% but not more than 16% water	140	2880
C A	159	1694	Calcium hypochlorite mixture, dry, with more than 10% but not more than 39% available Chlorine	140	2208
Cacodylic acid	151	1572	Calcium hypochlorite mixture, dry, with more than 39% available Chlorine (8.8% available Oxygen)	140	1748
Cadmium compound	154	2570	Calcium manganese silicon	138	2844
Caesium	138	1407	Calcium nitrate	140	1454
Caesium hydroxide	157	2682	Calcium oxide	157	1910
Caesium hydroxide, solution	154	2681	Calcium perchlorate	140	1455
Caesium nitrate	140	1451	Calcium permanganate	140	1456
Calcium	138	1401	Calcium peroxide	140	1457
Calcium, metal and alloys, pyrophoric	135	1855	Calcium phosphide	139	1360
Calcium, pyrophoric	135	1855	Calcium resinate	133	1313
Calcium alloys, pyrophoric	135	1855	Calcium resinate, fused	133	1314
Calcium arsenate	151	1573	Calcium silicide	138	1405
Calcium arsenate and Calcium arsenite mixture, solid	151	1574	Calcium silicon	138	1406
Calcium arsenite, solid	151	1574	Camphor	133	2717
Calcium arsenite and Calcium arsenate mixture, solid	151	1574	Camphor, synthetic	133	2717
Calcium carbide	138	1402	Camphor oil	128	1130
Calcium chlorate	140	1452	Caproic acid	153	2829
Calcium chlorate, aqueous solution	140	2429			
Calcium chlorate, solution	140	2429			
Calcium chlorite	140	1453			
Calcium cyanamide, with more than 0.1% Calcium carbide	138	1403			
Calcium cyanide	157	1575			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Carbamate pesticide, liquid, flammable, poisonous	131	2758	Carbon dioxide and Ethylene oxide mixtures, with not more than 6% Ethylene oxide	126	1952
Carbamate pesticide, liquid, flammable, toxic	131	2758	Carbon dioxide and Ethylene oxide mixtures, with not more than 9% Ethylene oxide	126	1952
Carbamate pesticide, liquid, poisonous	151	2992	Carbon dioxide and Nitrous oxide mixture	126	1015
Carbamate pesticide, liquid, poisonous, flammable	131	2991	Carbon dioxide and Oxygen mixture	122	1014
Carbamate pesticide, liquid, toxic	151	2992	Carbon dioxide and Oxygen mixture, compressed	122	1014
Carbamate pesticide, liquid, toxic, flammable	131	2991	Carbon disulfide	131	1131
Carbamate pesticide, solid, poisonous	151	2757	Carbon disulphide	131	1131
Carbamate pesticide, solid, toxic	151	2757	Carbon monoxide	119	1016
Carbon, activated	133	1362	Carbon monoxide, compressed	119	1016
Carbon, animal or vegetable origin	133	1361	Carbon monoxide, refrigerated liquid (cryogenic liquid)	168	9202
Carbon bisulfide	131	1131	Carbon monoxide and Hydrogen mixture	119	2600
Carbon bisulphide	131	1131	Carbon monoxide and Hydrogen mixture, compressed	119	2600
Carbon dioxide	120	1013	Carbon tetrabromide	151	2516
Carbon dioxide, compressed	120	1013	Carbon tetrachloride	151	1846
Carbon dioxide, refrigerated liquid	120	2187	Carbonyl fluoride	125	2417
Carbon dioxide, solid	120	1845	Carbonyl fluoride, compressed	125	2417
Carbon dioxide and Ethylene oxide mixture, with more than 9% but not more than 87% Ethylene oxide	115	1041	Carbonyl sulfide	119	2204
Carbon dioxide and Ethylene oxide mixture, with more than 87% Ethylene oxide	119P	3300	Carbonyl sulphide	119	2204
Carbon dioxide and Ethylene oxide mixtures, with more than 6% Ethylene oxide	115	1041	Castor beans, meal, pomace or flake	171	2969
			Caustic alkali liquid, n.o.s.	154	1719
			Caustic potash, dry, solid	154	1813
			Caustic potash, liquid	154	1814
			Caustic potash, solution	154	1814
			Caustic soda, bead	154	1823
			Caustic soda, flake	154	1823

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Caustic soda, granular	154	1823	Chlorates, inorganic, aqueous solution, n.o.s.	140	3210
Caustic soda, solid	154	1823	Chlorates, inorganic, n.o.s.	140	1461
Caustic soda, solution	154	1824	Chloric acid, aqueous solution, with not more than 10% Chloric acid	140	2626
Cells, containing Sodium	138	3292	Chlorine	124	1017
Celluloid, in blocks, rods, rolls, sheets, tubes, etc., except scrap	133	2000	Chlorine dioxide, hydrate, frozen	143	9191
Celluloid, scrap	135	2002	Chlorine pentafluoride	124	2548
Cerium, slabs, ingots or rods	170	1333	Chlorine trifluoride	124	1749
Cerium, turnings or gritty powder	138	3078	Chlorite solution	154	1908
Cesium	138	1407	Chlorite solution, with more than 5% available Chlorine	154	1908
Cesium hydroxide	157	2682	Chlorites, inorganic, n.o.s.	143	1462
Cesium hydroxide, solution	154	2681	Chloroacetaldehyde	153	2232
Cesium nitrate	140	1451	Chloroacetic acid, liquid	153	1750
CG	125	1076	Chloroacetic acid, molten	153	3250
Charcoal	133	1361	Chloroacetic acid, solid	153	1751
Chemical kit	154	1760	Chloroacetic acid, solution	153	1750
Chemical kit	171	3316	Chloroacetone, stabilized	131	1695
Chemical sample, poisonous	151	3315	Chloroacetoneitrile	131	2668
Chemical sample, poisonous liquid	151	3315	Chloroacetophenone	153	1697
Chemical sample, poisonous solid	151	3315	Chloroacetophenone, liquid	153	1697
Chemical sample, toxic	151	3315	Chloroacetophenone, liquid	153	3416
Chemical sample, toxic liquid	151	3315	Chloroacetophenone, solid	153	1697
Chemical sample, toxic solid	151	3315	Chloroacetyl chloride	156	1752
Chloral, anhydrous, inhibited	153	2075	Chloroanilines, liquid	152	2019
Chloral, anhydrous, stabilized	153	2075	Chloroanilines, solid	152	2018
Chlorate and Borate mixtures	140	1458	Chloroanisidines	152	2233
Chlorate and Magnesium chloride mixture	140	1459	Chlorobenzene	130	1134
Chlorate and Magnesium chloride mixture, solid	140	1459	Chlorobenzotrifluorides	130	2234
Chlorate and Magnesium chloride mixture, solution	140	3407	Chlorobenzyl chlorides	153	2235
			Chlorobenzyl chlorides, liquid	153	2235
			Chlorobenzyl chlorides, solid	153	3427

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
1-Chloro-3-bromopropane	159	2688	3-Chloro-4-methylphenyl isocyanate, solid	156	3428
Chlorobutanes	130	1127	Chloronitroanilines	153	2237
Chlorocresols	152	2669	Chloronitrobenzenes	152	1578
Chlorocresols, liquid	152	2669	Chloronitrobenzenes, liquid	152	1578
Chlorocresols, solid	152	2669	Chloronitrobenzenes, liquid	152	3409
Chlorocresols, solid	152	3437	Chloronitrobenzenes, solid	152	1578
Chlorocresols, solution	152	2669	Chloronitrotoluenes	152	2433
Chlorodifluorobromomethane	126	1974	Chloronitrotoluenes, liquid	152	2433
1-Chloro-1,1-difluoroethane	115	2517	Chloronitrotoluenes, solid	152	2433
Chlorodifluoroethanes	115	2517	Chloronitrotoluenes, solid	152	3457
Chlorodifluoromethane	126	1018	Chloropentafluoroethane	126	1020
Chlorodifluoromethane and Chloropentafluoroethane mixture	126	1973	Chloropentafluoroethane and Chlorodifluoromethane mixture	126	1973
Chlorodinitrobenzenes	153	1577	Chlorophenates, liquid	154	2904
Chlorodinitrobenzenes, liquid	153	1577	Chlorophenates, solid	154	2905
Chlorodinitrobenzenes, solid	153	1577	Chlorophenolates, liquid	154	2904
Chlorodinitrobenzenes, solid	153	3441	Chlorophenolates, solid	154	2905
1-Chloro-2,3-epoxypropane	131P	2023	Chlorophenols, liquid	153	2021
2-Chloroethanal	153	2232	Chlorophenols, solid	153	2020
Chloroform	151	1888	Chlorophenyltrichlorosilane	156	1753
Chloroformates, n.o.s.	155	2742	Chloropicrin	154	1580
Chloroformates, poisonous, corrosive, flammable, n.o.s.	155	2742	Chloropicrin and Methyl bromide mixture	123	1581
Chloroformates, poisonous, corrosive, n.o.s.	154	3277	Chloropicrin and Methyl chloride mixture	119	1582
Chloroformates, toxic, corrosive, flammable, n.o.s.	155	2742	Chloropicrin mixture, n.o.s.	154	1583
Chloroformates, toxic, corrosive, n.o.s.	154	3277	Chloropivaloyl chloride	156	9263
Chloromethyl chloroformate	157	2745	Chloroplatinic acid, solid	154	2507
Chloromethyl ethyl ether	131	2354	Chloroprene, inhibited	131P	1991
3-Chloro-4-methylphenyl isocyanate	156	2236	Chloroprene, stabilized	131P	1991
3-Chloro-4-methylphenyl isocyanate, liquid	156	2236	1-Chloropropane	129	1278
			2-Chloropropane	129	2356

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
3-Chloropropanol-1	153	2849	Chlorotetrafluoroethane and Ethylene oxide mixture, with not more than 8.8% Ethylene oxide	126	3297
2-Chloropropene	130P	2456	Chlorotoluenes	129	2238
2-Chloropropionic acid	153	2511	4-Chloro-o-toluidine hydrochloride	153	1579
2-Chloropropionic acid, solid	153	2511	4-Chloro-o-toluidine hydrochloride, solid	153	1579
2-Chloropropionic acid, solution	153	2511	4-Chloro-o-toluidine hydrochloride, solution	153	3410
2-Chloropyridine	153	2822	Chlorotoluidines	153	2239
Chlorosilanes, corrosive, flammable, n.o.s.	155	2986	Chlorotoluidines, liquid	153	2239
Chlorosilanes, corrosive, n.o.s.	156	2987	Chlorotoluidines, liquid	153	3429
Chlorosilanes, flammable, corrosive, n.o.s.	155	2985	Chlorotoluidines, solid	153	2239
Chlorosilanes, n.o.s.	155	2985	1-Chloro-2,2,2-trifluoroethane	126	1983
Chlorosilanes, n.o.s.	155	2986	Chlorotrifluoroethane	126	1983
Chlorosilanes, n.o.s.	156	2987	Chlorotrifluoromethane	126	1022
Chlorosilanes, n.o.s.	139	2988	Chlorotrifluoromethane and Trifluoromethane azeotropic mixture with approximately 60% Chlorotrifluoromethane	126	2599
Chlorosilanes, poisonous, corrosive, flammable, n.o.s.	155	3362	Chromic acid, solid	141	1463
Chlorosilanes, poisonous, corrosive, n.o.s.	156	3361	Chromic acid, solution	154	1755
Chlorosilanes, toxic, corrosive flammable, n.o.s.	155	3362	Chromic fluoride, solid	154	1756
Chlorosilanes, toxic, corrosive, n.o.s.	156	3361	Chromic fluoride, solution	154	1757
Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.	139	2988	Chromium nitrate	141	2720
Chlorosulfonic acid	137	1754	Chromium oxychloride	137	1758
Chlorosulfonic acid and Sulfur trioxide mixture	137	1754	Chromium trioxide, anhydrous	141	1463
Chlorosulphonic acid	137	1754	Chromosulfuric acid	154	2240
Chlorosulphonic acid and Sulphur trioxide mixture	137	1754	Chromosulphuric acid	154	2240
1-Chloro-1,2,2,2-tetrafluoroethane	126	1021	CK	125	1589
Chlorotetrafluoroethane	126	1021	Clinical specimens	158	3373
			Clinical waste, unspecified, n.o.s.	158	3291

Name of Material	Guide No.	ID No.
CN	153	1697
Coal gas	119	1023
Coal gas, compressed	119	1023
Coal tar distillates, flammable	128	1136
Coating solution	127	1139
Cobalt naphthenates, powder	133	2001
Cobalt resinate, precipitated	133	1318
Combustible liquid, n.o.s.	128	1993
Compound, cleaning liquid (corrosive)	154	1760
Compound, cleaning liquid (flammable)	128	1993
Compound, tree or weed killing, liquid (corrosive)	154	1760
Compound, tree or weed killing, liquid (flammable)	128	1993
Compound, tree or weed killing, liquid (toxic)	153	2810
Compressed gas, flammable, n.o.s.	115	1954
Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone A)	119	1953
Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone B)	119	1953
Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone C)	119	1953
Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone D)	119	1953
Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone A)	119	1953
Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone B)	119	1953

Name of Material	Guide No.	ID No.
Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone C)	119	1953
Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone D)	119	1953
Compressed gas, n.o.s.	126	1956
Compressed gas, oxidizing, n.o.s.	122	3156
Compressed gas, poisonous, corrosive, n.o.s.	123	3304
Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)	123	3304
Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)	123	3304
Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)	123	3304
Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)	123	3304
Compressed gas, poisonous, flammable, corrosive, n.o.s.	119	3305
Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)	119	3305
Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	119	3305
Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	119	3305
Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	119	3305
Compressed gas, poisonous, flammable, n.o.s.	119	1953

<b>Name of Material</b>	<b>Guide ID No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide ID No.</b>	<b>ID No.</b>
Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)	119	1953	Compressed gas, poisonous, oxidizing, n.o.s.	124	3303
Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)	119	1953	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone A)	124	3303
Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)	119	1953	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone B)	124	3303
Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)	119	1953	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone C)	124	3303
Compressed gas, poisonous, n.o.s.	123	1955	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone D)	124	3303
Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone A)	123	1955	Compressed gas, toxic, corrosive, n.o.s.	123	3304
Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone B)	123	1955	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)	123	3304
Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone C)	123	1955	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)	123	3304
Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone D)	123	1955	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)	123	3304
Compressed gas, poisonous, oxidizing, corrosive, n.o.s.	124	3306	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)	123	3304
Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)	124	3306	Compressed gas, toxic, flammable, corrosive, n.o.s.	119	3305
Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	124	3306	Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)	119	3305
Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	124	3306	Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	119	3305
Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	124	3306	Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	119	3305

Name of Material	Guide No.	ID No.
Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	119	3305
Compressed gas, toxic, flammable, n.o.s.	119	1953
Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)	119	1953
Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)	119	1953
Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)	119	1953
Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)	119	1953
Compressed gas, toxic, n.o.s.	123	1955
Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone A)	123	1955
Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone B)	123	1955
Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone C)	123	1955
Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone D)	123	1955
Compressed gas, toxic, oxidizing, corrosive, n.o.s.	124	3306
Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)	124	3306
Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	124	3306
Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	124	3306

Name of Material	Guide No.	ID No.
Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	124	3306
Compressed gas, toxic, oxidizing, n.o.s.	124	3303
Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone A)	124	3303
Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone B)	124	3303
Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone C)	124	3303
Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone D)	124	3303
Consumer commodity	171	8000
Copper acetoarsenite	151	1585
Copper arsenite	151	1586
Copper based pesticide, liquid, flammable, poisonous	131	2776
Copper based pesticide, liquid, flammable, toxic	131	2776
Copper based pesticide, liquid, poisonous	151	3010
Copper based pesticide, liquid, poisonous, flammable	131	3009
Copper based pesticide, liquid, toxic	151	3010
Copper based pesticide, liquid, toxic, flammable	131	3009
Copper based pesticide, solid, poisonous	151	2775
Copper based pesticide, solid, toxic	151	2775
Copper chlorate	141	2721
Copper chloride	154	2802

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Copper cyanide	151	1587	Corrosive solid, poisonous, n.o.s.	154	2923
Copra	135	1363	Corrosive solid, self-heating, n.o.s.	136	3095
Corrosive liquid, acidic, inorganic, n.o.s.	154	3264	Corrosive solid, toxic, n.o.s.	154	2923
Corrosive liquid, acidic, organic, n.o.s.	153	3265	Corrosive solid, water-reactive, n.o.s.	138	3096
Corrosive liquid, basic, inorganic, n.o.s.	154	3266	Corrosive solid, which in contact with water emits flammable gases, n.o.s.	138	3096
Corrosive liquid, basic, organic, n.o.s.	153	3267	Cotton	133	1365
Corrosive liquid, flammable, n.o.s.	132	2920	Cotton, wet	133	1365
Corrosive liquid, n.o.s.	154	1760	Cotton waste, oily	133	1364
Corrosive liquid, oxidizing, n.o.s.	140	3093	Coumarin derivative pesticide, liquid, flammable, poisonous	131	3024
Corrosive liquid, poisonous, n.o.s.	154	2922	Coumarin derivative pesticide, liquid, flammable, toxic	131	3024
Corrosive liquid, self-heating, n.o.s.	136	3301	Coumarin derivative pesticide, liquid, poisonous	151	3026
Corrosive liquid, toxic, n.o.s.	154	2922	Coumarin derivative pesticide, liquid, poisonous, flammable	131	3025
Corrosive liquid, water-reactive, n.o.s.	138	3094	Coumarin derivative pesticide, liquid, toxic	151	3026
Corrosive liquid, which in contact with water emits flammable gases, n.o.s.	138	3094	Coumarin derivative pesticide, liquid, toxic, flammable	131	3025
Corrosive solid, acidic, inorganic, n.o.s.	154	3260	Coumarin derivative pesticide, solid, poisonous	151	3027
Corrosive solid, acidic, organic, n.o.s.	154	3261	Coumarin derivative pesticide, solid, toxic	151	3027
Corrosive solid, basic, inorganic, n.o.s.	154	3262	Cresols	153	2076
Corrosive solid, basic, organic, n.o.s.	154	3263	Cresols, liquid	153	2076
Corrosive solid, flammable, n.o.s.	134	2921	Cresols, solid	153	2076
Corrosive solid, n.o.s.	154	1759	Cresols, solid	153	3455
Corrosive solid, oxidizing, n.o.s.	140	3084	Cresylic acid	153	2022
			Crotonaldehyde, inhibited	131P	1143
			Crotonaldehyde, stabilized	131P	1143

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Crotonic acid	153	2823	Cyclohexyl mercaptan	129	3054
Crotonic acid, liquid	153	2823	Cyclohexyltrichlorosilane	156	1763
Crotonic acid, solid	153	2823	Cyclooctadiene phosphines	135	2940
Crotonylene	128	1144	Cyclooctadienes	130P	2520
C S	153	2810	Cyclooctatetraene	128P	2358
Cumene	130	1918	Cyclopentane	128	1146
Cupriethylenediamine, solution	154	1761	Cyclopentanol	129	2244
CX	154	2811	Cyclopentanone	128	2245
Cyanide solution, n.o.s.	157	1935	Cyclopentene	128	2246
Cyanides, inorganic, n.o.s.	157	1588	Cyclopropane	115	1027
Cyanides, inorganic, solid, n.o.s.	157	1588	Cyclopropane, liquefied	115	1027
Cyanogen	119	1026	Cymenes	130	2046
Cyanogen, liquefied	119	1026	DA	151	1699
Cyanogen bromide	157	1889	Dangerous goods in apparatus	171	3363
Cyanogen chloride, inhibited	125	1589	Dangerous goods in machinery	171	3363
Cyanogen chloride, stabilized	125	1589	DC	153	2810
Cyanogen gas	119	1026	Decaborane	134	1868
Cyanuric chloride	157	2670	Decahydronaphthalene	130	1147
Cyclobutane	115	2601	n-Decane	128	2247
Cyclobutyl chloroformate	155	2744	Denatured alcohol	127	1987
1,5,9-Cyclododecatriene	153	2518	Denatured alcohol (toxic)	131	1986
Cycloheptane	128	2241	Desensitized explosive, liquid, n.o.s.	128	3379
Cycloheptatriene	131	2603	Desensitized explosive, solid, n.o.s.	133	3380
Cycloheptene	128	2242	Deuterium	115	1957
Cyclohexane	128	1145	Deuterium, compressed	115	1957
Cyclohexanethiol	129	3054	Devices, small, hydrocarbon gas powered, with release device	115	3150
Cyclohexanone	127	1915	Diacetone alcohol	129	1148
Cyclohexene	130	2256	Diacetyl	127	2346
Cyclohexenytrichlorosilane	156	1762	Diagnostic specimens	158	3373
Cyclohexyl acetate	130	2243	Diallylamine	132	2359
Cyclohexylamine	132	2357	Diallyl ether	131P	2360
Cyclohexyl isocyanate	155	2488			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
4,4'-Diaminodiphenylmethane	153	2651	Dichlorodifluoromethane and Ethylene oxide mixtures, with not more than 12% Ethylene oxide	126	3070
Di-n-amylamine	131	2841	Dichlorodimethyl ether, symmetrical	131	2249
Dibenzylchlorosilane	156	2434	1,1-Dichloroethane	130	2362
Diborane	119	1911	1,2-Dichloroethylene	130P	1150
Diborane, compressed	119	1911	Dichloroethylene	130P	1150
Diborane mixtures	119	1911	Dichloroethyl ether	152	1916
Dibromobenzene	129	2711	Dichlorofluoromethane	126	1029
1,2-Dibromobutan-3-one	154	2648	Dichloroisocyanuric acid, dry	140	2465
Dibromochloropropanes	159	2872	Dichloroisocyanuric acid salts	140	2465
Dibromodifluoromethane	171	1941	Dichloroisopropyl ether	153	2490
Dibromomethane	160	2664	Dichloromethane	160	1593
Di-n-butylamine	132	2248	1,1-Dichloro-1-nitroethane	153	2650
Dibutylaminoethanol	153	2873	Dichloropentanes	130	1152
Dibutyl ethers	128	1149	Dichlorophenyl isocyanates	156	2250
Dichloroacetic acid	153	1764	Dichlorophenyltrichlorosilane	156	1766
1,3-Dichloroacetone	153	2649	1,2-Dichloropropane	130	1279
Dichloroacetyl chloride	156	1765	Dichloropropane	130	1279
Dichloroanilines	153	1590	1,3-Dichloropropanol-2	153	2750
Dichloroanilines, liquid	153	1590	Dichloropropenes	129	2047
Dichloroanilines, solid	153	1590	Dichlorosilane	119	2189
Dichloroanilines, solid	153	3442	1,2-Dichloro-1,1,2,2-tetrafluoroethane	126	1958
o-Dichlorobenzene	152	1591	Dichlorotetrafluoroethane	126	1958
Dichlorobutene	132	2920	3,5-Dichloro-2,4,6-trifluoropyridine	151	9264
2,2'-Dichlorodiethyl ether	152	1916	Dicycloheptadiene	128P	2251
Dichlorodifluoromethane	126	1028	Dicyclohexylamine	153	2565
Dichlorodifluoromethane and Difluoroethane azeotropic mixture with approximately 74% Dichlorodifluoromethane	126	2602	Dicyclohexylammonium nitrite	133	2687
Dichlorodifluoromethane and Ethylene oxide mixture, with not more than 12.5% Ethylene oxide	126	3070	Dicyclopentadiene	130	2048
			1,2-Di-(dimethylamino)ethane	129	2372

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Didymium nitrate	140	1465	Difluoromethane	115	3252
Dieldrin	151	2761	Difluorophosphoric acid, anhydrous	154	1768
Diesel fuel	128	1202	2,3-Dihydropyran	127	2376
Diesel fuel	128	1993	Diisobutylamine	132	2361
Diethoxymethane	127	2373	Diisobutylene, isomeric compounds	128	2050
3,3-Diethoxypropene	127	2374	Diisobutyl ketone	128	1157
Diethylamine	132	1154	Diisooctyl acid phosphate	153	1902
2-Diethylaminoethanol	132	2686	Diisopropylamine	132	1158
Diethylaminoethanol	132	2686	Diisopropyl ether	127	1159
3-Diethylaminopropylamine	132	2684	Diketene, inhibited	131P	2521
Diethylaminopropylamine	132	2684	Diketene, stabilized	131P	2521
N,N-Diethylaniline	153	2432	1,1-Dimethoxyethane	127	2377
Diethylbenzene	130	2049	1,2-Dimethoxyethane	127	2252
Diethyl carbonate	128	2366	Dimethylamine, anhydrous	118	1032
Diethyldichlorosilane	155	1767	Dimethylamine, aqueous solution	132	1160
Diethylenetriamine	154	2079	Dimethylamine, solution	132	1160
Diethyl ether	127	1155	2-Dimethylaminoacetonitrile	131	2378
N,N-Diethylethylenediamine	132	2685	2-Dimethylaminoethanol	132	2051
Diethyl ketone	127	1156	2-Dimethylaminoethyl acrylate	152	3302
Diethyl sulfate	152	1594	2-Dimethylaminoethyl methacrylate	153P	2522
Diethyl sulfide	129	2375	Dimethylaminoethyl methacrylate	153P	2522
Diethyl sulphate	152	1594	N,N-Dimethylaniline	153	2253
Diethyl sulphide	129	2375	2,3-Dimethylbutane	128	2457
Diethylthiophosphoryl chloride	155	2751	1,3-Dimethylbutylamine	132	2379
Diethylzinc	135	1366	Dimethylcarbamoyl chloride	156	2262
Difluorochloroethanes	115	2517	Dimethyl carbonate	129	1161
1,1-Difluoroethane	115	1030	Dimethylcyclohexanes	128	2263
Difluoroethane	115	1030	N,N-Dimethylcyclohexylamine	132	2264
Difluoroethane and Dichlorodifluoromethane azeotropic mixture with approximately 74% Dichlorodifluoromethane	126	2602	Dimethylcyclohexylamine	132	2264
1,1-Difluoroethylene	116P	1959			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Dimethyldichlorosilane	155	1162	Dinitrophenol, wetted with not less than 15% water	113	1320
Dimethyldiethoxysilane	127	2380	Dinitrophenolates, wetted with not less than 15% water	113	1321
Dimethyldioxanes	127	2707	Dinitroresorcinol, wetted with not less than 15% water	113	1322
Dimethyl disulfide	130	2381	Dinitrotoluenes	152	2038
Dimethyl disulphide	130	2381	Dinitrotoluenes, liquid	152	2038
Dimethylethanolamine	132	2051	Dinitrotoluenes, molten	152	1600
Dimethyl ether	115	1033	Dinitrotoluenes, solid	152	2038
N,N-Dimethylformamide	129	2265	Dinitrotoluenes, solid	152	3454
1,1-Dimethylhydrazine	131	1163	Dioxane	127	1165
1,2-Dimethylhydrazine	131	2382	Dioxolane	127	1166
Dimethylhydrazine, symmetrical	131	2382	Dipentene	128	2052
Dimethylhydrazine, unsymmetrical	131	1163	Diphenylamine chloroarsine	154	1698
2,2-Dimethylpropane	115	2044	Diphenylchloroarsine	151	1699
Dimethyl-N-propylamine	132	2266	Diphenylchloroarsine, liquid	151	1699
Dimethyl sulfate	156	1595	Diphenylchloroarsine, solid	151	1699
Dimethyl sulfide	130	1164	Diphenylchloroarsine, solid	151	3450
Dimethyl sulphate	156	1595	Diphenyldichlorosilane	156	1769
Dimethyl sulphide	130	1164	Diphenylmethyl bromide	153	1770
Dimethyl thiophosphoryl chloride	156	2267	Diphosgene	125	1076
Dimethylzinc	135	1370	Dipicryl sulfide, wetted with not less than 10% water	113	2852
Dinitroanilines	153	1596	Dipicryl sulphide, wetted with not less than 10% water	113	2852
Dinitrobenzenes	152	1597	Dipropylamine	132	2383
Dinitrobenzenes, liquid	152	1597	Di-n-propyl ether	127	2384
Dinitrobenzenes, solid	152	1597	Dipropyl ether	127	2384
Dinitrobenzenes, solid	152	3443	Dipropyl ketone	128	2710
Dinitrochlorobenzenes	153	1577	Disinfectant, liquid, corrosive, n.o.s.	153	1903
Dinitro-o-cresol	153	1598	Disinfectant, liquid, poisonous, n.o.s.	151	3142
Dinitrogen tetroxide	124	1067	Disinfectant, liquid, toxic, n.o.s.	151	3142
Dinitrogen tetroxide, liquefied	124	1067			
Dinitrogen tetroxide and Nitric oxide mixture	124	1975			
Dinitrophenol, solution	153	1599			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Disinfectant, solid, poisonous, n.o.s.	151	1601	DP	125	1076
Disinfectant, solid, toxic, n.o.s.	151	1601	Dry ice	120	1845
Disinfectants, corrosive, liquid, n.o.s.	153	1903	Dye, liquid, corrosive, n.o.s.	154	2801
Disinfectants, liquid, n.o.s. (poisonous)	151	3142	Dye, liquid, poisonous, n.o.s.	151	1602
Disinfectants, solid, n.o.s. (poisonous)	151	1601	Dye, liquid, toxic, n.o.s.	151	1602
Disodium trioxosilicate	154	3253	Dye, solid, corrosive, n.o.s.	154	3147
Disodium trioxosilicate, pentahydrate	154	3253	Dye, solid, poisonous, n.o.s.	151	3143
Dispersant gas, n.o.s.	126	1078	Dye, solid, toxic, n.o.s.	151	3143
Dispersant gas, n.o.s. (flammable)	115	1954	Dye intermediate, liquid, corrosive, n.o.s.	154	2801
Dithiocarbamate pesticide, liquid, flammable, poisonous	131	2772	Dye intermediate, liquid, poisonous, n.o.s.	151	1602
Dithiocarbamate pesticide, liquid, flammable, toxic	131	2772	Dye intermediate, liquid, toxic, n.o.s.	151	1602
Dithiocarbamate pesticide, liquid, poisonous	151	3006	Dye intermediate, solid, corrosive, n.o.s.	154	3147
Dithiocarbamate pesticide, liquid, poisonous, flammable	131	3005	Dye intermediate, solid, poisonous, n.o.s.	151	3143
Dithiocarbamate pesticide, liquid, toxic	151	3006	Dye intermediate, solid, toxic, n.o.s.	151	3143
Dithiocarbamate pesticide, liquid, toxic, flammable	131	3005	ED	151	1892
Dithiocarbamate pesticide, solid, poisonous	151	2771	Elevated temperature liquid, flammable, n.o.s., with flash point above 37.8°C (100°F), at or above its flash point	128	3256
Dithiocarbamate pesticide, solid, toxic	151	2771	Elevated temperature liquid, flammable, n.o.s., with flash point above 60.5°C (141°F), at or above its flash point	128	3256
Divinyl ether, inhibited	128P	1167	Elevated temperature liquid, n.o.s., at or above 100°C (212°F), and below its flash point	128	3257
Divinyl ether, stabilized	128P	1167	Elevated temperature solid, n.o.s., at or above 240°C (464°F)	171	3258
DM	154	1698	Engine starting fluid	115	1960
Dodecylbenzenesulfonic acid	153	2584			
Dodecylbenzenesulphonic acid	153	2584			
Dodecyltrichlorosilane	156	1771			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Engines, internal combustion, flammable gas powered	128	3166	Ethylamine, aqueous solution, with not less than 50% but not more than 70% Ethylamine	132	2270
Engines, internal combustion, flammable liquid powered	128	3166	Ethyl amyl ketone	128	2271
Engines, internal combustion, including when fitted in machinery or vehicles	128	3166	2-Ethylaniline	153	2273
Environmentally hazardous substances, liquid, n.o.s.	171	3082	N-Ethylaniline	153	2272
Environmentally hazardous substances, solid, n.o.s.	171	3077	Ethylbenzene	130	1175
Epibromohydrin	131	2558	N-Ethyl-N-benzylaniline	153	2274
Epichlorohydrin	131P	2023	N-Ethylbenzyltoluidines	153	2753
1,2-Epoxy-3-ethoxypropane	127	2752	N-Ethylbenzyltoluidines, liquid	153	2753
Esters, n.o.s.	127	3272	N-Ethylbenzyltoluidines, solid	153	2753
Ethane	115	1035	N-Ethylbenzyltoluidines, solid	153	3460
Ethane, compressed	115	1035	Ethyl borate	129	1176
Ethane, refrigerated liquid	115	1961	Ethyl bromide	131	1891
Ethane-Propane mixture, refrigerated liquid	115	1961	Ethyl bromoacetate	155	1603
Ethanol	127	1170	2-Ethylbutanol	129	2275
Ethanol, solution	127	1170	2-Ethylbutyl acetate	130	1177
Ethanolamine	153	2491	Ethylbutyl acetate	130	1177
Ethanolamine, solution	153	2491	Ethyl butyl ether	127	1179
Ethers, n.o.s.	127	3271	2-Ethylbutyraldehyde	130	1178
Ethyl acetate	129	1173	Ethyl butyrate	130	1180
Ethylacetylene, inhibited	116P	2452	Ethyl chloride	115	1037
Ethylacetylene, stabilized	116P	2452	Ethyl chloroacetate	155	1181
Ethyl acrylate, inhibited	129P	1917	Ethyl chloroformate	155	1182
Ethyl acrylate, stabilized	129P	1917	Ethyl 2-chloropropionate	129	2935
Ethyl alcohol	127	1170	Ethyl chlorothioformate	155	2826
Ethyl alcohol, solution	127	1170	Ethyl crotonate	130	1862
Ethylamine	118	1036	Ethyl cyanoacetate	156	2666
			Ethylidichloroarsine	151	1892
			Ethylidichlorosilane	139	1183
			Ethylene	116P	1962

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Ethylene, Acetylene and Propylene in mixture, refrigerated liquid containing at least 71.5% Ethylene with not more than 22.5% Acetylene and not more than 6% Propylene	115	3138	Ethylene oxide and Carbon dioxide mixtures, with not more than 6% Ethylene oxide	126	1952
Ethylene, compressed	116P	1962	Ethylene oxide and Carbon dioxide mixtures, with not more than 9% Ethylene oxide	126	1952
Ethylene, refrigerated liquid (cryogenic liquid)	115	1038	Ethylene oxide and Chlorotetrafluoroethane mixture, with not more than 8.8% Ethylene oxide	126	3297
Ethylene chlorohydrin	131	1135	Ethylene oxide and Dichlorodifluoromethane mixture, with not more than 12.5% Ethylene oxide	126	3070
Ethylenediamine	132	1604	Ethylene oxide and Dichlorodifluoromethane mixtures, with not more than 12% Ethylene oxide	126	3070
Ethylene dibromide	154	1605	Ethylene oxide and Pentafluoroethane mixture, with not more than 7.9% Ethylene oxide	126	3298
Ethylene dibromide and Methyl bromide mixture, liquid	151	1647	Ethylene oxide and Propylene oxide mixture, with not more than 30% Ethylene oxide	129P	2983
Ethylene dichloride	131	1184	Ethylene oxide and Tetrafluoroethane mixture, with not more than 5.6% Ethylene oxide	126	3299
Ethylene glycol diethyl ether	127	1153	Ethylene oxide with Nitrogen	119P	1040
Ethylene glycol monobutyl ether	152	2369	Ethyl ether	127	1155
Ethylene glycol monoethyl ether	127	1171	Ethyl fluoride	115	2453
Ethylene glycol monoethyl ether acetate	129	1172	Ethyl formate	129	1190
Ethylene glycol monomethyl ether	127	1188	Ethylhexaldehydes	129	1191
Ethylene glycol monomethyl ether acetate	129	1189	2-Ethylhexylamine	132	2276
Ethyleneimine, inhibited	131P	1185	2-Ethylhexyl chloroformate	156	2748
Ethyleneimine, stabilized	131P	1185	Ethyl isobutyrate	129	2385
Ethylene oxide	119P	1040	Ethyl isocyanate	155	2481
Ethylene oxide and Carbon dioxide mixture, with more than 9% but not more than 87% Ethylene oxide	115	1041			
Ethylene oxide and Carbon dioxide mixture, with more than 87% Ethylene oxide	119P	3300			
Ethylene oxide and Carbon dioxide mixtures, with more than 6 % Ethylene oxide	115	1041			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Ethyl lactate	129	1192	Fabrics, animal or vegetable or synthetic, n.o.s. with oil	133	1373
Ethyl mercaptan	129	2363	Fabrics impregnated with weakly nitrated Nitrocellulose, n.o.s.	133	1353
Ethyl methacrylate	130P	2277	Ferric arsenate	151	1606
Ethyl methacrylate, inhibited	130P	2277	Ferric arsenite	151	1607
Ethyl methacrylate, stabilized	130P	2277	Ferric chloride	157	1773
Ethyl methyl ether	115	1039	Ferric chloride, anhydrous	157	1773
Ethyl methyl ketone	127	1193	Ferric chloride, solution	154	2582
Ethyl nitrite, solution	131	1194	Ferric nitrate	140	1466
Ethyl orthoformate	129	2524	Ferrocium	170	1323
Ethyl oxalate	156	2525	Ferrosilicon	139	1408
Ethylphenyldichlorosilane	156	2435	Ferrous arsenate	151	1608
Ethyl phosphonothioic dichloride, anhydrous	154	2927	Ferrous chloride, solid	154	1759
Ethyl phosphonous dichloride, anhydrous	135	2845	Ferrous chloride, solution	154	1760
Ethyl phosphorodichloridate	154	2927	Ferrous metal borings, shavings, turnings or cuttings	170	2793
1-Ethylpiperidine	132	2386	Fertilizer, ammoniating solution, with free Ammonia	125	1043
Ethyl propionate	129	1195	Fiber, animal or vegetable, n.o.s., burnt, wet or damp	133	1372
Ethyl propyl ether	127	2615	Fibers, animal or vegetable or synthetic, n.o.s. with oil	133	1373
Ethyl silicate	129	1292	Fibers, animal or vegetable, burnt, wet or damp	133	1372
Ethylsulfuric acid	156	2571	Fibers, vegetable, dry	133	3360
Ethylsulphuric acid	156	2571	Fibers impregnated with weakly nitrated Nitrocellulose, n.o.s.	133	1353
N-Ethyltoluidines	153	2754	Fibres, animal or vegetable, burnt, wet or damp	133	1372
Ethyltrichlorosilane	155	1196	Fibres, animal or vegetable or synthetic, n.o.s. with oil	133	1373
Explosive A	112	—	Fibres, vegetable, dry	133	3360
Explosive B	112	—	Fibres impregnated with weakly nitrated Nitrocellulose, n.o.s.	133	1353
Explosive C	114	—	Fibres, animal or vegetable, burnt, wet or damp	133	1372
Explosives, division 1.1, 1.2, 1.3, 1.5 or 1.6	112	—	Fibres, animal or vegetable or synthetic, n.o.s. with oil	133	1373
Explosives, division 1.4	114	—	Fibres, vegetable, dry	133	3360
Extracts, aromatic, liquid	127	1169	Fibres impregnated with weakly nitrated Nitrocellulose, n.o.s.	133	1353
Extracts, flavoring, liquid	127	1197	Films, nitrocellulose base	133	1324
Extracts, flavouring, liquid	127	1197			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Fire extinguisher charges, corrosive liquid	154	1774	Flammable solid, oxidizing, n.o.s.	140	3097
Fire extinguishers with compressed gas	126	1044	Flammable solid, poisonous, inorganic, n.o.s.	134	3179
Fire extinguishers with liquefied gas	126	1044	Flammable solid, poisonous, n.o.s.	134	2926
Firelighters, solid, with flammable liquid	133	2623	Flammable solid, poisonous, organic, n.o.s.	134	2926
First aid kit	171	3316	Flammable solid, toxic, inorganic, n.o.s.	134	3179
Fish meal, stabilized	171	2216	Flammable solid, toxic, organic, n.o.s.	134	2926
Fish meal, unstabilized	133	1374	Fluoboric acid	154	1775
Fish scrap, stabilized	171	2216	Fluorine	124	1045
Fish scrap, unstabilized	133	1374	Fluorine, compressed	124	1045
Flammable liquid, corrosive, n.o.s.	132	2924	Fluorine, refrigerated liquid (cryogenic liquid)	167	9192
Flammable liquid, n.o.s.	128	1993	Fluoroacetic acid	154	2642
Flammable liquid, poisonous, corrosive, n.o.s.	131	3286	Fluoroanilines	153	2941
Flammable liquid, poisonous, n.o.s.	131	1992	Fluorobenzene	130	2387
Flammable liquid, toxic, corrosive, n.o.s.	131	3286	Fluoroboric acid	154	1775
Flammable liquid, toxic, n.o.s.	131	1992	Fluorophosphoric acid, anhydrous	154	1776
Flammable solid, corrosive, inorganic, n.o.s.	134	3180	Fluorosilicates, n.o.s.	151	2856
Flammable solid, corrosive, n.o.s.	134	2925	Fluorosilicic acid	154	1778
Flammable solid, corrosive, organic, n.o.s.	134	2925	Fluorosulfonic acid	137	1777
Flammable solid, inorganic, corrosive, n.o.s.	134	3180	Fluorosulphonic acid	137	1777
Flammable solid, inorganic, n.o.s.	133	3178	Fluorotoluenes	130	2388
Flammable solid, n.o.s.	133	1325	Fluosilicic acid	154	1778
Flammable solid, organic, molten, n.o.s.	133	3176	Formaldehyde, solution, flammable	132	1198
Flammable solid, organic, n.o.s.	133	1325	Formaldehyde, solutions (Formalin)	132	1198
Flammable solid, organic, molten, n.o.s.	133	3176	Formaldehyde, solutions (Formalin) (corrosive)	132	2209
Flammable solid, organic, n.o.s.	133	1325	Formic acid	153	1779

Name of Material	Guide ID		Name of Material	Guide ID	
	No.	No.		No.	No.
Fuel, aviation, turbine engine	128	1863	Gas sample, non-pressurized, poisonous, n.o.s., not refrigerated liquid	123	3169
Fuel oil	128	1202	Gas sample, non-pressurized, toxic, flammable, n.o.s., not refrigerated liquid	119	3168
Fuel oil	128	1993	Gas sample, non-pressurized, toxic, n.o.s., not refrigerated liquid	123	3169
Fuel oil, no. 1,2,4,5,6	128	1202	GB	153	2810
Fumaryl chloride	156	1780	GD	153	2810
Fumigated unit	171	3359	Genetically modified micro-organisms	171	3245
Furaldehydes	132P	1199	Germane	119	2192
Furan	128	2389	GF	153	2810
Furfural	132P	1199	Glycerol alpha-monochlorohydrin	153	2689
Furfuraldehydes	132P	1199	Glycidaldehyde	131P	2622
Furfuryl alcohol	153	2874	Guanidine nitrate	143	1467
Furfurylamine	132	2526	H	153	2810
Fusee (rail or highway)	133	1325	Hafnium powder, dry	135	2545
Fusel oil	127	1201	Hafnium powder, wetted with not less than 25% water	170	1326
GA	153	2810	Halogenated irritating liquid, n.o.s.	159	1610
Gallium	172	2803	Hay, wet, damp or contaminated with oil	133	1327
Gas, refrigerated liquid, flammable, n.o.s.	115	3312	Hazardous waste, liquid, n.o.s.	171	3082
Gas, refrigerated liquid, n.o.s.	120	3158	Hazardous waste, solid, n.o.s.	171	3077
Gas, refrigerated liquid, oxidizing, n.o.s.	122	3311	HD	153	2810
Gas cartridges	115	2037	Heating oil, light	128	1202
Gas generator assemblies	171	8013	Heat producing article	171	8038
Gas identification set	123	9035	Helium	121	1046
Gasohol	128	1203	Helium, compressed	121	1046
Gas oil	128	1202	Helium, refrigerated liquid (cryogenic liquid)	120	1963
Gasoline	128	1203			
Gas sample, non-pressurized, flammable, n.o.s., not refrigerated liquid	115	3167			
Gas sample, non-pressurized, poisonous, flammable, n.o.s., not refrigerated liquid	119	3168			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Heptafluoropropane	126	3296	Hexamine	133	1328
n-Heptaldehyde	129	3056	Hexanes	128	1208
Heptanes	128	1206	Hexanoic acid	153	2829
n-Heptene	128	2278	Hexanols	129	2282
Hexachloroacetone	153	2661	1-Hexene	128	2370
Hexachlorobenzene	152	2729	Hexyltrichlorosilane	156	1784
Hexachlorobutadiene	151	2279	HL	153	2810
Hexachlorocyclopentadiene	151	2646	HN-1	153	2810
Hexachlorophene	151	2875	HN-2	153	2810
Hexadecyltrichlorosilane	156	1781	HN-3	153	2810
Hexadiene	130	2458	Hydrazine, anhydrous	132	2029
Hexaethyl tetraphosphate	151	1611	Hydrazine, aqueous solution, with more than 37% Hydrazine	153	2030
Hexaethyl tetraphosphate, liquid	151	1611	Hydrazine, aqueous solution, with not less than 37% but not more than 64% Hydrazine	153	2030
Hexaethyl tetraphosphate, solid	151	1611	Hydrazine, aqueous solution, with not more than 37% Hydrazine	152	3293
Hexaethyl tetraphosphate and compressed gas mixture	123	1612	Hydrazine, aqueous solutions, with more than 64% Hydrazine	132	2029
Hexafluoroacetone	125	2420	Hydrazine hydrate	153	2030
Hexafluoroacetone hydrate	151	2552	Hydrides, metal, n.o.s.	138	1409
Hexafluoroacetone hydrate, liquid	151	2552	Hydriodic acid	154	1787
Hexafluoroacetone hydrate, solid	151	3436	Hydriodic acid, solution	154	1787
Hexafluoroethane	126	2193	Hydrobromic acid	154	1788
Hexafluoroethane, compressed	126	2193	Hydrobromic acid, solution	154	1788
Hexafluorophosphoric acid	154	1782	Hydrocarbon gas, compressed, n.o.s.	115	1964
Hexafluoropropylene	126	1858	Hydrocarbon gas, liquefied, n.o.s.	115	1965
Hexafluoropropylene oxide	126	1956	Hydrocarbon gas mixture, compressed, n.o.s.	115	1964
Hexaldehyde	130	1207	Hydrocarbon gas mixture, liquefied, n.o.s.	115	1965
Hexamethylenediamine, solid	153	2280			
Hexamethylenediamine, solution	153	1783			
Hexamethylene diisocyanate	156	2281			
Hexamethyleneimine	132	2493			
Hexamethylenetetramine	133	1328			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Hydrocarbon gas refills for small devices, with release device	115	3150	Hydrogen chloride, anhydrous	125	1050
Hydrocarbons, liquid, n.o.s.	128	3295	Hydrogen chloride, refrigerated liquid	125	2186
Hydrochloric acid	157	1789	Hydrogen cyanide, anhydrous, stabilized	117	1051
Hydrochloric acid, solution	157	1789	Hydrogen cyanide, anhydrous, stabilized (absorbed)	152	1614
Hydrocyanic acid, aqueous solution, with less than 5% Hydrogen cyanide	154	1613	Hydrogen cyanide, aqueous solution, with not more than 20% Hydrogen cyanide	154	1613
Hydrocyanic acid, aqueous solution, with not more than 20% Hydrogen cyanide	154	1613	Hydrogen cyanide, solution in alcohol, with not more than 45% Hydrogen cyanide	131	3294
Hydrocyanic acid, aqueous solutions, with more than 20% Hydrogen cyanide	117	1051	Hydrogen cyanide, stabilized	117	1051
Hydrocyanic acid, liquefied	117	1051	Hydrogen cyanide, stabilized (absorbed)	152	1614
Hydrofluoric acid	157	1790	Hydrogendifluorides, n.o.s.	154	1740
Hydrofluoric acid, solution	157	1790	Hydrogen fluoride, anhydrous	125	1052
Hydrofluoric acid and Sulfuric acid mixture	157	1786	Hydrogen iodide, anhydrous	125	2197
Hydrofluoric acid and Sulphuric acid mixture	157	1786	Hydrogen peroxide, aqueous solution, stabilized, with more than 60% Hydrogen peroxide	143	2015
Hydrofluorosilicic acid	154	1778	Hydrogen peroxide, aqueous solution, with not less than 8% but less than 20% Hydrogen peroxide	140	2984
Hydrogen	115	1049	Hydrogen peroxide, aqueous solution, with not less than 20% but not more than 60% Hydrogen peroxide (stabilized as necessary)	140	2014
Hydrogen, absorbed in metal hydride	115	9279	Hydrogen peroxide, stabilized	143	2015
Hydrogen, compressed	115	1049	Hydrogen peroxide and Peroxyacetic acid mixture, with acid(s), water and not more than 5% Peroxyacetic acid, stabilized	140	3149
Hydrogen, in a metal hydride storage system	115	3468	Hydrogen selenide, anhydrous	117	2202
Hydrogen, refrigerated liquid (cryogenic liquid)	115	1966	Hydrogen sulfide	117	1053
Hydrogen and Carbon monoxide mixture	119	2600			
Hydrogen and Carbon monoxide mixture, compressed	119	2600			
Hydrogen and Methane mixture, compressed	115	2034			
Hydrogen bromide, anhydrous	125	1048			

Name of Material	Guide No.	ID No.
Hydrogen sulfide, liquefied	117	1053
Hydrogen sulphide	117	1053
Hydrogen sulphide, liquefied	117	1053
Hydroquinone	153	2662
Hydroquinone, solid	153	2662
Hydroquinone, solution	153	3435
Hydroxylamine sulfate	154	2865
Hydroxylamine sulphate	154	2865
Hypochlorite solution	154	1791
Hypochlorite solution, with more than 5% available Chlorine	154	1791
Hypochlorites, inorganic, n.o.s.	140	3212
3,3'-Iminodipropylamine	153	2269
Infectious substance, affecting animals only	158	2900
Infectious substance, affecting humans	158	2814
Ink, printer's, flammable	129	1210
Insecticide gas, flammable, n.o.s.	115	1954
Insecticide gas, flammable, n.o.s.	115	3354
Insecticide gas, n.o.s.	126	1968
Insecticide gas, poisonous, flammable, n.o.s.	119	3355
Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)	119	3355
Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)	119	3355
Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)	119	3355
Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)	119	3355
Insecticide gas, poisonous, n.o.s.	123	1967

Name of Material	Guide No.	ID No.
Insecticide gas, toxic, flammable, n.o.s.	119	3355
Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)	119	3355
Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)	119	3355
Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)	119	3355
Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)	119	3355
Insecticide gas, toxic, n.o.s.	123	1967
Iodine monochloride	157	1792
Iodine pentafluoride	144	2495
2-Iodobutane	129	2390
Iodomethylpropanes	129	2391
Iodopropanes	129	2392
IPDI	156	2290
Iron oxide, spent	135	1376
Iron pentacarbonyl	131	1994
Iron sponge, spent	135	1376
Isobutane	115	1075
Isobutane	115	1969
Isobutane mixture	115	1075
Isobutane mixture	115	1969
Isobutanol	129	1212
Isobutyl acetate	129	1213
Isobutyl acrylate	130P	2527
Isobutyl acrylate, inhibited	130P	2527
Isobutyl acrylate, stabilized	130P	2527
Isobutyl alcohol	129	1212
Isobutyl aldehyde	130	2045

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Isobutylamine	132	1214	Isocyanates, n.o.s.	155	2478
Isobutyl chloroformate	155	2742	Isocyanates, n.o.s.	155	3080
Isobutylene	115	1055	Isocyanates, poisonous, flammable, n.o.s.	155	3080
Isobutylene	115	1075	Isocyanates, poisonous, n.o.s.	155	2206
Isobutyl formate	129	2393	Isocyanates, toxic, flammable, n.o.s.	155	3080
Isobutyl isobutyrate	130	2528	Isocyanates, toxic, n.o.s.	155	2206
Isobutyl isocyanate	155	2486	Isocyanatobenzotrifluorides	156	2285
Isobutyl methacrylate	130P	2283	Isoheptenes	128	2287
Isobutyl methacrylate, inhibited	130P	2283	Isohexenes	128	2288
Isobutyl methacrylate, stabilized	130P	2283	Isooctane	128	1262
Isobutyl propionate	129	2394	Isooctenes	128	1216
Isobutyraldehyde	130	2045	Isopentane	128	1265
Isobutyric acid	132	2529	Isopentenes	128	2371
Isobutyric anhydride	132	2530	Isophoronediamine	153	2289
Isobutyronitrile	131	2284	Isophorone diisocyanate	156	2290
Isobutyryl chloride	132	2395	Isoprene, inhibited	130P	1218
Isocyanate solution, flammable, poisonous, n.o.s.	155	2478	Isoprene, stabilized	130P	1218
Isocyanate solution, flammable, toxic, n.o.s.	155	2478	Isopropanol	129	1219
Isocyanate solution, poisonous, flammable, n.o.s.	155	3080	Isopropenyl acetate	129P	2403
Isocyanate solution, poisonous, n.o.s.	155	2206	Isopropenylbenzene	128	2303
Isocyanate solution, toxic, flammable, n.o.s.	155	3080	Isopropyl acetate	129	1220
Isocyanate solution, toxic, n.o.s.	155	2206	Isopropyl acid phosphate	153	1793
Isocyanate solutions, n.o.s.	155	2206	Isopropyl alcohol	129	1219
Isocyanate solutions, n.o.s.	155	2478	Isopropylamine	132	1221
Isocyanate solutions, n.o.s.	155	3080	Isopropylbenzene	130	1918
Isocyanates, flammable, poisonous, n.o.s.	155	2478	Isopropyl butyrate	129	2405
Isocyanates, flammable, toxic, n.o.s.	155	2478	Isopropyl chloroacetate	155	2947
Isocyanates, n.o.s.	155	2206	Isopropyl chloroformate	155	2407
			Isopropyl 2-chloropropionate	129	2934
			Isopropyl isobutyrate	127	2406
			Isopropyl isocyanate	155	2483

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Isopropyl nitrate	130	1222	Lighters (cigarettes)	115	1057
Isopropyl propionate	129	2409	(flammable gas)		
Isosorbide dinitrate mixture	133	2907	Lighters for cigars, cigarettes	128	1226
Isosorbide-5-mononitrate	133	3251	(flammable liquid)		
Kerosene	128	1223	Liquefied gas (nonflammable)	120	1058
Ketones, liquid, n.o.s.	127	1224	Liquefied gas, flammable, n.o.s.	115	1954
Krypton	121	1056	Liquefied gas, flammable, n.o.s.	115	3161
Krypton, compressed	121	1056	Liquefied gas, flammable, poisonous, n.o.s.	119	1953
Krypton, refrigerated liquid (cryogenic liquid)	120	1970	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone A)	119	1953
L (Lewisite)	153	2810	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone B)	119	1953
Lead acetate	151	1616	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone C)	119	1953
Lead arsenates	151	1617	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone D)	119	1953
Lead arsenites	151	1618	Liquefied gas, flammable, toxic, n.o.s.	119	1953
Lead compound, soluble, n.o.s.	151	2291	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone A)	119	1953
Lead cyanide	151	1620	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone B)	119	1953
Lead dioxide	141	1872	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone C)	119	1953
Lead nitrate	141	1469	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone D)	119	1953
Lead perchlorate	141	1470	Liquefied gas, n.o.s.	126	1956
Lead perchlorate, solid	141	1470	Liquefied gas, n.o.s.	126	3163
Lead perchlorate, solution	141	1470	Liquefied gas, oxidizing, n.o.s.	122	3157
Lead perchlorate, solution	141	3408			
Lead phosphite, dibasic	133	2989			
Lead sulfate, with more than 3% free acid	154	1794			
Lead sulphate, with more than 3% free acid	154	1794			
Lewisite	153	2810			
Life-saving appliances, not self- inflating	171	3072			
Life-saving appliances, self- inflating	171	2990			
Lighter refills (cigarettes) (flammable gas)	115	1057			

Name of Material	Guide No.	ID No.
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Liquefied gas, poisonous, corrosive, n.o.s.	123	3308
Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)	123	3308
Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)	123	3308
Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)	123	3308
Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)	123	3308
Liquefied gas, poisonous, flammable, corrosive, n.o.s.	119	3309
Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)	119	3309
Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	119	3309
Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	119	3309
Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	119	3309
Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)	119	3160
Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)	119	3160
Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)	119	3160

Name of Material	Guide No.	ID No.
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Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)	119	3160
Liquefied gas, poisonous, n.o.s.	123	1955
Liquefied gas, poisonous, n.o.s.	123	3162
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone A)	123	1955
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone A)	123	3162
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone B)	123	1955
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone B)	123	3162
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone C)	123	1955
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone C)	123	3162
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone D)	123	1955
Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone D)	123	3162
Liquefied gas, poisonous, oxidizing, corrosive, n.o.s.	124	3310
Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)	124	3310
Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	124	3310
Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	124	3310
Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	124	3310
Liquefied gas, poisonous, oxidizing, n.o.s.	124	3307

Name of Material	Guide No.	ID No.
Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone A)	124	3307
Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone B)	124	3307
Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone C)	124	3307
Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone D)	124	3307
Liquefied gas, toxic, corrosive, n.o.s.	123	3308
Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)	123	3308
Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)	123	3308
Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)	123	3308
Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)	123	3308
Liquefied gas, toxic, flammable, corrosive, n.o.s.	119	3309
Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)	119	3309
Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	119	3309
Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	119	3309
Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	119	3309

Name of Material	Guide No.	ID No.
Liquefied gas, toxic, flammable, n.o.s.	119	3160
Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)	119	3160
Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)	119	3160
Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)	119	3160
Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)	119	3160
Liquefied gas, toxic, n.o.s.	123	1955
Liquefied gas, toxic, n.o.s.	123	3162
Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone A)	123	1955
Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone A)	123	3162
Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone B)	123	1955
Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone B)	123	3162
Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone C)	123	1955
Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone C)	123	3162
Liquefied gas, toxic, oxidizing, corrosive, n.o.s.	124	3310
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)	124	3310

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	124	3310	Lithium batteries, liquid or solid cathode	138	3090
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	124	3310	Lithium batteries contained in equipment	138	3091
Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	124	3310	Lithium batteries packed with equipment	138	3091
Liquefied gas, toxic, oxidizing, n.o.s.	124	3307	Lithium borohydride	138	1413
Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone A)	124	3307	Lithium ferrosilicon	139	2830
Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone B)	124	3307	Lithium hydride	138	1414
Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone C)	124	3307	Lithium hydride, fused solid	138	2805
Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone D)	124	3307	Lithium hydroxide	154	2680
Liquefied gases, non-flammable, charged with Nitrogen, Carbon dioxide or Air	120	1058	Lithium hydroxide, monohydrate	154	2680
Liquefied natural gas (cryogenic liquid)	115	1972	Lithium hydroxide, solid	154	2680
Liquefied petroleum gas	115	1075	Lithium hydroxide, solution	154	2679
Lithium	138	1415	Lithium hypochlorite, dry	140	1471
Lithium alkyls	135	2445	Lithium hypochlorite mixture	140	1471
Lithium alkyls, liquid	135	2445	Lithium hypochlorite mixtures, dry	140	1471
Lithium alkyls, solid	135	3433	Lithium nitrate	140	2722
Lithium aluminum hydride	138	1410	Lithium nitride	138	2806
Lithium aluminum hydride, ethereal	138	1411	Lithium peroxide	143	1472
Lithium amide	139	1412	Lithium silicon	138	1417
Lithium batteries	138	3090	LNG (cryogenic liquid)	115	1972
			London purple	151	1621
			LPG	115	1075
			Magnesium	138	1869
			Magnesium, in pellets, turnings or ribbons	138	1869
			Magnesium alkyls	135	3053
			Magnesium alloys, with more than 50% Magnesium, in pellets, turnings or ribbons	138	1869
			Magnesium alloys powder	138	1418
			Magnesium aluminum phosphide	139	1419
			Magnesium arsenate	151	1622

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Magnesium bromate	140	1473	Matches, "strike anywhere"	133	1331
Magnesium chlorate	140	2723	Matches, wax "vesta"	133	1945
Magnesium chloride and Chlorate mixture	140	1459	MD	152	1556
Magnesium chloride and Chlorate mixture, solid	140	1459	Medical waste, n.o.s.	158	3291
Magnesium chloride and Chlorate mixture, solution	140	3407	Medicine, liquid, flammable, poisonous, n.o.s.	131	3248
Magnesium diamide	135	2004	Medicine, liquid, flammable, toxic, n.o.s.	131	3248
Magnesium diphenyl	135	2005	Medicine, liquid, poisonous, n.o.s.	151	1851
Magnesium fluorosilicate	151	2853	Medicine, liquid, toxic, n.o.s.	151	1851
Magnesium granules, coated	138	2950	Medicine, solid, poisonous, n.o.s.	151	3249
Magnesium hydride	138	2010	Medicine, solid, toxic, n.o.s.	151	3249
Magnesium nitrate	140	1474	Medicines, corrosive, liquid, n.o.s.	154	1760
Magnesium perchlorate	140	1475	Medicines, corrosive, solid, n.o.s.	154	1759
Magnesium peroxide	140	1476	Medicines, flammable, liquid, n.o.s.	128	1993
Magnesium phosphide	139	2011	Medicines, flammable, solid, n.o.s.	133	1325
Magnesium powder	138	1418	Medicines, oxidizing substances, solid, n.o.s.	140	1479
Magnesium silicide	138	2624	Mercaptan mixture, liquid, flammable, n.o.s.	130	3336
Magnesium silicofluoride	151	2853	Mercaptan mixture, liquid, flammable, poisonous, n.o.s.	131	1228
Magnetized material	171	2807	Mercaptan mixture, liquid, flammable, toxic, n.o.s.	131	1228
Maleic acid	156	2215	Mercaptan mixture, liquid, poisonous, flammable, n.o.s.	131	3071
Maleic anhydride	156	2215	Mercaptan mixture, liquid, toxic, flammable, n.o.s.	131	3071
Maleic anhydride, molten	156	2215	Mercaptan mixtures, liquid, n.o.s.	131	1228
Malononitrile	153	2647			
Maneb	135	2210			
Maneb, stabilized	135	2968			
Maneb preparation, stabilized	135	2968			
Maneb preparation, with not less than 60% Maneb	135	2210			
Manganese nitrate	140	2724			
Manganese resinate	133	1330			
Matches, fusee	133	2254			
Matches, safety	133	1944			

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Mercaptan mixtures, liquid, n.o.s.	131	3071	Mercury based pesticide, liquid, toxic	151	3012
Mercaptans, liquid, flammable, n.o.s.	130	3336	Mercury based pesticide, liquid, toxic, flammable	131	3011
Mercaptans, liquid, flammable, poisonous, n.o.s.	131	1228	Mercury based pesticide, solid, poisonous	151	2777
Mercaptans, liquid, flammable, toxic, n.o.s.	131	1228	Mercury based pesticide, solid, toxic	151	2777
Mercaptans, liquid, n.o.s.	131	3071	Mercury benzoate	154	1631
Mercaptans, liquid, poisonous, flammable, n.o.s.	131	3071	Mercury bromides	154	1634
Mercaptans, liquid, toxic, flammable, n.o.s.	131	3071	Mercury compound, liquid, n.o.s.	151	2024
Mercuric arsenate	151	1623	Mercury compound, solid, n.o.s.	151	2025
Mercuric bromide	154	1634	Mercury cyanide	154	1636
Mercuric chloride	154	1624	Mercury gluconate	151	1637
Mercuric cyanide	154	1636	Mercury iodide	151	1638
Mercuric nitrate	141	1625	Mercury metal	172	2809
Mercuric oxycyanide	151	1642	Mercury nucleate	151	1639
Mercuric potassium cyanide	157	1626	Mercury oleate	151	1640
Mercuric sulfate	151	1645	Mercury oxide	151	1641
Mercuric sulphate	151	1645	Mercury oxycyanide, desensitized	151	1642
Mercurous bromide	154	1634	Mercury potassium iodide	151	1643
Mercurous nitrate	141	1627	Mercury salicylate	151	1644
Mercury	172	2809	Mercury sulfate	151	1645
Mercury acetate	151	1629	Mercury sulphate	151	1645
Mercury ammonium chloride	151	1630	Mercury thiocyanate	151	1646
Mercury based pesticide, liquid, flammable, poisonous	131	2778	Mesityl oxide	129	1229
Mercury based pesticide, liquid, flammable, toxic	131	2778	Metal alkyl, solution, n.o.s.	135	9195
Mercury based pesticide, liquid, poisonous	151	3012	Metal alkyl halides, n.o.s.	138	3049
Mercury based pesticide, liquid, poisonous, flammable	131	3011	Metal alkyl halides, water-reactive, n.o.s.	138	3049
			Metal alkyl hydrides, n.o.s.	138	3050
			Metal alkyl hydrides, water-reactive, n.o.s.	138	3050
			Metal alkyls, n.o.s.	135	2003

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Metal alkyls, water-reactive, n.o.s.	135	2003	Methallyl alcohol	129	2614
Metal aryl halides, n.o.s.	138	3049	Methane	115	1971
Metal aryl halides, water-reactive, n.o.s.	138	3049	Methane, compressed	115	1971
Metal aryl hydrides, n.o.s.	138	3050	Methane, refrigerated liquid (cryogenic liquid)	115	1972
Metal aryl hydrides, water-reactive, n.o.s.	138	3050	Methane and Hydrogen mixture, compressed	115	2034
Metal aryls, n.o.s.	135	2003	Methanesulfonyl chloride	156	3246
Metal aryls, water-reactive, n.o.s.	135	2003	Methanesulphonyl chloride	156	3246
Metal carbonyls, liquid, n.o.s.	151	3281	Methanol	131	1230
Metal carbonyls, n.o.s.	151	3281	Methoxymethyl isocyanate	155	2605
Metal carbonyls, solid, n.o.s.	151	3466	4-Methoxy-4-methyl-pentan-2-one	128	2293
Metal catalyst, dry	135	2881	1-Methoxy-2-propanol	129	3092
Metal catalyst, wetted	170	1378	Methyl acetate	129	1231
Metaldehyde	133	1332	Methylacetylene and Propadiene mixture, stabilized	116P	1060
Metal hydrides, flammable, n.o.s.	170	3182	Methyl acrylate, inhibited	129P	1919
Metal hydrides, water-reactive, n.o.s.	138	1409	Methyl acrylate, stabilized	129P	1919
Metallic substance, water-reactive, n.o.s.	138	3208	Methylal	127	1234
Metallic substance, water-reactive, self-heating, n.o.s.	138	3209	Methyl alcohol	131	1230
Metal powder, flammable, n.o.s.	170	3089	Methylallyl chloride	130P	2554
Metal powder, self-heating, n.o.s.	135	3189	Methylamine, anhydrous	118	1061
Metal salts of organic compounds, flammable, n.o.s.	133	3181	Methylamine, aqueous solution	132	1235
Methacrylaldehyde	131P	2396	Methylamyl acetate	130	1233
Methacrylaldehyde, inhibited	131P	2396	Methylamyl alcohol	129	2053
Methacrylaldehyde, stabilized	131P	2396	Methyl amyl ketone	127	1110
Methacrylic acid, inhibited	153P	2531	N-Methylaniline	153	2294
Methacrylic acid, stabilized	153P	2531	Methyl benzoate	152	2938
Methacrylonitrile, inhibited	131P	3079	alpha-Methylbenzyl alcohol	153	2937
Methacrylonitrile, stabilized	131P	3079	alpha-Methylbenzyl alcohol, liquid	153	2937
			alpha-Methylbenzyl alcohol, solid	153	3438

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Methylbenzyl alcohol (alpha)	153	2937	Methylene chloride and Methyl chloride mixture	115	1912
Methyl bromide	123	1062	Methyl ethyl ether	115	1039
Methyl bromide and Chloropicrin mixture	123	1581	Methyl ethyl ketone	127	1193
Methyl bromide and Ethylene dibromide mixture, liquid	151	1647	2-Methyl-5-ethylpyridine	153	2300
Methyl bromoacetate	155	2643	Methyl fluoride	115	2454
2-Methylbutanal	129	3371	Methyl formate	129	1243
3-Methylbutan-2-one	127	2397	2-Methylfuran	128	2301
2-Methyl-1-butene	128	2459	2-Methyl-2-heptanethiol	131	3023
2-Methyl-2-butene	128	2460	5-Methylhexan-2-one	127	2302
3-Methyl-1-butene	128	2561	Methylhydrazine	131	1244
N-Methylbutylamine	132	2945	Methyl iodide	151	2644
Methyl tert-butyl ether	127	2398	Methyl isobutyl carbinol	129	2053
Methyl butyrate	129	1237	Methyl isobutyl ketone	127	1245
Methyl chloride	115	1063	Methyl isocyanate	155	2480
Methyl chloride and Chloropicrin mixture	119	1582	Methyl isopropenyl ketone, inhibited	127P	1246
Methyl chloride and Methylene chloride mixture	115	1912	Methyl isopropenyl ketone, stabilized	127P	1246
Methyl chloroacetate	155	2295	Methyl isothiocyanate	131	2477
Methyl chloroformate	155	1238	Methyl isovalerate	130	2400
Methyl chloromethyl ether	131	1239	Methyl magnesium bromide in Ethyl ether	135	1928
Methyl 2-chloropropionate	129	2933	Methyl mercaptan	117	1064
Methylchlorosilane	119	2534	Methyl methacrylate monomer, inhibited	129P	1247
Methyl cyanide	127	1648	Methyl methacrylate monomer, stabilized	129P	1247
Methylcyclohexane	128	2296	4-Methylmorpholine	132	2535
Methylcyclohexanols	129	2617	N-Methylmorpholine	132	2535
Methylcyclohexanone	128	2297	Methylmorpholine	132	2535
Methylcyclopentane	128	2298	Methyl nitrite	116	2455
Methyl dichloroacetate	155	2299	Methyl orthosilicate	155	2606
Methyldichloroarsine	152	1556	Methyl parathion, liquid	152	3018
Methyldichlorosilane	139	1242			
Methylene chloride	160	1593			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Methyl parathion, solid	152	2783	Naphthylamine (alpha)	153	2077
Methylpentadiene	128	2461	beta-Naphthylamine	153	1650
2-Methylpentan-2-ol	129	2560	beta-Naphthylamine, solid	153	1650
Methylphenyldichlorosilane	156	2437	beta-Naphthylamine, solution	153	3411
Methyl phosphonic dichloride	137	9206	Naphthylamine (beta)	153	1650
Methyl phosphonous dichloride	135	2845	Naphthylamine (beta), solid	153	1650
1-Methylpiperidine	132	2399	Naphthylamine (beta), solution	153	3411
Methyl propionate	129	1248	Naphthylthiourea	153	1651
Methyl propyl ether	127	2612	Naphthylurea	153	1652
Methyl propyl ketone	127	1249	Natural gas, compressed	115	1971
Methyltetrahydrofuran	127	2536	Natural gas, refrigerated liquid (cryogenic liquid)	115	1972
Methyl trichloroacetate	156	2533	Neohexane	128	1208
Methyltrichlorosilane	155	1250	Neon	121	1065
alpha-Methylvaleraldehyde	130	2367	Neon, compressed	121	1065
Methyl valeraldehyde (alpha)	130	2367	Neon, refrigerated liquid (cryogenic liquid)	120	1913
Methyl vinyl ketone	131P	1251	Nickel carbonyl	131	1259
Methyl vinyl ketone, stabilized	131P	1251	Nickel catalyst, dry	135	2881
M. I. B. C.	129	2053	Nickel cyanide	151	1653
Molybdenum pentachloride	156	2508	Nickel nitrate	140	2725
Monoethanolamine	153	2491	Nickel nitrite	140	2726
Mononitrotoluidines	153	2660	Nicotine	151	1654
Monopropylamine	132	1277	Nicotine compound, liquid, n.o.s.	151	3144
Morpholine	132	2054	Nicotine compound, solid, n.o.s.	151	1655
Motor fuel anti-knock mixture	131	1649	Nicotine hydrochloride	151	1656
Motor spirit	128	1203	Nicotine hydrochloride, liquid	151	1656
Muriatic acid	157	1789	Nicotine hydrochloride, solid	151	1656
Musk xylene	149	2956	Nicotine hydrochloride, solid	151	3444
Mustard	153	2810	Nicotine hydrochloride, solution	151	1656
Mustard Lewisite	153	2810	Nicotine preparation, liquid, n.o.s.	151	3144
Naphthalene, crude	133	1334			
Naphthalene, molten	133	2304			
Naphthalene, refined	133	1334			
alpha-Naphthylamine	153	2077			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Nicotine preparation, solid, n.o.s.	151	1655	Nitriles, toxic, liquid, n.o.s.	151	3276
Nicotine salicylate	151	1657	Nitriles, toxic, n.o.s.	151	3276
Nicotine sulfate, solid	151	1658	Nitriles, toxic, solid, n.o.s.	151	3439
Nicotine sulfate, solid	151	3445	Nitrites, inorganic, aqueous solution, n.o.s.	140	3219
Nicotine sulfate, solution	151	1658	Nitrites, inorganic, n.o.s.	140	2627
Nicotine sulphate, solid	151	1658	Nitroanilines	153	1661
Nicotine sulphate, solid	151	3445	Nitroanisoles	152	2730
Nicotine sulphate, solution	151	1658	Nitroanisoles, liquid	152	2730
Nicotine tartrate	151	1659	Nitroanisoles, solid	152	2730
Nitrates, inorganic, aqueous solution, n.o.s.	140	3218	Nitroanisoles, solid	152	3458
Nitrates, inorganic, n.o.s.	140	1477	Nitrobenzene	152	1662
Nitrating acid mixture	157	1796	Nitrobenzenesulfonic acid	153	2305
Nitrating acid mixture, spent	157	1826	Nitrobenzenesulphonic acid	153	2305
Nitric acid, fuming	157	2032	Nitrobenzotrifluorides	152	2306
Nitric acid, other than red fuming	157	2031	Nitrobenzotrifluorides, liquid	152	2306
Nitric acid, red fuming	157	2032	Nitrobenzotrifluorides, solid	152	3431
Nitric oxide	124	1660	Nitrobromobenzenes	152	2732
Nitric oxide, compressed	124	1660	Nitrobromobenzenes, liquid	152	2732
Nitric oxide and Dinitrogen tetroxide mixture	124	1975	Nitrobromobenzenes, solid	152	2732
Nitric oxide and Nitrogen dioxide mixture	124	1975	Nitrobromobenzenes, solid	152	3459
Nitric oxide and Nitrogen tetroxide mixture	124	1975	Nitrocellulose, solution, flammable	127	2059
Nitriles, flammable, poisonous, n.o.s.	131	3273	Nitrocellulose, solution, in a flammable liquid	127	2059
Nitriles, flammable, toxic, n.o.s.	131	3273	Nitrocellulose membrane filters	133	3270
Nitriles, poisonous, flammable, n.o.s.	131	3275	Nitrocellulose mixture, without plasticizer, without pigment	133	2557
Nitriles, poisonous, liquid, n.o.s.	151	3276	Nitrocellulose mixture, without plasticizer, with pigment	133	2557
Nitriles, poisonous, n.o.s.	151	3276	Nitrocellulose mixture, with plasticizer, without pigment	133	2557
Nitriles, poisonous, solid, n.o.s.	151	3439	Nitrocellulose mixture, with plasticizer, with pigment	133	2557
Nitriles, toxic, flammable, n.o.s.	131	3275	Nitrocellulose with alcohol	113	2556

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Nitrocellulose with not less than 25% alcohol	113	2556	Nitroglycerin mixture, desensitized, liquid, flammable, n.o.s., with not more than 30% Nitroglycerin	113	3343
Nitrocellulose with plasticizing substance	133	2557	Nitroglycerin mixture, desensitized, liquid, n.o.s., with not more than 30% Nitroglycerin	113	3357
Nitrocellulose with water, not less than 25% water	113	2555	Nitroglycerin mixture, desensitized, solid, n.o.s., with more than 2% but not more than 10% Nitroglycerin	113	3319
3-Nitro-4-chlorobenzotrifluoride	152	2307	Nitroglycerin mixture with more than 2% but not more than 10% Nitroglycerin, desensitized	113	3319
Nitrocresols	153	2446	Nitroguanidine (Picrite), wetted with not less than 20% water	113	1336
Nitrocresols, liquid	153	3434	Nitroguanidine, wetted with not less than 20% water	113	1336
Nitrocresols, solid	153	2446	Nitrohydrochloric acid	157	1798
Nitroethane	129	2842	Nitromethane	129	1261
Nitrogen	121	1066	Nitronaphthalene	133	2538
Nitrogen, compressed	121	1066	Nitrophenols	153	1663
Nitrogen, refrigerated liquid (cryogenic liquid)	120	1977	4-Nitrophenylhydrazine, with not less than 30% water	113	3376
Nitrogen and Rare gases mixture	121	1981	Nitropropanes	129	2608
Nitrogen and Rare gases mixture, compressed	121	1981	p-Nitrosodimethylaniline	135	1369
Nitrogen dioxide	124	1067	Nitrostarch, wetted with not less than 20% water	113	1337
Nitrogen dioxide, liquefied	124	1067	Nitrostarch, wetted with not less than 30% solvent	113	1337
Nitrogen dioxide and Nitric oxide mixture	124	1975	Nitrosyl chloride	125	1069
Nitrogen tetroxide and Nitric oxide mixture	124	1975	Nitrosylsulfuric acid	157	2308
Nitrogen trifluoride	122	2451	Nitrosylsulfuric acid, liquid	157	2308
Nitrogen trifluoride, compressed	122	2451	Nitrosylsulfuric acid, solid	157	2308
Nitrogen trioxide	124	2421	Nitrosylsulfuric acid, solid	157	3456
Nitroglycerin, solution in alcohol, with more than 1% but not more than 5% Nitroglycerin	127	3064	Nitrosylsulphuric acid	157	2308
Nitroglycerin, solution in alcohol, with not more than 1% Nitroglycerin	127	1204			

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Nitrosylsulphuric acid, liquid	157	2308	Oil gas, compressed	119	1071
Nitrosylsulphuric acid, solid	157	2308	Organic peroxide type B, liquid	146	3101
Nitrosylsulphuric acid, solid	157	3456	Organic peroxide type B, liquid, temperature controlled	148	3111
Nitrotoluenes	152	1664	Organic peroxide type B, solid	146	3102
Nitrotoluenes, liquid	152	1664	Organic peroxide type B, solid, temperature controlled	148	3112
Nitrotoluenes, solid	152	1664	Organic peroxide type C, liquid	146	3103
Nitrotoluidines (mono)	153	2660	Organic peroxide type C, liquid, temperature controlled	148	3113
Nitrous oxide	122	1070	Organic peroxide type C, solid	146	3104
Nitrous oxide, compressed	122	1070	Organic peroxide type C, solid, temperature controlled	148	3114
Nitrous oxide, refrigerated liquid	122	2201	Organic peroxide type D, liquid	145	3105
Nitrous oxide and Carbon dioxide mixture	126	1015	Organic peroxide type D, liquid, temperature controlled	148	3115
Nitroxylenes	152	1665	Organic peroxide type D, solid	145	3106
Nitroxylenes, liquid	152	1665	Organic peroxide type D, solid, temperature controlled	148	3116
Nitroxylenes, solid	152	1665	Organic peroxide type E, liquid	145	3107
Nitroxylenes, solid	152	3447	Organic peroxide type E, liquid, temperature controlled	148	3117
Nonanes	128	1920	Organic peroxide type E, solid	145	3108
Nonyltrichlorosilane	156	1799	Organic peroxide type E, solid, temperature controlled	148	3118
2,5-Norbornadiene	128P	2251	Organic peroxide type F, liquid	145	3109
2,5-Norbornadiene, inhibited	128P	2251	Organic peroxide type F, liquid, temperature controlled	148	3119
2,5-Norbornadiene, stabilized	128P	2251	Organic peroxide type F, solid	145	3110
Octadecyltrichlorosilane	156	1800	Organic peroxide type F, solid, temperature controlled	148	3120
Octadiene	128P	2309	Organic phosphate compound mixed with compressed gas	123	1955
Octafluorobut-2-ene	126	2422	Organic phosphate mixed with compressed gas	123	1955
Octafluorocyclobutane	126	1976			
Octafluoropropane	126	2424			
Octanes	128	1262			
Octyl aldehydes	129	1191			
tert-Octyl mercaptan	131	3023			
Octyltrichlorosilane	156	1801			
Oil, petroleum	128	1270			
Oil gas	119	1071			

Name of Material	Guide No.	ID No.
Organic phosphorus compound mixed with compressed gas	123	1955
Organic pigments, self-heating	135	3313
Organoarsenic compound, liquid, n.o.s.	151	3280
Organoarsenic compound, n.o.s.	151	3280
Organoarsenic compound, solid, n.o.s.	151	3465
Organochlorine pesticide, liquid, flammable, poisonous	131	2762
Organochlorine pesticide, liquid, flammable, toxic	131	2762
Organochlorine pesticide, liquid, poisonous	151	2996
Organochlorine pesticide, liquid, poisonous, flammable	131	2995
Organochlorine pesticide, liquid, toxic	151	2996
Organochlorine pesticide, liquid, toxic, flammable	131	2995
Organochlorine pesticide, solid, poisonous	151	2761
Organochlorine pesticide, solid, toxic	151	2761
Organometallic compound, poisonous, liquid, n.o.s.	151	3282
Organometallic compound, poisonous, n.o.s.	151	3282
Organometallic compound, poisonous, solid, n.o.s.	151	3467
Organometallic compound, solid water-reactive, flammable, n.o.s.	138	3372
Organometallic compound, toxic, liquid, n.o.s.	151	3282
Organometallic compound, toxic, n.o.s.	151	3282
Organometallic compound, toxic, solid, n.o.s.	151	3467

Name of Material	Guide No.	ID No.
Organometallic compound, water-reactive, flammable, n.o.s.	138	3207
Organometallic compound dispersion, water-reactive, flammable, n.o.s.	138	3207
Organometallic compound solution, water-reactive, flammable, n.o.s.	138	3207
Organometallic substance, liquid, pyrophoric	135	3392
Organometallic substance, liquid, pyrophoric, water-reactive	135	3394
Organometallic substance, liquid, water-reactive	135	3398
Organometallic substance, liquid, water-reactive, flammable	138	3399
Organometallic substance, solid, pyrophoric	135	3391
Organometallic substance, solid, pyrophoric, water-reactive	135	3393
Organometallic substance, solid, self-heating	138	3400
Organometallic substance, solid, water-reactive	135	3395
Organometallic substance, solid, water-reactive, flammable	138	3396
Organometallic substance, solid, water-reactive, self-heating	138	3397
Organophosphorus compound, poisonous, flammable, n.o.s.	131	3279
Organophosphorus compound, poisonous, liquid, n.o.s.	151	3278
Organophosphorus compound, poisonous, n.o.s.	151	3278

<b>Name of Material</b>	<b>Guide ID No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide ID No.</b>	<b>ID No.</b>
Organophosphorus compound, poisonous, solid, n.o.s.	151	3464	Organotin pesticide, liquid, toxic	153	3020
Organophosphorus compound, toxic, flammable, n.o.s.	131	3279	Organotin pesticide, liquid, toxic, flammable	131	3019
Organophosphorus compound, toxic, liquid, n.o.s.	151	3278	Organotin pesticide, solid, poisonous	153	2786
Organophosphorus compound, toxic, n.o.s.	151	3278	Organotin pesticide, solid, toxic	153	2786
Organophosphorus compound, toxic, solid, n.o.s.	151	3464	Osmium tetroxide	154	2471
Organophosphorus pesticide, liquid, flammable, poisonous	131	2784	Other regulated substances, liquid, n.o.s.	171	3082
Organophosphorus pesticide, liquid, flammable, toxic	131	2784	Other regulated substances, solid, n.o.s.	171	3077
Organophosphorus pesticide, liquid, poisonous	152	3018	Oxidizing liquid, corrosive, n.o.s.	140	3098
Organophosphorus pesticide, liquid, poisonous, flammable	131	3017	Oxidizing liquid, n.o.s.	140	3139
Organophosphorus pesticide, liquid, toxic	152	3018	Oxidizing liquid, poisonous, n.o.s.	142	3099
Organophosphorus pesticide, liquid, toxic, flammable	131	3017	Oxidizing liquid, toxic, n.o.s.	142	3099
Organophosphorus pesticide, solid, poisonous	152	2783	Oxidizing solid, corrosive, n.o.s.	140	3085
Organophosphorus pesticide, solid, toxic	152	2783	Oxidizing solid, flammable, n.o.s.	140	3137
Organotin compound, liquid, n.o.s.	153	2788	Oxidizing solid, n.o.s.	140	1479
Organotin compound, solid, n.o.s.	153	3146	Oxidizing solid, poisonous, n.o.s.	141	3087
Organotin pesticide, liquid, flammable, poisonous	131	2787	Oxidizing solid, self-heating, n.o.s.	135	3100
Organotin pesticide, liquid, flammable, toxic	131	2787	Oxidizing solid, toxic, n.o.s.	141	3087
Organotin pesticide, liquid, poisonous	153	3020	Oxidizing solid, water-reactive, n.o.s.	144	3121
Organotin pesticide, liquid, poisonous, flammable	131	3019	Oxidizing substances, liquid, corrosive, n.o.s.	140	3098
			Oxidizing substances, liquid, n.o.s.	140	3139
			Oxidizing substances, liquid, poisonous, n.o.s.	142	3099
			Oxidizing substances, liquid, toxic, n.o.s.	142	3099
			Oxidizing substances, self-heating, n.o.s.	135	3100

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Oxidizing substances, solid, corrosive, n.o.s.	140	3085	Paper, unsaturated oil treated	133	1379
Oxidizing substances, solid, flammable, n.o.s.	140	3137	Paraformaldehyde	133	2213
Oxidizing substances, solid, n.o.s.	140	1479	Paraldehyde	129	1264
Oxidizing substances, solid, poisonous, n.o.s.	141	3087	Parathion	152	2783
Oxidizing substances, solid, self-heating, n.o.s.	135	3100	Parathion and compressed gas mixture	123	1967
Oxidizing substances, solid, toxic, n.o.s.	141	3087	PCB	171	2315
Oxidizing substances, solid, which in contact with water emit flammable gases, n.o.s.	144	3121	PD	152	1556
Oxygen	122	1072	Pentaborane	135	1380
Oxygen, compressed	122	1072	Pentachloroethane	151	1669
Oxygen, refrigerated liquid (cryogenic liquid)	122	1073	Pentachlorophenol	154	3155
Oxygen and Carbon dioxide mixture	122	1014	Pentaerythrite tetranitrate mixture, desensitized, solid, n.o.s., with more than 10% but not more than 20% PETN	113	3344
Oxygen and Carbon dioxide mixture, compressed	122	1014	Pentafluoroethane	126	3220
Oxygen and Rare gases mixture	121	1980	Pentafluoroethane and Ethylene oxide mixture, with not more than 7.9% Ethylene oxide	126	3298
Oxygen and Rare gases mixture, compressed	121	1980	Pentamethylheptane	128	2286
Oxygen difluoride	124	2190	Pentan-2,4-dione	131	2310
Oxygen difluoride, compressed	124	2190	n-Pentane	128	1265
Oxygen generator, chemical	140	3356	2,4-Pentanedione	131	2310
Oxygen generator, chemical, spent	140	3356	Pentane-2,4-dione	131	2310
Paint (corrosive)	153	3066	Pentanes	128	1265
Paint (flammable)	128	1263	Pentanol	129	1105
Paint related material (corrosive)	153	3066	1-Pentene	128	1108
Paint related material (flammable)	128	1263	1-Pentol	153P	2705
			Percarbonates, inorganic, n.o.s.	140	3217
			Perchlorates, inorganic, aqueous solution, n.o.s.	140	3211
			Perchlorates, inorganic, n.o.s.	140	1481
			Perchloric acid, with more than 50% but not more than 72% acid	143	1873

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Perchloric acid, with not more than 50% acid	140	1802	Pesticide, solid, toxic, n.o.s.	151	2588
Perchloroethylene	160	1897	Petrol	128	1203
Perchloromethyl mercaptan	157	1670	Petroleum crude oil	128	1267
Perchloryl fluoride	124	3083	Petroleum distillates, n.o.s.	128	1268
Perfluoroethyl vinyl ether	115	3154	Petroleum gases, liquefied	115	1075
Perfluoro(ethyl vinyl ether)	115	3154	Petroleum oil	128	1270
Perfluoromethyl vinyl ether	115	3153	Petroleum products, n.o.s.	128	1268
Perfluoro(methyl vinyl ether)	115	3153	Phenacyl bromide	153	2645
Perfumery products, with flammable solvents	127	1266	Phenetidines	153	2311
Permanganates, inorganic, aqueous solution, n.o.s.	140	3214	Phenol, molten	153	2312
Permanganates, inorganic, n.o.s.	140	1482	Phenol, solid	153	1671
Peroxides, inorganic, n.o.s.	140	1483	Phenol solution	153	2821
Persulfates, inorganic, aqueous solution, n.o.s.	140	3216	Phenolates, liquid	154	2904
Persulfates, inorganic, n.o.s.	140	3215	Phenolates, solid	154	2905
Persulphates, inorganic, aqueous solution, n.o.s.	140	3216	Phenolsulfonic acid, liquid	153	1803
Persulphates, inorganic, n.o.s.	140	3215	Phenolsulphonic acid, liquid	153	1803
Pesticide, liquid, flammable, poisonous, n.o.s.	131	3021	Phenoxyacetic acid derivative pesticide, liquid, flammable, poisonous	131	3346
Pesticide, liquid, flammable, toxic, n.o.s.	131	3021	Phenoxyacetic acid derivative pesticide, liquid, flammable, toxic	131	3346
Pesticide, liquid, poisonous, flammable, n.o.s.	131	2903	Phenoxyacetic acid derivative pesticide, liquid, flammable, toxic	153	3348
Pesticide, liquid, poisonous, n.o.s.	151	2902	Phenoxyacetic acid derivative pesticide, liquid, poisonous, flammable	131	3347
Pesticide, liquid, toxic, flammable, n.o.s.	131	2903	Phenoxyacetic acid derivative pesticide, liquid, poisonous, flammable	153	3348
Pesticide, liquid, toxic, n.o.s.	151	2902	Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable	131	3347
Pesticide, solid, poisonous	151	2588	Phenoxyacetic acid derivative pesticide, liquid, toxic, flammable	153	3345
Pesticide, solid, poisonous, n.o.s.	151	2588	Phenoxyacetic acid derivative pesticide, solid, poisonous	153	3345
			Phenoxyacetic acid derivative pesticide, solid, toxic	153	3345

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Phenoxy pesticide, liquid, flammable, poisonous	131	2766	Phenyl urea pesticide, liquid, poisonous	151	3002
Phenoxy pesticide, liquid, flammable, toxic	131	2766	Phenyl urea pesticide, liquid, poisonous, flammable	131	3001
Phenoxy pesticide, liquid, poisonous	152	3000	Phenyl urea pesticide, liquid, toxic	151	3002
Phenoxy pesticide, liquid, poisonous, flammable	131	2999	Phenyl urea pesticide, liquid, toxic, flammable	131	3001
Phenoxy pesticide, liquid, toxic	152	3000	Phenyl urea pesticide, solid, poisonous	151	2767
Phenoxy pesticide, liquid, toxic, flammable	131	2999	Phenyl urea pesticide, solid, toxic	151	2767
Phenoxy pesticide, solid, poisonous	152	2765	Phosgene	125	1076
Phenoxy pesticide, solid, toxic	152	2765	9-Phosphabicyclononanes	135	2940
Phenylacetonitrile, liquid	152	2470	Phosphine	119	2199
Phenylacetyl chloride	156	2577	Phosphoric acid	154	1805
Phenylcarbylamine chloride	151	1672	Phosphoric acid, liquid	154	1805
Phenyl chloroformate	156	2746	Phosphoric acid, solid	154	1805
Phenylenediamines	153	1673	Phosphoric acid, solid	154	3453
Phenylhydrazine	153	2572	Phosphoric acid, solution	154	1805
Phenyl isocyanate	155	2487	Phosphorous acid	154	2834
Phenyl mercaptan	131	2337	Phosphorous acid, ortho	154	2834
Phenylmercuric acetate	151	1674	Phosphorus, amorphous	133	1338
Phenylmercuric compound, n.o.s.	151	2026	Phosphorus, amorphous, red	133	1338
Phenylmercuric hydroxide	151	1894	Phosphorus, white, dry or under water or in solution	136	1381
Phenylmercuric nitrate	151	1895	Phosphorus, white, molten	136	2447
Phenylphosphorus dichloride	137	2798	Phosphorus, yellow, dry or under water or in solution	136	1381
Phenylphosphorus thiodichloride	137	2799	Phosphorus heptasulfide, free from yellow and white Phosphorus	139	1339
Phenyltrichlorosilane	156	1804	Phosphorus heptasulphide, free from yellow and white Phosphorus	139	1339
Phenyl urea pesticide, liquid, flammable, poisonous	131	2768	Phosphorus oxybromide	137	1939
Phenyl urea pesticide, liquid, flammable, toxic	131	2768			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Phosphorus oxybromide, molten	137	2576	Phthalimide derivative pesticide, liquid, poisonous, flammable	131	3007
Phosphorus oxybromide, solid	137	1939	Phthalimide derivative pesticide, liquid, toxic	151	3008
Phosphorus oxychloride	137	1810	Phthalimide derivative pesticide, liquid, toxic, flammable	131	3007
Phosphorus pentabromide	137	2691	Phthalimide derivative pesticide, solid, poisonous	151	2773
Phosphorus pentachloride	137	1806	Phthalimide derivative pesticide, solid, toxic	151	2773
Phosphorus pentafluoride	125	2198	Picolines	129	2313
Phosphorus pentafluoride, compressed	125	2198	Picric acid, wet, with not less than 10% water	113	1344
Phosphorus pentasulfide, free from yellow and white Phosphorus	139	1340	Picric acid, wetted with not less than 10% water	113	3364
Phosphorus pentasulphide, free from yellow and white Phosphorus	139	1340	Picrite, wetted	113	1336
Phosphorus pentoxide	137	1807	Picryl chloride, wetted with not less than 10% water	113	3365
Phosphorus sesquisulfide, free from yellow and white Phosphorus	139	1341	alpha-Pinene	128	2368
Phosphorus sesquisulphide, free from yellow and white Phosphorus	139	1341	Pinene (alpha)	128	2368
Phosphorus tribromide	137	1808	Pine oil	129	1272
Phosphorus trichloride	137	1809	Piperazine	153	2579
Phosphorus trioxide	157	2578	Piperidine	132	2401
Phosphorus trisulfide, free from yellow and white Phosphorus	139	1343	Plastic molding compound	171	3314
Phosphorus trisulphide, free from yellow and white Phosphorus	139	1343	Plastic, nitrocellulose-based, spontaneously combustible, n.o.s.	135	2006
Phthalic anhydride	156	2214	Plastics moulding compound	171	3314
Phthalimide derivative pesticide, liquid, flammable, poisonous	131	2774	Plastics, nitrocellulose-based, self-heating, n.o.s.	135	2006
Phthalimide derivative pesticide, liquid, flammable, toxic	131	2774	Poison B, liquid, n.o.s.	153	2810
Phthalimide derivative pesticide, liquid, poisonous	151	3008	Poisonous by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)	154	3389

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Poisonous by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)	154	3390
Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)	131	3383
Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	131	3384
Poisonous by inhalation liquid, n.o.s. (Inhalation Hazard Zone A)	151	3381
Poisonous by inhalation liquid, n.o.s. (Inhalation Hazard Zone B)	151	3382
Poisonous by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)	142	3387
Poisonous by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)	142	3388
Poisonous by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)	139	3385
Poisonous by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)	139	3386
Poisonous liquid, corrosive, inorganic, n.o.s.	154	3289
Poisonous liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone A)	154	3289
Poisonous liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone B)	154	3289
Poisonous liquid, corrosive, n.o.s.	154	2927
Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)	154	2927

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)	154	2927
Poisonous liquid, flammable, n.o.s.	131	2929
Poisonous liquid, flammable, n.o.s. (Inhalation Hazard Zone A)	131	2929
Poisonous liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	131	2929
Poisonous liquid, flammable, organic, n.o.s.	131	2929
Poisonous liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone A)	131	2929
Poisonous liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone B)	131	2929
Poisonous liquid, inorganic, n.o.s.	151	3287
Poisonous liquid, inorganic, n.o.s. (Inhalation Hazard Zone A)	151	3287
Poisonous liquid, inorganic, n.o.s. (Inhalation Hazard Zone B)	151	3287
Poisonous liquid, n.o.s.	153	2810
Poisonous liquid, n.o.s. (Inhalation Hazard Zone A)	153	2810
Poisonous liquid, n.o.s. (Inhalation Hazard Zone B)	153	2810
Poisonous liquid, organic, n.o.s.	153	2810
Poisonous liquid, organic, n.o.s. (Inhalation Hazard Zone A)	153	2810
Poisonous liquid, organic, n.o.s. (Inhalation Hazard Zone B)	153	2810
Poisonous liquid, oxidizing, n.o.s.	142	3122

<b>Name of Material</b>	<b>Guide ID No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide ID No.</b>	<b>ID No.</b>
Poisonous liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)	142	3122	Poisonous solid, water-reactive, n.o.s.	139	3125
Poisonous liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)	142	3122	Poisonous solid, which in contact with water emits flammable gases, n.o.s.	139	3125
Poisonous liquid, water-reactive, n.o.s.	139	3123	Polyalkylamines, n.o.s.	132	2733
Poisonous liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)	139	3123	Polyalkylamines, n.o.s.	132	2734
Poisonous liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)	139	3123	Polyalkylamines, n.o.s.	153	2735
Poisonous liquid, which in contact with water emits flammable gases, n.o.s.	139	3123	Polyamines, flammable, corrosive, n.o.s.	132	2733
Poisonous liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone A)	139	3123	Polyamines, liquid, corrosive, flammable, n.o.s.	132	2734
Poisonous liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone B)	139	3123	Polyamines, liquid, corrosive, n.o.s.	153	2735
Poisonous solid, corrosive, inorganic, n.o.s.	154	3290	Polyamines, solid, corrosive, n.o.s.	154	3259
Poisonous solid, corrosive, n.o.s.	154	2928	Polychlorinated biphenyls	171	2315
Poisonous solid, flammable, n.o.s.	134	2930	Polychlorinated biphenyls, liquid	171	2315
Poisonous solid, flammable, organic, n.o.s.	134	2930	Polychlorinated biphenyls, solid	171	2315
Poisonous solid, inorganic, n.o.s.	151	3288	Polychlorinated biphenyls, solid	171	3432
Poisonous solid, organic, n.o.s.	154	2811	Polyester resin kit	128	3269
Poisonous solid, oxidizing, n.o.s.	141	3086	Polyhalogenated biphenyls, liquid	171	3151
Poisonous solid, self-heating, n.o.s.	136	3124	Polyhalogenated biphenyls, solid	171	3152
			Polyhalogenated terphenyls, liquid	171	3151
			Polyhalogenated terphenyls, solid	171	3152
			Polymeric beads, expandable	133	2211
			Polystyrene beads, expandable	133	2211
			Potassium	138	2257
			Potassium, metal	138	2257
			Potassium, metal alloys	138	1420
			Potassium, metal alloys, liquid	138	1420
			Potassium, metal alloys, solid	138	3403

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Potassium arsenate	151	1677	Potassium nitrate and Sodium nitrate mixture	140	1499
Potassium arsenite	154	1678	Potassium nitrate and Sodium nitrite mixture	140	1487
Potassium borohydride	138	1870	Potassium nitrite	140	1488
Potassium bromate	140	1484	Potassium perchlorate	140	1489
Potassium chlorate	140	1485	Potassium permanganate	140	1490
Potassium chlorate, aqueous solution	140	2427	Potassium peroxide	144	1491
Potassium chlorate, solution	140	2427	Potassium persulfate	140	1492
Potassium cuprocyanide	157	1679	Potassium persulphate	140	1492
Potassium cyanide	157	1680	Potassium phosphide	139	2012
Potassium cyanide, solid	157	1680	Potassium silicofluoride	151	2655
Potassium cyanide, solution	157	3413	Potassium sodium alloys	138	1422
Potassium dithionite	135	1929	Potassium sodium alloys, liquid	138	1422
Potassium fluoride	154	1812	Potassium sodium alloys, solid	138	3404
Potassium fluoride, solid	154	1812	Potassium sulfide, anhydrous	135	1382
Potassium fluoride, solution	154	3422	Potassium sulfide, hydrated, with not less than 30% water of crystallization	153	1847
Potassium fluoroacetate	151	2628	Potassium sulfide, hydrated, with not less than 30% water of hydration	153	1847
Potassium fluorosilicate	151	2655	Potassium sulfide, with less than 30% water of crystallization	135	1382
Potassium hydrogendifluoride	154	1811	Potassium sulfide, with less than 30% water of hydration	135	1382
Potassium hydrogen difluoride, solid	154	1811	Potassium sulphide, anhydrous	135	1382
Potassium hydrogen difluoride, solution	154	3421	Potassium sulphide, hydrated, with not less than 30% water of crystallization	153	1847
Potassium hydrogen sulfate	154	2509	Potassium sulphide, hydrated, with not less than 30% water of hydration	153	1847
Potassium hydrogen sulphate	154	2509	Potassium sulphide, with less than 30% water of crystallization	135	1382
Potassium hydrosulfite	135	1929			
Potassium hydrosulphite	135	1929			
Potassium hydroxide, dry, solid	154	1813			
Potassium hydroxide, flake	154	1813			
Potassium hydroxide, solid	154	1813			
Potassium hydroxide, solution	154	1814			
Potassium metavanadate	151	2864			
Potassium monoxide	154	2033			
Potassium nitrate	140	1486			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Potassium sulphide, with less than 30% water of hydration	135	1382	Propylene, Ethylene and Acetylene in mixture, refrigerated liquid containing at least 71.5% Ethylene with not more than 22.5% Acetylene and not more than 6% Propylene	115	3138
Potassium superoxide	143	2466	Propylene chlorohydrin	131	2611
Printing ink, flammable	129	1210	1,2-Propylenediamine	132	2258
Printing ink related material	129	1210	1,3-Propylenediamine	132	2258
Propadiene, inhibited	116P	2200	Propylene dichloride	130	1279
Propadiene, stabilized	116P	2200	Propyleneimine, inhibited	131P	1921
Propadiene and Methylacetylene mixture, stabilized	116P	1060	Propyleneimine, stabilized	131P	1921
Propane	115	1075	Propylene oxide	127P	1280
Propane	115	1978	Propylene oxide and Ethylene oxide mixture, with not more than 30% Ethylene oxide	129P	2983
Propane-Ethane mixture, refrigerated liquid	115	1961	Propylene tetramer	128	2850
Propane mixture	115	1075	Propyl formates	129	1281
Propane mixture	115	1978	n-Propyl isocyanate	155	2482
Propanethiols	130	2402	n-Propyl nitrate	131	1865
n-Propanol	129	1274	Propyltrichlorosilane	155	1816
Propargyl alcohol	131	1986	Pyrethroid pesticide, liquid, flammable, poisonous	131	3350
Propionaldehyde	129	1275	Pyrethroid pesticide, liquid, flammable, toxic	131	3350
Propionic acid	132	1848	Pyrethroid pesticide, liquid, poisonous	151	3352
Propionic anhydride	156	2496	Pyrethroid pesticide, liquid, poisonous, flammable	131	3351
Propionitrile	131	2404	Pyrethroid pesticide, liquid, toxic	151	3352
Propionyl chloride	132	1815	Pyrethroid pesticide, liquid, toxic, flammable	131	3351
n-Propyl acetate	129	1276	Pyrethroid pesticide, solid, poisonous	151	3349
normal Propyl alcohol	129	1274	Pyrethroid pesticide, solid, toxic	151	3349
Propyl alcohol, normal	129	1274	Pyridine	129	1282
Propylamine	132	1277			
n-Propyl benzene	128	2364			
Propyl chloride	129	1278			
n-Propyl chloroformate	155	2740			
Propylene	115	1075			
Propylene	115	1077			

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Pyrophoric alloy, n.o.s.	135	1383	Radioactive material, excepted package, articles manufactured from natural Thorium	161	2909
Pyrophoric liquid, inorganic, n.o.s.	135	3194	Radioactive material, excepted package, articles manufactured from natural Thorium	161	2910
Pyrophoric liquid, n.o.s.	135	2845	Radioactive material, excepted package, articles manufactured from natural Thorium	161	2909
Pyrophoric liquid, organic, n.o.s.	135	2845	Radioactive material, excepted package, articles manufactured from natural Uranium	161	2910
Pyrophoric metal, n.o.s.	135	1383	Radioactive material, excepted package, articles manufactured from natural Uranium	161	2908
Pyrophoric organometallic compound, n.o.s.	135	3203	Radioactive material, excepted package, articles manufactured from natural Uranium	161	2910
Pyrophoric organometallic compound, water-reactive, n.o.s.	135	3203	Radioactive material, excepted package, empty packaging	161	2910
Pyrophoric solid, inorganic, n.o.s.	135	3200	Radioactive material, excepted package, empty packaging	161	2910
Pyrophoric solid, n.o.s.	135	2846	Radioactive material, excepted package, instruments or articles	161	2910
Pyrophoric solid, organic, n.o.s.	135	2846	Radioactive material, excepted package, instruments or articles	161	2911
Pyrosulfuryl chloride	137	1817	Radioactive material, excepted package, limited quantity of material	161	2918
Pyrosulphuryl chloride	137	1817	Radioactive material, fissile, n.o.s.	165	2911
Pyrrolidine	132	1922	Radioactive material, instruments or articles	161	2910
Quinoline	154	2656	Radioactive material, limited quantity, n.o.s.	162	2912
Radioactive material, articles manufactured from depleted Uranium	161	2909	Radioactive material, low specific activity (LSA), n.o.s.	162	2912
Radioactive material, articles manufactured from natural Thorium	161	2909	Radioactive material, low specific activity (LSA-I)	162	3321
Radioactive material, articles manufactured from natural Uranium	161	2909	Radioactive material, low specific activity (LSA-II)		
Radioactive material, empty packages	161	2908			
Radioactive material, excepted package, articles manufactured from depleted Uranium	161	2909			
Radioactive material, excepted package, articles manufactured from depleted Uranium	161	2910			

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Radioactive material, low specific activity (LSA-II), fissile	165	3324	Radioactive material, Type B(M) package, fissile	165	3329
Radioactive material, low specific activity (LSA-III)	162	3322	Radioactive material, Type B(U) package	163	2916
Radioactive material, low specific activity (LSA-III), fissile	165	3325	Radioactive material, Type B(U) package, fissile	165	3328
Radioactive material, n.o.s.	163	2982	Radioactive material, Type C package	163	3323
Radioactive material, special form, n.o.s.	164	2974	Radioactive material, Type C package, fissile	165	3330
Radioactive material, surface contaminated objects (SCO)	162	2913	Radioactive material, Uranium hexafluoride, fissile	166	2977
Radioactive material, surface contaminated objects (SCO-I)	162	2913	Radioactive material, Uranium hexafluoride	166	2978
Radioactive material, surface contaminated objects (SCO-I), fissile	165	3326	Radioactive material, Uranium hexafluoride, non-fissile or fissile-excepted	166	2978
Radioactive material, surface contaminated objects (SCO-II)	162	2913	Rags, oily	133	1856
Radioactive material, surface contaminated objects (SCO-II), fissile	165	3326	Rare gases and Nitrogen mixture	121	1981
Radioactive material, transported under special arrangement	163	2919	Rare gases and Nitrogen mixture, compressed	121	1981
Radioactive material, transported under special arrangement, fissile	165	3331	Rare gases and Oxygen mixture	121	1980
Radioactive material, Type A package	163	2915	Rare gases and Oxygen mixture, compressed	121	1980
Radioactive material, Type A package, fissile	165	3327	Rare gases mixture	121	1979
Radioactive material, Type A package, special form	164	3332	Rare gases mixture, compressed	121	1979
Radioactive material, Type A package, special form, fissile	165	3333	Receptacles, small, containing gas	115	2037
Radioactive material, Type B(M) package	163	2917	Red phosphorus	133	1338
			Red phosphorus, amorphous	133	1338
			Refrigerant gas, n.o.s.	126	1078
			Refrigerant gas, n.o.s. (flammable)	115	1954
			Refrigerant gas R-12	126	1028
			Refrigerant gas R-12 and Refrigerant gas R-152a azeotropic mixture with 74% Refrigerant gas R-12	126	2602

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Refrigerant gas R-12B1	126	1974	Refrigerant gas R-161	115	2453
Refrigerant gas R-13	126	1022	Refrigerant gas R-218	126	2424
Refrigerant gas R-13 and Refrigerant gas R-23 azeotropic mixture with 60% Refrigerant gas R-13	126	2599	Refrigerant gas R-227	126	3296
Refrigerant gas R-13B1	126	1009	Refrigerant gas R-404A	126	3337
Refrigerant gas R-14	126	1982	Refrigerant gas R-407A	126	3338
Refrigerant gas R-14, compressed	126	1982	Refrigerant gas R-407B	126	3339
Refrigerant gas R-21	126	1029	Refrigerant gas R-407C	126	3340
Refrigerant gas R-22	126	1018	Refrigerant gas R-500 (azeotropic mixture of Refrigerant gas R-12 and Refrigerant gas R-152a with approximately 74% Refrigerant gas R-12)	126	2602
Refrigerant gas R-23	126	1984	Refrigerant gas R-502	126	1973
Refrigerant gas R-23 and Refrigerant gas R-13 azeotropic mixture with 60% Refrigerant gas R-13	126	2599	Refrigerant gas R-503 (azeotropic mixture of Refrigerant gas R-13 and Refrigerant gas R-23 with approximately 60% Refrigerant gas R-13)	126	2599
Refrigerant gas R-32	115	3252	Refrigerant gas R-1132a	116P	1959
Refrigerant gas R-40	115	1063	Refrigerant gas R-1216	126	1858
Refrigerant gas R-41	115	2454	Refrigerant gas R-1318	126	2422
Refrigerant gas R-114	126	1958	Refrigerant gas RC-318	126	1976
Refrigerant gas R-115	126	1020	Refrigerating machine	128	1993
Refrigerant gas R-116	126	2193	Refrigerating machines, containing Ammonia solutions (UN2073)	126	2857
Refrigerant gas R-116, compressed	126	2193	Refrigerating machines, containing Ammonia solutions (UN2672)	126	2857
Refrigerant gas R-124	126	1021	Refrigerating machines, containing flammable, non-poisonous, non- corrosive, liquefied gas	115	1954
Refrigerant gas R-125	126	3220	Refrigerating machines, containing flammable, non-toxic, liquefied gas	115	3358
Refrigerant gas R-133a	126	1983			
Refrigerant gas R-134a	126	3159			
Refrigerant gas R-143a	115	2035			
Refrigerant gas R-142b	115	2517			
Refrigerant gas R-152a	115	1030			
Refrigerant gas R-152a and Refrigerant gas R-12 azeotropic mixture with 74% Refrigerant gas R-12	126	2602			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Refrigerating machines, containing non-flammable, liquefied gas	126	2857	SA	119	2188
			Sarin	153	2810
Refrigerating machines, containing non-flammable, non-poisonous gases	126	2857	Seat-belt modules	171	3268
			Seat-belt pre-tensioners	171	3268
Refrigerating machines, containing non-flammable, non-poisonous, liquefied gas	126	2857	Seat-belt pre-tensioners, compressed gas	126	3353
			Seat-belt pre-tensioners, pyrotechnic	171	3268
Refrigerating machines, containing non-flammable, non-poisonous, non-corrosive, liquefied gas	126	2857	Seed cake, with more than 1.5% oil and not more than 11% moisture	135	1386
			Seed cake, with not more than 1.5% oil and not more than 11% moisture	135	2217
Refrigerating machines, containing non-flammable, non-toxic gases	126	2857	Selenates	151	2630
			Selenic acid	154	1905
Refrigerating machines, containing non-flammable, non-toxic, liquefied gas	126	2857	Selenites	151	2630
			Selenium compound, liquid, n.o.s.	151	3440
Refrigerating machines, containing non-flammable, non-toxic, non-corrosive, liquefied gas	126	2857	Selenium compound, n.o.s.	151	3283
			Selenium compound, solid, n.o.s.	151	3283
Regulated medical waste, n.o.s.	158	3291	Selenium disulfide	153	2657
Regulated medical waste	158	9275	Selenium disulphide	153	2657
Resin solution	127	1866	Selenium hexafluoride	125	2194
Resorcinol	153	2876	Selenium oxide	154	2811
Rosin oil	127	1286	Selenium oxychloride	157	2879
Rubber scrap, powdered or granulated	133	1345	Selenium powder	152	2658
Rubber shoddy, powdered or granulated	133	1345	Self-defense spray, non-pressurized	171	3334
Rubber solution	127	1287	Self-heating liquid, corrosive, inorganic, n.o.s.	136	3188
Rubidium	138	1423	Self-heating liquid, corrosive, organic, n.o.s.	136	3185
Rubidium hydroxide	154	2678	Self-heating liquid, inorganic, n.o.s.	135	3186
Rubidium hydroxide, solid	154	2678			
Rubidium hydroxide, solution	154	2677			
Rubidium metal	138	1423			

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Self-heating liquid, organic, n.o.s.	135	3183	Self-heating substance, solid, corrosive, n.o.s.	136	3126
Self-heating liquid, poisonous, inorganic, n.o.s.	136	3187	Self-heating substances, solid, n.o.s.	135	3088
Self-heating liquid, poisonous, organic, n.o.s.	136	3184	Self-heating substances, solid, oxidizing, n.o.s.	135	3127
Self-heating liquid, toxic, inorganic, n.o.s.	136	3187	Self-heating substances, solid, poisonous, n.o.s.	136	3128
Self-heating liquid, toxic, organic, n.o.s.	136	3184	Self-heating substances, solid, toxic, n.o.s.	136	3128
Self-heating metal powders, n.o.s.	135	3189	Self-reactive liquid type B	149	3221
Self-heating solid, corrosive, inorganic, n.o.s.	136	3192	Self-reactive liquid type B, temperature controlled	150	3231
Self-heating solid, corrosive, organic, n.o.s.	136	3126	Self-reactive liquid type C	149	3223
Self-heating solid, inorganic, n.o.s.	135	3190	Self-reactive liquid type C, temperature controlled	150	3233
Self-heating solid, inorganic, poisonous, n.o.s.	136	3191	Self-reactive liquid type D	149	3225
Self-heating solid, inorganic, toxic, n.o.s.	136	3191	Self-reactive liquid type D, temperature controlled	150	3235
Self-heating solid, organic, n.o.s.	135	3088	Self-reactive liquid type E	149	3227
Self-heating solid, organic, poisonous, n.o.s.	136	3128	Self-reactive liquid type E, temperature controlled	150	3237
Self-heating solid, organic, toxic, n.o.s.	136	3128	Self-reactive liquid type F	149	3229
Self-heating solid, oxidizing, n.o.s.	135	3127	Self-reactive liquid type F, temperature controlled	150	3239
Self-heating solid, poisonous, inorganic, n.o.s.	136	3191	Self-reactive solid type B	149	3222
Self-heating solid, poisonous, organic, n.o.s.	136	3128	Self-reactive solid type B, temperature controlled	150	3232
Self-heating solid, toxic, inorganic, n.o.s.	136	3191	Self-reactive solid type C	149	3224
Self-heating solid, toxic, organic, n.o.s.	136	3128	Self-reactive solid type C, temperature controlled	150	3234
Self-heating solid, toxic, inorganic, n.o.s.	136	3191	Self-reactive solid type D	149	3226
Self-heating solid, toxic, organic, n.o.s.	136	3128	Self-reactive solid type D, temperature controlled	150	3236
			Self-reactive solid type E	149	3228
			Self-reactive solid type E, temperature controlled	150	3238

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Self-reactive solid type F	149	3230	Sodium bisulphate, solution	154	2837
Self-reactive solid type F, temperature controlled	150	3240	Sodium borohydride	138	1426
Shale oil	128	1288	Sodium borohydride and Sodium hydroxide solution, with not more than 12% Sodium borohydride and not more than 40% Sodium hydroxide	157	3320
Silane	116	2203	Sodium bromate	141	1494
Silicofluorides, n.o.s.	151	2856	Sodium cacodylate	152	1688
Silane, compressed	116	2203	Sodium carbonate peroxyhydrate	140	3378
Silicon powder, amorphous	170	1346	Sodium chlorate	140	1495
Silicon tetrachloride	157	1818	Sodium chlorate, aqueous solution	140	2428
Silicon tetrafluoride	125	1859	Sodium chlorite	143	1496
Silicon tetrafluoride, compressed	125	1859	Sodium chlorite, solution, with more than 5% available Chlorine	154	1908
Silver arsenite	151	1683	Sodium chloroacetate	151	2659
Silver cyanide	151	1684	Sodium cuprocyanide, solid	157	2316
Silver nitrate	140	1493	Sodium cuprocyanide, solution	157	2317
Silver picrate, wetted with not less than 30% water	113	1347	Sodium cyanide	157	1689
Sludge acid	153	1906	Sodium cyanide, solid	157	1689
Smokeless powder for small arms	133	3178	Sodium cyanide, solution	157	3414
Soda lime, with more than 4% Sodium hydroxide	154	1907	Sodium dichloroisocyanurate	140	2465
Sodium	138	1428	Sodium dichloro-s-triazinetriene	140	2465
Sodium aluminate, solid	154	2812	Sodium dinitro-o-cresolate, wetted with not less than 10% water	113	3369
Sodium aluminate, solution	154	1819	Sodium dinitro-o-cresolate, wetted with not less than 15% water	113	1348
Sodium aluminum hydride	138	2835	Sodium dinitro-ortho-cresolate, wetted	113	1348
Sodium ammonium vanadate	154	2863	Sodium dithionite	135	1384
Sodium arsanilate	154	2473	Sodium fluoride	154	1690
Sodium arsenate	151	1685	Sodium fluoride, solid	154	1690
Sodium arsenite, aqueous solution	154	1686			
Sodium arsenite, solid	151	2027			
Sodium azide	153	1687			
Sodium bisulfate, solution	154	2837			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Sodium fluoride, solution	154	3415	Sodium hydroxide, solution	154	1824
Sodium fluoroacetate	151	2629	Sodium methylate	138	1431
Sodium fluorosilicate	154	2674	Sodium methylate, dry	138	1431
Sodium hydride	138	1427	Sodium methylate, solution in alcohol	132	1289
Sodium hydrogendifluoride	154	2439	Sodium monoxide	157	1825
Sodium hydrogen sulfate, solution	154	2837	Sodium nitrate	140	1498
Sodium hydrogen sulphate, solution	154	2837	Sodium nitrate and Potassium nitrate mixture	140	1499
Sodium hydrosulfide, solid, with less than 25% water of crystallization	135	2318	Sodium nitrite	140	1500
Sodium hydrosulfide, solution	154	2922	Sodium nitrite and Potassium nitrate mixture	140	1487
Sodium hydrosulfide, with less than 25% water of crystallization	135	2318	Sodium pentachlorophenate	154	2567
Sodium hydrosulfide, with not less than 25% water of crystallization	154	2949	Sodium perborate monohydrate	140	3377
Sodium hydrosulfite	135	1384	Sodium percarbonates	140	2467
Sodium hydrosulphide, solid, with less than 25% water of crystallization	135	2318	Sodium perchlorate	140	1502
Sodium hydrosulphide, solution	154	2922	Sodium permanganate	140	1503
Sodium hydrosulphide, with less than 25% water of crystallization	135	2318	Sodium peroxide	144	1504
Sodium hydrosulphide, with not less than 25% water of crystallization	154	2949	Sodium peroxoborate, anhydrous	140	3247
Sodium hydrosulphite	135	1384	Sodium persulfate	140	1505
Sodium hydroxide, bead	154	1823	Sodium persulphate	140	1505
Sodium hydroxide, dry	154	1823	Sodium phosphide	139	1432
Sodium hydroxide, flake	154	1823	Sodium picramate, wetted with not less than 20% water	113	1349
Sodium hydroxide, granular	154	1823	Sodium potassium alloys	138	1422
Sodium hydroxide, solid	154	1823	Sodium potassium alloys, liquid	138	1422
			Sodium potassium alloys, solid	138	3404
			Sodium selenite	151	2630
			Sodium silicofluoride	154	2674
			Sodium sulfide, anhydrous	135	1385
			Sodium sulfide, hydrated, with not less than 30% water	153	1849

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Sodium sulfide, with less than 30% water of crystallization	135	1385	Substances, which in contact with water emit flammable gases, liquid, corrosive, n.o.s.	138	3129
Sodium sulphide, anhydrous	135	1385	Substances, which in contact with water emit flammable gases, liquid, n.o.s.	138	3148
Sodium sulphide, hydrated, with not less than 30% water	153	1849	Substances, which in contact with water emit flammable gases, liquid, poisonous, n.o.s.	139	3130
Sodium sulphide, with less than 30% water of crystallization	135	1385	Substances, which in contact with water emit flammable gases, liquid, toxic, n.o.s.	139	3130
Sodium superoxide	143	2547	Substances, which in contact with water emit flammable gases, solid, corrosive, n.o.s.	138	3131
Solids containing corrosive liquid, n.o.s.	154	3244	Substances, which in contact with water emit flammable gases, solid, flammable, n.o.s.	138	3132
Solids containing flammable liquid, n.o.s.	133	3175	Substances, which in contact with water emit flammable gases, solid, n.o.s.	138	2813
Solids containing poisonous liquid, n.o.s.	151	3243	Substances, which in contact with water emit flammable gases, solid, oxidizing, n.o.s.	138	3133
Solids containing toxic liquid, n.o.s.	151	3243	Substances, which in contact with water emit flammable gases, solid, poisonous, n.o.s.	139	3134
Soman	153	2810	Substances, which in contact with water emit flammable gases, solid, self-heating, n.o.s.	138	3135
Stannic chloride, anhydrous	137	1827	Substances, which in contact with water emit flammable gases, solid, toxic, n.o.s.	139	3134
Stannic chloride, pentahydrate	154	2440	Substituted nitrophenol pesticide, liquid, flammable, poisonous	131	2780
Stannic phosphides	139	1433			
Stibine	119	2676			
Straw, wet, damp or contaminated with oil	133	1327			
Strontium arsenite	151	1691			
Strontium chlorate	143	1506			
Strontium chlorate, solid	143	1506			
Strontium chlorate, solution	143	1506			
Strontium nitrate	140	1507			
Strontium perchlorate	140	1508			
Strontium peroxide	143	1509			
Strontium phosphide	139	2013			
Strychnine	151	1692			
Strychnine salts	151	1692			
Styrene monomer, inhibited	128P	2055			
Styrene monomer, stabilized	128P	2055			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Substituted nitrophenol pesticide, liquid, flammable, toxic	131	2780	Sulfuric acid and Hydrofluoric acid mixture	157	1786
Substituted nitrophenol pesticide, liquid, poisonous	153	3014	Sulfurous acid	154	1833
Substituted nitrophenol pesticide, liquid, poisonous, flammable	131	3013	Sulfur tetrafluoride	125	2418
Substituted nitrophenol pesticide, liquid, toxic	153	3014	Sulfur trioxide	137	1829
Substituted nitrophenol pesticide, liquid, toxic, flammable	131	3013	Sulfur trioxide, inhibited	137	1829
Substituted nitrophenol pesticide, solid, poisonous	153	2779	Sulfur trioxide, stabilized	137	1829
Substituted nitrophenol pesticide, solid, toxic	153	2779	Sulfur trioxide, uninhibited	137	1829
Sulfamic acid	154	2967	Sulfur trioxide and Chlorosulfonic acid mixture	137	1754
Sulfur	133	1350	Sulfuryl chloride	137	1834
Sulfur, molten	133	2448	Sulfuryl fluoride	123	2191
Sulfur chlorides	137	1828	Sulphamic acid	154	2967
Sulfur dioxide	125	1079	Sulphur	133	1350
Sulfur dioxide, liquefied	125	1079	Sulphur, molten	133	2448
Sulfur hexafluoride	126	1080	Sulphur chlorides	137	1828
Sulfuric acid	137	1830	Sulphur dioxide	125	1079
Sulfuric acid, fuming	137	1831	Sulphur dioxide, liquefied	125	1079
Sulfuric acid, fuming, with less than 30% free Sulfur trioxide	137	1831	Sulphur hexafluoride	126	1080
Sulfuric acid, fuming, with not less than 30% free Sulfur trioxide	137	1831	Sulphuric acid	137	1830
Sulfuric acid, spent	137	1832	Sulphuric acid, fuming	137	1831
Sulfuric acid, with more than 51% acid	137	1830	Sulphuric acid, fuming, with less than 30% free Sulphur trioxide	137	1831
Sulfuric acid, with not more than 51% acid	157	2796	Sulphuric acid, fuming, with not less than 30% free Sulphur trioxide	137	1831
			Sulphuric acid, spent	137	1832
			Sulphuric acid, with more than 51% acid	137	1830
			Sulphuric acid, with not more than 51% acid	157	2796
			Sulphuric acid and Hydrofluoric acid mixture	157	1786
			Sulphurous acid	154	1833
			Sulphur tetrafluoride	125	2418

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Sulphur trioxide	137	1829	Tetrafluoroethane and Ethylene oxide mixture, with not more than 5.6% Ethylene oxide	126	3299
Sulphur trioxide, inhibited	137	1829	Tetrafluoroethylene, inhibited	116P	1081
Sulphur trioxide, stabilized	137	1829	Tetrafluoroethylene, stabilized	116P	1081
Sulphur trioxide, uninhibited	137	1829	Tetrafluoromethane	126	1982
Sulphur trioxide and Chlorosulphonic acid mixture	137	1754	Tetrafluoromethane, compressed	126	1982
Sulphuryl chloride	137	1834	1,2,3,6-Tetrahydrobenzaldehyde	129	2498
Sulphuryl fluoride	123	2191	Tetrahydrofuran	127	2056
Tabun	153	2810	Tetrahydrofurfurylamine	129	2943
Tars, liquid	130	1999	Tetrahydrophthalic anhydrides	156	2698
Tear gas candles	159	1700	1,2,3,6-Tetrahydropyridine	129	2410
Tear gas devices	159	1693	1,2,5,6-Tetrahydropyridine	129	2410
Tear gas grenades	159	1700	Tetrahydrothiophene	130	2412
Tear gas substance, liquid, n.o.s.	159	1693	Tetramethylammonium hydroxide	153	1835
Tear gas substance, solid, n.o.s.	159	1693	Tetramethylammonium hydroxide, solid	153	3423
Tear gas substance, solid, n.o.s.	159	3448	Tetramethylammonium hydroxide, solution	153	1835
Tellurium compound, n.o.s.	151	3284	Tetramethylsilane	130	2749
Tellurium hexafluoride	125	2195	Tetranitromethane	143	1510
Terpene hydrocarbons, n.o.s.	128	2319	Tetrapropyl orthotitanate	128	2413
Terpinolene	128	2541	Textile waste, wet	133	1857
Tetrabromoethane	159	2504	Thallium chlorate	141	2573
1,1,2,2-Tetrachloroethane	151	1702	Thallium compound, n.o.s.	151	1707
Tetrachloroethane	151	1702	Thallium nitrate	141	2727
Tetrachloroethylene	160	1897	Thallium sulfate, solid	151	1707
Tetraethyl dithiopyrophosphate	153	1704	Thallium sulphate, solid	151	1707
Tetraethyl dithiopyrophosphate, mixture, dry or liquid	153	1704	4-Thiapentanal	152	2785
Tetraethylenepentamine	153	2320	Thia-4-pentanal	152	2785
Tetraethyl lead, liquid	131	1649	Thickened GD	153	2810
Tetraethyl pyrophosphate, liquid	152	3018	Thioacetic acid	129	2436
Tetraethyl pyrophosphate, solid	152	2783			
Tetraethyl silicate	129	1292			
1,1,1,2-Tetrafluoroethane	126	3159			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Thiocarbamate pesticide, liquid, flammable, poisonous	131	2772	Titanium sponge granules	170	2878
Thiocarbamate pesticide, liquid, flammable, toxic	131	2772	Titanium sponge powders	170	2878
Thiocarbamate pesticide, liquid, poisonous	151	3006	Titanium sulfate, solution	154	1760
Thiocarbamate pesticide, liquid, poisonous, flammable	131	3005	Titanium sulphate, solution	154	1760
Thiocarbamate pesticide, liquid, toxic	151	3006	Titanium tetrachloride	137	1838
Thiocarbamate pesticide, liquid, toxic, flammable	131	3005	Titanium trichloride, pyrophoric	135	2441
Thiocarbamate pesticide, solid, poisonous	151	2771	Titanium trichloride mixture	157	2869
Thiocarbamate pesticide, solid, toxic	151	2771	Titanium trichloride mixture, pyrophoric	135	2441
Thioglycol	153	2966	TNT, wetted with not less than 10% water	113	3366
Thioglycolic acid	153	1940	TNT, wetted with not less than 30% water	113	1356
Thiolactic acid	153	2936	Toe puffs, nitrocellulose base	133	1353
Thionyl chloride	137	1836	Toluene	130	1294
Thiophene	130	2414	2,4-Toluenediamine	151	1709
Thiophosgene	157	2474	Toluene diisocyanate	156	2078
Thiophosphoryl chloride	157	1837	Toluene sulfonic acid, liquid, with more than 5% free Sulfuric acid	153	2584
Thiourea dioxide	135	3341	Toluene sulfonic acid, liquid, with not more than 5% free Sulfuric acid	153	2586
Thorium metal, pyrophoric	162	2975	Toluene sulfonic acid, solid, with more than 5% free Sulfuric acid	153	2583
Thorium nitrate, solid	162	2976	Toluene sulfonic acid, solid, with not more than 5% free Sulfuric acid	153	2585
Tinctures, medicinal	127	1293	Toluene sulphonic acid, liquid, with more than 5% free Sulphuric acid	153	2584
Tin tetrachloride	137	1827	Toluene sulphonic acid, liquid, with not more than 5% free Sulphuric acid	153	2586
Tin tetrachloride, pentahydrate	154	2440			
Titanium disulfide	135	3174			
Titanium disulphide	135	3174			
Titanium hydride	170	1871			
Titanium powder, dry	135	2546			
Titanium powder, wetted with not less than 25% water	170	1352			

<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>	<b>Name of Material</b>	<b>Guide No.</b>	<b>ID No.</b>
Toluene sulphonic acid, solid, with more than 5% free Sulphuric acid	153	2583	Toxic by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)	139	3385
Toluene sulphonic acid, solid, with not more than 5% free Sulphuric acid	153	2585	Toxic by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)	139	3386
Toluidines	153	1708	Toxic liquid, corrosive, inorganic, n.o.s.	154	3289
Toluidines, liquid	153	1708	Toxic liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone A)	154	3289
Toluidines, solid	153	1708	Toxic liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone B)	154	3289
Toluidines, solid	153	3451	Toxic liquid, corrosive, organic, n.o.s.	154	2927
2,4-Toluylenediamine	151	1709	Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone A)	154	2927
2,4-Toluylenediamine, solid	151	1709	Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone B)	131	2929
2,4-Toluylenediamine, solution	151	3418	Toxic liquid, flammable, n.o.s. (Inhalation Hazard Zone A)	131	2929
Toxic by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)	154	3389	Toxic liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	131	2929
Toxic by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)	154	3390	Toxic liquid, flammable, organic, n.o.s.	131	2929
Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)	131	3383	Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone A)	131	2929
Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	131	3384	Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone B)	131	2929
Toxic by inhalation liquid, n.o.s. (Inhalation Hazard Zone A)	151	3381	Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone A)	131	2929
Toxic by inhalation liquid, n.o.s. (Inhalation Hazard Zone B)	151	3382	Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone B)	131	2929
Toxic by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)	142	3387	Toxic liquid, inorganic, n.o.s.	151	3287
Toxic by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)	142	3388	Toxic liquid, inorganic, n.o.s. (Inhalation Hazard Zone A)	151	3287

Name of Material	Guide No.	ID No.
Toxic liquid, inorganic, n.o.s. (Inhalation Hazard Zone B)	151	3287
Toxic liquid, n.o.s.	153	2810
Toxic liquid, n.o.s. (Inhalation Hazard Zone A)	153	2810
Toxic liquid, n.o.s. (Inhalation Hazard Zone B)	153	2810
Toxic liquid, organic, n.o.s.	153	2810
Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone A)	153	2810
Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone B)	153	2810
Toxic liquid, oxidizing, n.o.s.	142	3122
Toxic liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)	142	3122
Toxic liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)	142	3122
Toxic liquid, water-reactive, n.o.s.	139	3123
Toxic liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)	139	3123
Toxic liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)	139	3123
Toxic liquid, which in contact with water emits flammable gases, n.o.s.	139	3123
Toxic liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone A)	139	3123
Toxic liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone B)	139	3123
Toxic solid, corrosive, inorganic, n.o.s.	154	3290

Name of Material	Guide No.	ID No.
Toxic solid, corrosive, organic, n.o.s.	154	2928
Toxic solid, flammable, n.o.s.	134	2930
Toxic solid, flammable, organic, n.o.s.	134	2930
Toxic solid, inorganic, n.o.s.	151	3288
Toxic solid, organic, n.o.s.	154	2811
Toxic solid, oxidizing, n.o.s.	141	3086
Toxic solid, self-heating, n.o.s.	136	3124
Toxic solid, water-reactive, n.o.s.	139	3125
Toxic solid, which in contact with water emits flammable gases, n.o.s.	139	3125
Toxins	153	—
Toxins, extracted from living sources, liquid, n.o.s.	153	3172
Toxins, extracted from living sources, n.o.s.	153	3172
Toxins, extracted from living sources, solid, n.o.s.	153	3172
Toxins, extracted from living sources, solid, n.o.s.	153	3462
Triallylamine	132	2610
Triallyl borate	156	2609
Triazine pesticide, liquid, flammable, poisonous	131	2764
Triazine pesticide, liquid, flammable, toxic	131	2764
Triazine pesticide, liquid, poisonous	151	2998
Triazine pesticide, liquid, poisonous, flammable	131	2997
Triazine pesticide, liquid, toxic	151	2998
Triazine pesticide, liquid, toxic, flammable	131	2997

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Triazine pesticide, solid, poisonous	151	2763	Trifluoromethane, refrigerated liquid	120	3136
Triazine pesticide, solid, toxic	151	2763	Trifluoromethane and Chlorotrifluoromethane azeotropic mixture with approximately 60% Chlorotrifluoromethane	126	2599
Tri-(1-aziridinyl)phosphine oxide, solution	152	2501	2-Trifluoromethylaniline	153	2942
Tributylamine	153	2542	3-Trifluoromethylaniline	153	2948
Tributylphosphane	135	3254	Triisobutylene	128	2324
Tributylphosphine	135	3254	Triisopropyl borate	129	2616
Trichloroacetic acid	153	1839	Trimethoxysilane	132	9269
Trichloroacetic acid, solution	153	2564	Trimethylacetyl chloride	132	2438
Trichloroacetyl chloride	156	2442	Trimethylamine, anhydrous	118	1083
Trichlorobenzenes, liquid	153	2321	Trimethylamine, aqueous solution	132	1297
Trichlorobutene	152	2322	1,3,5-Trimethylbenzene	129	2325
1,1,1-Trichloroethane	160	2831	Trimethyl borate	129	2416
Trichloroethylene	160	1710	Trimethylchlorosilane	155	1298
Trichloroisocyanuric acid, dry	140	2468	Trimethylcyclohexylamine	153	2326
Trichlorosilane	139	1295	Trimethylhexamethylenediamines	153	2327
(mono)-(Trichloro)-tetra-(monopotassium dichloro)-penta-s-triazinetriane, dry	140	2468	Trimethylhexamethylene diisocyanate	156	2328
Tricresyl phosphate	151	2574	Trimethyl phosphite	130	2329
Triethylamine	132	1296	Trinitrobenzene, wetted with not less than 10% water	113	3367
Triethylenetetramine	153	2259	Trinitrobenzene, wetted with not less than 30% water	113	1354
Triethyl phosphite	130	2323	Trinitrobenzoic acid, wetted with not less than 10% water	113	3368
Trifluoroacetic acid	154	2699	Trinitrobenzoic acid, wetted with not less than 30% water	113	1355
Trifluoroacetyl chloride	125	3057	Trinitrochlorobenzene, wetted with not less than 10% water	113	3365
Trifluorochloroethylene	119P	1082	Trinitrophenol, wetted with not less than 10% water	113	3364
Trifluorochloroethylene, inhibited	119P	1082			
Trifluorochloroethylene, stabilized	119P	1082			
1,1,1-Trifluoroethane	115	2035			
Trifluoroethane, compressed	115	2035			
Trifluoromethane	126	1984			

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Trinitrophenol, wetted with not less than 30% water	113	1344	Valeryl chloride	132	2502
Trinitrotoluene, wetted with not less than 10% water	113	3366	Vanadium compound, n.o.s.	151	3285
Trinitrotoluene, wetted with not less than 30% water	113	1356	Vanadium oxytrichloride	137	2443
Tripropylamine	132	2260	Vanadium pentoxide	151	2862
Tripropylene	128	2057	Vanadium tetrachloride	137	2444
Tris-(1-aziridinyl)phosphine oxide, solution	152	2501	Vanadium trichloride	157	2475
Tungsten hexafluoride	125	2196	Vanadyl sulfate	151	2931
Turpentine	128	1299	Vanadyl sulphate	151	2931
Turpentine substitute	128	1300	Vehicle, flammable gas powered	128	3166
Undecane	128	2330	Vehicle, flammable liquid powered	128	3166
Uranium hexafluoride	166	2978	Vinyl acetate	129P	1301
Uranium hexafluoride, fissile containing more than 1% Uranium-235	166	2977	Vinyl acetate, inhibited	129P	1301
Uranium hexafluoride, fissile-excepted	166	2978	Vinyl acetate, stabilized	129P	1301
Uranium hexafluoride, low specific activity	166	2978	Vinyl bromide, inhibited	116P	1085
Uranium hexafluoride, non-fissile	166	2978	Vinyl bromide, stabilized	116P	1085
Uranium metal, pyrophoric	162	2979	Vinyl butyrate, inhibited	129P	2838
Uranium nitrate, hexahydrate, solution	162	2980	Vinyl butyrate, stabilized	129P	2838
Uranyl nitrate, hexahydrate, solution	162	2980	Vinyl chloride, inhibited	116P	1086
Uranyl nitrate, solid	162	2981	Vinyl chloride, stabilized	116P	1086
Urea hydrogen peroxide	140	1511	Vinyl chloroacetate	155	2589
Urea nitrate, wetted with not less than 10% water	113	3370	Vinyl ethyl ether	127P	1302
Urea nitrate, wetted with not less than 20% water	113	1357	Vinyl ethyl ether, inhibited	127P	1302
Valeraldehyde	129	2058	Vinyl ethyl ether, stabilized	127P	1302
			Vinyl fluoride, inhibited	116P	1860
			Vinyl fluoride, stabilized	116P	1860
			Vinylidene chloride, inhibited	130P	1303
			Vinylidene chloride, stabilized	130P	1303
			Vinyl isobutyl ether	127P	1304
			Vinyl isobutyl ether, inhibited	127P	1304
			Vinyl isobutyl ether, stabilized	127P	1304
			Vinyl methyl ether	116P	1087
			Vinyl methyl ether, inhibited	116P	1087

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Vinyl methyl ether, stabilized	116P	1087	Water-reactive substances, solid, corrosive, n.o.s.	138	3131
Vinylpyridines, inhibited	131P	3073	Water-reactive substances, solid, flammable, n.o.s.	138	3132
Vinylpyridines, stabilized	131P	3073	Water-reactive substances, solid, n.o.s.	138	2813
Vinyltoluenes, inhibited	130P	2618	Water-reactive substances, solid, oxidizing, n.o.s.	138	3133
Vinyltoluenes, stabilized	130P	2618	Water-reactive substances, solid, poisonous, n.o.s.	139	3134
Vinyltrichlorosilane	155P	1305	Water-reactive substances, solid, self-heating, n.o.s.	138	3135
Vinyltrichlorosilane, inhibited	155P	1305	Water-reactive substances, solid, toxic, n.o.s.	139	3134
Vinyltrichlorosilane, stabilized	155P	1305	Wheelchair, electric, with batteries	154	3171
VX	153	2810	White asbestos	171	2590
Water-reactive liquid, corrosive, n.o.s.	138	3129	White phosphorus, dry	136	1381
Water-reactive liquid, n.o.s.	138	3148	White phosphorus, in solution	136	1381
Water-reactive liquid, poisonous, n.o.s.	139	3130	White phosphorus, molten	136	2447
Water-reactive liquid, toxic, n.o.s.	139	3130	White phosphorus, under water	136	1381
Water-reactive solid, corrosive, n.o.s.	138	3131	Wood preservatives, liquid	129	1306
Water-reactive solid, flammable, n.o.s.	138	3132	Wool waste, wet	133	1387
Water-reactive solid, n.o.s.	138	2813	Xanthates	135	3342
Water-reactive solid, oxidizing, n.o.s.	138	3133	Xenon	121	2036
Water-reactive solid, poisonous, n.o.s.	139	3134	Xenon, compressed	121	2036
Water-reactive solid, self-heating, n.o.s.	138	3135	Xenon, refrigerated liquid (cryogenic liquid)	120	2591
Water-reactive solid, toxic, n.o.s.	139	3134	Xylenes	130	1307
Water-reactive substances, liquid, corrosive, n.o.s.	138	3129	Xylenols	153	2261
Water-reactive substances, liquid, n.o.s.	138	3148	Xylenols, liquid	153	3430
Water-reactive substances, liquid, poisonous, n.o.s.	139	3130	Xylenols, solid	153	2261
Water-reactive substances, liquid, toxic, n.o.s.	139	3130	Xylidines	153	1711
			Xylidines, liquid	153	1711
			Xylidines, solid	153	1711

Name of Material	Guide No.	ID No.	Name of Material	Guide No.	ID No.
Xylidines, solid	153	3452	Zinc resinates	133	2714
Xylyl bromide	152	1701	Zinc silicofluoride	151	2855
Xylyl bromide, liquid	152	1701	Zinc skimmings	138	1435
Xylyl bromide, solid	152	3417	Zirconium, dry, coiled wire, finished metal sheets or strips	170	2858
Yellow phosphorus, dry	136	1381	Zirconium, dry, finished sheets, strips or coiled wire	135	2009
Yellow phosphorus, in solution	136	1381	Zirconium hydride	138	1437
Yellow phosphorus, molten	136	2447	Zirconium metal, liquid suspension	170	1308
Yellow phosphorus, under water	136	1381	Zirconium metal, powder, wet	170	1358
Zinc ammonium nitrite	140	1512	Zirconium nitrate	140	2728
Zinc arsenate	151	1712	Zirconium picramate, wetted with not less than 20% water	113	1517
Zinc arsenate and Zinc arsenite mixture	151	1712	Zirconium powder, dry	135	2008
Zinc arsenite	151	1712	Zirconium powder, wetted with not less than 25% water	170	1358
Zinc arsenite and Zinc arsenate mixture	151	1712	Zirconium scrap	135	1932
Zinc ashes	138	1435	Zirconium sulfate	171	9163
Zinc bromate	140	2469	Zirconium sulphate	171	9163
Zinc chlorate	140	1513	Zirconium suspended in a flammable liquid	170	1308
Zinc chlorite, anhydrous	154	2331	Zirconium suspended in a liquid (flammable)	170	1308
Zinc chloride, solution	154	1840	Zirconium tetrachloride	137	2503
Zinc cyanide	151	1713			
Zinc dithionite	171	1931			
Zinc dross	138	1435			
Zinc dust	138	1436			
Zinc fluorosilicate	151	2855			
Zinc hydrosulfite	171	1931			
Zinc hydrosulphite	171	1931			
Zinc nitrate	140	1514			
Zinc permanganate	140	1515			
Zinc peroxide	143	1516			
Zinc phosphide	139	1714			
Zinc powder	138	1436			
Zinc residue	138	1435			

## NOTES

# GUIDES

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- May explode from heat, shock, friction or contamination.
- May react violently or explosively on contact with air, water or foam.
- May be ignited by heat, sparks or flames.
- Vapors may travel to source of ignition and flash back.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**HEALTH**

- Inhalation, ingestion or contact with substance may cause severe injury, infection, disease or death.
- High concentration of gas may cause asphyxiation without warning.
- Contact may cause burns to skin and eyes.
- Fire or contact with water may produce irritating, toxic and/or corrosive gases.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it may not be effective in spill situations.

**EVACUATION****Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

**CAUTION:** Material may react with extinguishing agent.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks**

- Cool containers with flooding quantities of water until well after fire is out.
- Do not get water inside containers.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

**Small Spills** • Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

**Large Spills** • Dike far ahead of liquid spill for later disposal.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Shower and wash with soap and water.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO.**
- For information on "Compatibility Group" letters, refer to Glossary section.

**HEALTH**

- Fire may produce irritating, corrosive and/or toxic gases.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- **Consider initial evacuation for 800 meters (1/2 mile) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire and heavily encased explosives such as bombs or artillery projectiles are suspected, ISOLATE for 1600 m (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 m (1 mile) in all directions.
- When heavily encased explosives are not involved, evacuate the area for 800 meters (1/2 mile) in all directions.

\* For information on "Compatibility Group" letters, refer to the Glossary section.

**EMERGENCY RESPONSE****FIRE****CARGO Fires**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn.
- Do not move cargo or vehicle if cargo has been exposed to heat.

**TIRE or VEHICLE Fires**

- **Use plenty of water - FLOOD it! If water is not available, use CO<sub>2</sub>, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

\* For information on "Compatibility Group" letters, refer to the Glossary section.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Flammable/combustible material.
- May be ignited by heat, sparks or flames.
- **DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive (GUIDE 112).**
- **Keep material wet with water or treat as an explosive (GUIDE 112).**
- Runoff to sewer may create fire or explosion hazard.

**HEALTH**

- Some are toxic and may be fatal if inhaled, swallowed or absorbed through skin.
- Contact may cause burns to skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- **Consider initial evacuation for 500 meters (1/3 mile) in all directions.**

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****CARGO Fires**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fires**

- **Use plenty of water - FLOOD it! If water is not available, use CO<sub>2</sub>, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.

**Small Spills**

- Flush area with flooding quantities of water.

**Large Spills**

- Wet down with water and dike for later disposal.
- **KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **MAY EXPLODE AND THROW FRAGMENTS 500 meters (1/3 MILE) OR MORE IF FIRE REACHES CARGO.**
- For information on "Compatibility Group" letters, refer to Glossary section.

**HEALTH**

- Fire may produce irritating, corrosive and/or toxic gases.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions.
- Move people out of line of sight of the scene and away from windows.
- Keep unauthorized personnel away.
- Stay upwind.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- **Consider initial evacuation for 250 meters (800 feet) in all directions.**

**Fire**

- If rail car or trailer is involved in a fire, ISOLATE for 500 meters (1/3 mile) in all directions; also initiate evacuation including emergency responders for 500 meters (1/3 mile) in all directions.

\* For information on "Compatibility Group" letters, refer to the Glossary section.

**EMERGENCY RESPONSE****FIRE****CARGO Fires**

- **DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE!**
- Stop all traffic and clear the area for at least 500 meters (1/3 mile) in all directions and let burn.
- **Do not move cargo or vehicle if cargo has been exposed to heat.**

**TIRE or VEHICLE Fires**

- **Use plenty of water - FLOOD it! If water is not available, use CO<sub>2</sub>, dry chemical or dirt.**
- If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area.
- Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**SUPPLEMENTAL INFORMATION**

- Packages bearing the 1.4S label or packages containing material classified as 1.4S are designed or packaged in such a manner that when involved in a fire, may burn vigorously with localized detonations and projection of fragments.
- Effects are usually confined to immediate vicinity of packages.
- If fire threatens cargo area containing packages bearing the 1.4S label or packages containing material classified as 1.4S, consider isolating at least 15 meters (50 feet) in all directions. Fight fire with normal precautions from a reasonable distance.

\* For information on "Compatibility Group" letters, refer to the Glossary section.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION****• EXTREMELY FLAMMABLE.**

- Will be easily ignited by heat, sparks or flames.
- Will form explosive mixtures with air.
- Vapors from liquefied gas are initially heavier than air and spread along ground.

**CAUTION: Hydrogen (UN1049), Deuterium (UN1957) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.)**

- Vapors may travel to source of ignition and flash back.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**HEALTH**

- Vapors may cause dizziness or asphyxiation without warning.
- Some may be irritating if inhaled at high concentrations.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating and/or toxic gases.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 800 meters (1/2 mile).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.
- CAUTION:** Hydrogen (UN1049) and Deuterium (UN1957) burn with an invisible flame.

**Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray or fog.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- Prevent spreading of vapors through sewers, ventilation systems and confined areas.
- Isolate area until gas has dispersed.

**CAUTION:** When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Clothing frozen to the skin should be thawed before being removed.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. • Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **EXTREMELY FLAMMABLE.**
- Will be easily ignited by heat, sparks or flames.
- Will form explosive mixtures with air.
- Silane will ignite spontaneously in air.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**HEALTH**

- Vapors may cause dizziness or asphyxiation without warning.
- Some may be toxic if inhaled at high concentrations.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating and/or toxic gases.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 800 meters (1/2 mile).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

**Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray or fog.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Stop leak if you can do it without risk.
- Do not touch or walk through spilled material.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; Extremely Hazardous.**
- May be fatal if inhaled or absorbed through skin.
- Initial odor may be irritating or foul and may deaden your sense of smell.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

**FIRE OR EXPLOSION**

- These materials are extremely flammable.
- May form explosive mixtures with air.
- May be ignited by heat, sparks or flames.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Runoff may create fire or explosion hazard.
- Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances.

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.**

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- **ALWAYS** stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
  - Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
  - Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.
- Consider igniting spill or leak to eliminate toxic gas concerns.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION****• EXTREMELY FLAMMABLE.**

- May be ignited by heat, sparks or flames.
- May form explosive mixtures with air.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**HEALTH**

- May cause toxic effects if inhaled.
- Vapors are extremely irritating.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas. • Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 800 meters (1/2 mile).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.**

**Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- Isolate area until gas has dispersed.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; may be fatal if inhaled or absorbed through skin.**
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

**FIRE OR EXPLOSION**

- Flammable; may be ignited by heat, sparks or flames.
- May form explosive mixtures with air.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.
- Runoff may create fire or explosion hazard.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.      • Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.      • Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.**

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

**Large Fires**

- Water spray, fog or alcohol-resistant foam.
- **FOR CHLOROSILANES, DO NOT USE WATER;** use AFFF alcohol-resistant medium expansion foam.
  - Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
  - ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- **FOR CHLOROSILANES,** use AFFF alcohol-resistant medium expansion foam to reduce vapors.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.

**FIRST AID**

- Move victim to fresh air.
  - Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
  - Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- Vapors may cause dizziness or asphyxiation without warning.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.

**FIRE OR EXPLOSION**

- **Non-flammable gases.**
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids or solids.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Use extinguishing agent suitable for type of surrounding fire.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Allow substance to evaporate.
- Ventilate the area.

**CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Clothing frozen to the skin should be thawed before being removed.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- Vapors may cause dizziness or asphyxiation without warning.
- Vapors from liquefied gas are initially heavier than air and spread along ground.

**FIRE OR EXPLOSION**

- **Non-flammable gases.**
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Use extinguishing agent suitable for type of surrounding fire.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Allow substance to evaporate.
- Ventilate the area.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Substance does not burn but will support combustion.
- Some may react explosively with fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Runoff may create fire or explosion hazard.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**HEALTH**

- Vapors may cause dizziness or asphyxiation without warning.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating and/or toxic gases.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 500 meters (1/3 mile).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Use extinguishing agent suitable for type of surrounding fire.

**Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.
- Allow substance to evaporate.
- Isolate area until gas has dispersed.

**CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Clothing frozen to the skin should be thawed before being removed.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; may be fatal if inhaled or absorbed through skin.**
- Vapors may be irritating.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

**FIRE OR EXPLOSION**

- Some may burn, but none ignite readily.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray, fog or regular foam.
- Do not get water inside containers.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire Involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- Isolate area until gas has dispersed.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; may be fatal if inhaled or absorbed through skin.**
- Fire will produce irritating, corrosive and/or toxic gases.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Runoff from fire control may cause pollution.

**FIRE OR EXPLOSION**

- Substance does not burn but will support combustion.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- These are strong oxidizers and will react vigorously or explosively with many materials including fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Some will react violently with air, moist air and/or water.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances.

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

**Small Fires: Water only; no dry chemical, CO<sub>2</sub> or Halon® .**

- Contain fire and let burn. If fire must be fought, water spray or fog is recommended.
- Do not get water inside containers.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.
- Ventilate the area.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Clothing frozen to the skin should be thawed before being removed.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
- Vapors are extremely irritating and corrosive.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

**FIRE OR EXPLOSION**

- Some may burn, but none ignite readily.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Some of these materials may react violently with water.
- Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Do not get water inside containers.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. • ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. • Isolate area until gas has dispersed.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- **In case of contact with Hydrogen fluoride, anhydrous (UN1052),** flush skin and eyes with water for 5 minutes; then, for skin exposures rub on a calcium/jelly combination; for eyes flush with a water/calcium solution for 15 minutes.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Some may burn, but none ignite readily.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**HEALTH**

- Vapors may cause dizziness or asphyxiation without warning.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Fire may produce irritating, corrosive and/or toxic gases.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 500 meters (1/3 mile).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Use extinguishing agent suitable for type of surrounding fire.

**Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Damaged cylinders should be handled only by specialists.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- Some of these materials, if spilled, may evaporate leaving a flammable residue.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Do not direct water at spill or source of leak.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Allow substance to evaporate.
- Ventilate the area.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

**HEALTH**

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

**CAUTION:** All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

**Large Fires**

- Water spray, fog or alcohol-resistant foam.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. • Wash skin with soap and water.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.
- Substance may be transported hot.
- **If molten aluminum is involved, refer to GUIDE 169.**

**HEALTH**

- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire may produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

**CAUTION:** All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**CAUTION:** For mixtures containing a high percentage of an alcohol or polar solvent, alcohol-resistant foam may be more effective.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog or regular foam.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material. • Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. • Use clean non-sparking tools to collect absorbed material.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.
- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water. • Keep victim warm and quiet.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

**HEALTH**

- May cause toxic effects if inhaled or absorbed through skin.
- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

**CAUTION:** All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**Small Fires** • Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

- Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane.

**Large Fires**

- Water spray, fog or alcohol-resistant foam.
- Do not use straight streams.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material. • Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.

**Large Spills** • Dike far ahead of liquid spill for later disposal.

- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water. • Keep victim warm and quiet.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

**HEALTH**

- May cause toxic effects if inhaled or absorbed through skin.
- Inhalation or contact with material may irritate or burn skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

**CAUTION:** All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog or regular foam.
- **Do not use straight streams.**
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Use clean non-sparking tools to collect absorbed material.

**Large Spills** • Dike far ahead of liquid spill for later disposal.

- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water. • Keep victim warm and quiet.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; may be fatal if inhaled, ingested or absorbed through skin.**
- Inhalation or contact with some of these materials will irritate or burn skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

**FIRE OR EXPLOSION**

- **HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.**
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion and poison hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind. • Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

**CAUTION:** All these products have a very low flash point: Use of water spray when fighting fire may be inefficient.

**Small Fires** • Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

**Large Fires**

- Water spray, fog or alcohol-resistant foam.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.
- Use water spray or fog; do not use straight streams.

**Fire Involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material. • Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.

**Small Spills** • Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

- Use clean non-sparking tools to collect absorbed material.

**Large Spills** • Dike far ahead of liquid spill for later disposal.

- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Wash skin with soap and water. • Keep victim warm and quiet.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Flammable/combustible materials.
- May be ignited by heat, sparks or flames.
- Vapors may form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapor explosion hazard indoors, outdoors or in sewers.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Runoff to sewer may create fire or explosion hazard.
- Containers may explode when heated.
- Many liquids are lighter than water.

**HEALTH**

- May cause toxic effects if inhaled or ingested/swallowed.
- Contact with substance may cause severe burns to skin and eyes.
- Fire will produce irritating, corrosive and/or toxic gases.
- Vapors may cause dizziness or suffocation.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Large Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **Some of these materials may react violently with water.**

**Small Fires** • Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

**Large Fires** • Water spray, fog or alcohol-resistant foam.

- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.
- Do not get water inside containers.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch or walk through spilled material. • Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- A vapor suppressing foam may be used to reduce vapors.
- Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine).
- Use clean non-sparking tools to collect absorbed material.

**Large Spills** • Dike far ahead of liquid spill for later disposal.

- Water spray may reduce vapor; but may not prevent ignition in closed spaces.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Flammable/combustible material.
- May be ignited by friction, heat, sparks or flames.
- Some may burn rapidly with flare burning effect.
- Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence.
- Substance may be transported in a molten form at a temperature that may be above its flash point.
- May re-ignite after fire is extinguished.

**HEALTH**

- Fire may produce irritating and/or toxic gases.
- Contact may cause burns to skin and eyes.
- Contact with molten substance may cause severe burns to skin and eyes.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub>, sand, earth, water spray or regular foam.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Cool containers with flooding quantities of water until well after fire is out.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.

**Small Dry Spills**

- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

**Large Spills**

- Wet down with water and dike for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Removal of solidified molten material from skin requires medical assistance.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Flammable/combustible material.
- May be ignited by heat, sparks or flames.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.

**HEALTH**

- **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Keep out of low areas.
- Ventilate enclosed areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or alcohol-resistant foam.

**Large Fires**

- Water spray, fog or alcohol-resistant foam.
- Move containers from fire area if you can do it without risk.
- Use water spray or fog; do not use straight streams.
- Do not get water inside containers.
- Dike fire control water for later disposal; do not scatter the material.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Stop leak if you can do it without risk.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Prevent entry into waterways, sewers, basements or confined areas.
- Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Flammable/combustible material.
- May ignite on contact with moist air or moisture.
- May burn rapidly with flare-burning effect.
- Some react vigorously or explosively on contact with water.
- Some may decompose explosively when heated or involved in a fire.
- May re-ignite after fire is extinguished.
- Runoff may create fire or explosion hazard.
- Containers may explode when heated.

**HEALTH**

- Fire will produce irritating, corrosive and/or toxic gases.
- Inhalation of decomposition products may cause severe injury or death.
- Contact with substance may cause severe burns to skin and eyes.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Stay upwind.
- Keep unauthorized personnel away.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

• DO NOT USE WATER, CO<sub>2</sub> OR FOAM ON MATERIAL ITSELF.

• Some of these materials may react violently with water.

**EXCEPTION:** For Xanthates, UN3342 and for Dithionite (Hydrosulfite/ Hydrosulphite) UN1384, UN1923 and UN1929, USE FLOODING AMOUNTS OF WATER for SMALL AND LARGE fires to stop the reaction. Smothering will not work for these materials, they do not need air to burn.

**Small Fires**

• Dry chemical, soda ash, lime or DRY sand, EXCEPT for UN1384, UN1923 and UN1929.

**Large Fires**

• DRY sand, dry chemical, soda ash or lime, EXCEPT for UN1384, UN1923 and UN1929, or withdraw from area and let fire burn.

• Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

• Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

• Do not get water inside containers or in contact with substance.

• Cool containers with flooding quantities of water until well after fire is out.

• Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

• ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

• Fully encapsulating, vapor protective clothing should be worn for spills and leak with no fire.

• ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

• Do not touch or walk through spilled material. • Stop leak if you can do it without risk.

**Small Spills**

**EXCEPTION:** For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/ Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal.

• Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

• Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

• Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

• Move victim to fresh air. • Call 911 or emergency medical service.

• Give artificial respiration if victim is not breathing.

• Administer oxygen if breathing is difficult.

• Remove and isolate contaminated clothing and shoes.

• In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. • Keep victim warm and quiet.

• Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Extremely flammable; will ignite itself if exposed to air.
- Burns rapidly, releasing dense, white, irritating fumes.
- Substance may be transported in a molten form.
- May re-ignite after fire is extinguished.
- Corrosive substances in contact with metals may produce flammable hydrogen gas.
- Containers may explode when heated.

**HEALTH**

- Fire will produce irritating, corrosive and/or toxic gases.
- TOXIC; ingestion of substance or inhalation of decomposition products will cause severe injury or death.
- Contact with substance may cause severe burns to skin and eyes.
- Some effects may be experienced due to skin absorption.
- Runoff from fire control may be corrosive and/or toxic and cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Stay upwind.
- Keep unauthorized personnel away.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
- **For Phosphorus (UN1381): Special aluminized protective clothing should be worn when direct contact with the substance is possible.**

**EVACUATION****Spill**

- Consider initial downwind evacuation for at least 300 meters (1000 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Water spray, wet sand or wet earth.

**Large Fires**

- Water spray or fog.
- **Do not scatter spilled material with high pressure water streams.**
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.

**Small Spills**

- Cover with water, sand or earth. Shovel into metal container and keep material under water.

**Large Spills**

- Dike for later disposal and cover with wet sand or earth.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, keep exposed skin areas immersed in water or covered with wet bandages until medical attention is received.
- Removal of solidified molten material from skin requires medical assistance.
- Remove and isolate contaminated clothing and shoes at the site and place in metal container filled with water. Fire hazard if allowed to dry.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- CORROSIVE and/or TOXIC; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Fire will produce irritating, corrosive and/or toxic gases.
- Reaction with water may generate much heat which will increase the concentration of fumes in the air.
- Contact with molten substance may cause severe burns to skin and eyes.
- Runoff from fire control or dilution water may cause pollution.

**FIRE OR EXPLOSION**

- EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Substance will react with water (some violently), releasing corrosive and/or toxic gases.
- Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars etc.)
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.
- Substance may be transported in a molten form.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind. • Keep out of low areas. • Ventilate enclosed areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- When material is not involved in fire: do not use water on material itself.

**Small Fires**

- Dry chemical or CO<sub>2</sub>.
- Move containers from fire area if you can do it without risk.

**Large Fires**

- Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only.

**Fire involving Tanks or Car/Trailer Loads**

- Cool containers with flooding quantities of water until well after fire is out.
- Do not get water inside containers.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.

**Small Spills** • Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

- Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Removal of solidified molten material from skin requires medical assistance.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Produce flammable gases on contact with water.
- May ignite on contact with water or moist air.
- Some react vigorously or explosively on contact with water.
- May be ignited by heat, sparks or flames.
- May re-ignite after fire is extinguished.
- Some are transported in highly flammable liquids.
- Runoff may create fire or explosion hazard.

**HEALTH**

- Inhalation or contact with vapors, substance or decomposition products may cause severe injury or death.
- May produce corrosive solutions on contact with water.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate the area before entry.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Large Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT USE WATER OR FOAM.**

**Small Fires**

- Dry chemical, soda ash, lime or sand.

**Large Fires**

- DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.
- Move containers from fire area if you can do it without risk.

**Magnesium Fires**

- DRY sand, sodium chloride powder, graphite powder or Met-L-X® powder.

**Lithium Fires**

- DRY sand, sodium chloride powder, graphite powder, copper powder or Lith-X® powder.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- **DO NOT GET WATER on spilled substance or inside containers.**

**Small Spills** • Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

- Dike for later disposal; do not apply water unless directed to do so.

**Powder Spills** • Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Produce flammable and toxic gases on contact with water.
- May ignite on contact with water or moist air.
- Some react vigorously or explosively on contact with water.
- May be ignited by heat, sparks or flames.
- May re-ignite after fire is extinguished.
- Some are transported in highly flammable liquids.
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- Highly toxic: contact with water produces toxic gas, may be fatal if inhaled.
- Inhalation or contact with vapors, substance or decomposition products may cause severe injury or death.
- May produce corrosive solutions on contact with water.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate the area before entry.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Large Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT USE WATER OR FOAM. (FOAM MAY BE USED FOR CHLOROSILANES, SEE BELOW)**

**Small Fires**

- Dry chemical, soda ash, lime or sand.

**Large Fires**

- DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.
- **FOR CHLOROSILANES, DO NOT USE WATER;** use AFFF alcohol-resistant medium expansion foam; **DO NOT USE** dry chemicals, soda ash or lime on chlorosilane fires (large or small) as they may release large quantities of hydrogen gas that may explode.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not get water inside containers.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- **ALWAYS** stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- **DO NOT GET WATER on spilled substance or inside containers.**
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- **FOR CHLOROSILANES,** use AFFF alcohol-resistant medium expansion foam to reduce vapors.

**Small Spills** • Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

- Dike for later disposal; do not apply water unless directed to do so.

**Powder Spills** • Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- These substances will accelerate burning when involved in a fire.
- Some may decompose explosively when heated or involved in a fire.
- May explode from heat or contamination.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Use water. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon® may provide limited control.

**Large Fires**

- Flood fire area with water from a distance.
- Move containers from fire area if you can do it without risk.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Do not get water inside containers.

**Small Dry Spills**

- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

**Small Liquid Spills**

- Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.
- **Following product recovery, flush area with water.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- These substances will accelerate burning when involved in a fire.
- May explode from heat or contamination.
- Some may burn rapidly.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- Toxic by ingestion.
- Inhalation of dust is toxic.
- Fire may produce irritating, corrosive and/or toxic gases.
- Contact with substance may cause severe burns to skin and eyes.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Use water. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon® may provide limited control.

**Large Fires**

- Flood fire area with water from a distance.
- Move containers from fire area if you can do it without risk.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.

**Small Dry Spills**

- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

**Large Spills**

- Dike far ahead of spill for later disposal.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- These substances will accelerate burning when involved in a fire.
- May explode from heat or contamination.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- **TOXIC**; inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Toxic/flammable fumes may accumulate in confined areas (basement, tanks, tank cars, etc.).
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Use water. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon® may provide limited control.

**Large Fires**

- Flood fire area with water from a distance.
- Move containers from fire area if you can do it without risk.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift.
- Do not get water inside containers.

**Small Liquid Spills**

- Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- May explode from friction, heat or contamination.
- These substances will accelerate burning when involved in a fire.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Some will react explosively with hydrocarbons (fuels).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- **TOXIC**; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Fire may produce irritating and/or toxic gases.
- Toxic fumes or dust may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.).
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Use water. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon® may provide limited control.

**Large Fires**

- Flood fire area with water from a distance.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Move containers from fire area if you can do it without risk.
- Do not get water inside containers: a violent reaction may occur.
- Cool containers with flooding quantities of water until well after fire is out.
- Dike fire-control water for later disposal.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Use water spray to reduce vapors or divert vapor cloud drift.
- Prevent entry into waterways, sewers, basements or confined areas.

**Small Spills**

- Flush area with flooding quantities of water.

**Large Spills**

- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- May ignite combustibles (wood, paper, oil, clothing, etc.).
- React vigorously and/or explosively with water.
- Produce toxic and/or corrosive substances on contact with water.
- Flammable/toxic gases may accumulate in tanks and hopper cars.
- Some may produce flammable hydrogen gas upon contact with metals.
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- **TOXIC**; inhalation or contact with vapor, substance, or decomposition products may cause severe injury or death.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT USE WATER OR FOAM.**

**Small Fires**

- Dry chemical, soda ash or lime.

**Large Fires**

- DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- **DO NOT GET WATER on spilled substance or inside containers.**

**Small Spills**

- Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

**Large Spills**

- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- May explode from heat or contamination.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- May be ignited by heat, sparks or flames.
- May burn rapidly with flare-burning effect.
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- Fire may produce irritating, corrosive and/or toxic gases.
- Ingestion or contact (skin, eyes) with substance may cause severe injury or burns.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial evacuation for at least 250 meters (800 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Water spray or fog is preferred; if water not available use dry chemical, CO<sub>2</sub> or regular foam.

**Large Fires**

- Flood fire area with water from a distance.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Keep substance wet using water spray.
- Stop leak if you can do it without risk.

**Small Spills**

- Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal.

**Large Spills**

- Wet down with water and dike for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- Remove material from skin immediately.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- May explode from heat, shock, friction or contamination.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- May be ignited by heat, sparks or flames.
- May burn rapidly with flare-burning effect.
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- Fire may produce irritating, corrosive and/or toxic gases.
- Ingestion or contact (skin, eyes) with substance may cause severe injury or burns.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial evacuation for at least 250 meters (800 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Water spray or fog is preferred; if water not available use dry chemical, CO<sub>2</sub> or regular foam.

**Large Fires**

- Flood fire area with water from a distance.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Keep substance wet using water spray.
- Stop leak if you can do it without risk.

**Small Spills**

- Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal.

**Large Spills**

- Wet down with water and dike for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- Remove material from skin immediately.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- May explode from heat, contamination or loss of temperature control.
- These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- May ignite spontaneously if exposed to air.
- May be ignited by heat, sparks or flames.
- May burn rapidly with flare-burning effect.
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

**HEALTH**

- Fire may produce irritating, corrosive and/or toxic gases.
- Ingestion or contact (skin, eyes) with substance may cause severe injury or burns.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- **DO NOT allow the substance to warm up. Obtain liquid nitrogen, dry ice or ice for cooling. If none can be obtained, evacuate the area immediately.**

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial evacuation for at least 250 meters (800 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- The temperature of the substance must be maintained at or below the "Control Temperature" at all times.

**Small Fires**

- Water spray or fog is preferred; if water not available use dry chemical, CO<sub>2</sub> or regular foam.

**Large Fires**

- Flood fire area with water from a distance.
- Use water spray or fog; do not use straight streams.
- Move containers from fire area if you can do it without risk.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- **BEWARE OF POSSIBLE CONTAINER EXPLOSION.**
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.

**Small Spills**

- Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- Remove material from skin immediately.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact.
- May be ignited by heat, sparks or flames.
- Some may decompose explosively when heated or involved in a fire.
- May burn violently. Decomposition may be self-accelerating and produce large amounts of gases.
- Vapors or dust may form explosive mixtures with air.

**HEALTH**

- Inhalation or contact with vapors, substance or decomposition products may cause severe injury or death.
- May produce irritating, toxic and/or corrosive gases.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 250 meters (800 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Flood fire area with water from a distance.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- **BEWARE OF POSSIBLE CONTAINER EXPLOSION.**
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.

**Small Spills**

- Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact.
- Self-accelerating decomposition may occur if the specific control temperature is not maintained.
- These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire.
- May be ignited by heat, sparks or flames.
- Some may decompose explosively when heated or involved in a fire.
- May burn violently. Decomposition may be self-accelerating and produce large amounts of gases.
- Vapors or dust may form explosive mixtures with air.

**HEALTH**

- Inhalation or contact with vapors, substance or decomposition products may cause severe injury or death.
- May produce irritating, toxic and/or corrosive gases.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- **DO NOT allow the substance to warm up. Obtain liquid nitrogen, dry ice or ice for cooling. If none can be obtained, evacuate the area immediately.**

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 250 meters (800 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- The temperature of the substance must be maintained at or below the "Control Temperature" at all times.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Flood fire area with water from a distance.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- **BEWARE OF POSSIBLE CONTAINER EXPLOSION.**
- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- **ALWAYS** stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.

**Small Spills**

- Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **Highly toxic**, may be fatal if inhaled, swallowed or absorbed through skin.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**FIRE OR EXPLOSION**

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Containers may explode when heated.
- Runoff may pollute waterways.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub> or water spray.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.
- Use water spray or fog; do not use straight streams.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Cover with plastic sheet to prevent spreading.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **Highly toxic**, may be fatal if inhaled, swallowed or absorbed through skin.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**FIRE OR EXPLOSION**

- Combustible material: may burn but does not ignite readily.
- Containers may explode when heated.
- Runoff may pollute waterways.
- Substance may be transported in a molten form.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub> or water spray.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.
- Use water spray or fog; do not use straight streams.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Cover with plastic sheet to prevent spreading.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**FIRE OR EXPLOSION**

- Combustible material: may burn but does not ignite readily.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.
- Runoff may pollute waterways.
- Substance may be transported in a molten form.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind. • Keep out of low areas. • Ventilate enclosed areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub> or water spray.

**Large Fires**

- Dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC**; inhalation, ingestion or skin contact with material may cause severe injury or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Avoid any skin contact.
- Effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**FIRE OR EXPLOSION**

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.).
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub> or water spray.

**Large Fires**

- Dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- DO NOT GET WATER INSIDE CONTAINERS.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames.
- Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapors may travel to source of ignition and flash back.
- Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.
- Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.

**HEALTH**

- **TOXIC;** inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- **Bromoacetates and chloroacetates are extremely irritating/lachrymators.**
- Reaction with water or moist air will release toxic, corrosive or flammable gases.
- Reaction with water may generate much heat which will increase the concentration of fumes in the air.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind. • Keep out of low areas. • Ventilate enclosed areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

## EMERGENCY RESPONSE

## FIRE

- Note: Most foams will react with the material and release corrosive/toxic gases.

**CAUTION:** For Acetyl chloride (UN1717), use CO<sub>2</sub> or dry chemical only.

**Small Fires** • CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

**Large Fires**

- Water spray, fog or alcohol-resistant foam.
- **FOR CHLOROSILANES, DO NOT USE WATER;** use AFFF alcohol-resistant medium expansion foam.
- Move containers from fire area if you can do it without risk.
- Use water spray or fog; do not use straight streams.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

## SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- A vapor suppressing foam may be used to reduce vapors.
- **FOR CHLOROSILANES,** use AFFF alcohol-resistant medium expansion foam to reduce vapors.
- **DO NOT GET WATER on spilled substance or inside containers.**
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

**Small Spills** • Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

- Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

## FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Combustible material: may burn but does not ignite readily.
- Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff.
- When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards.
- Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapors may travel to source of ignition and flash back.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.

**HEALTH**

- **TOXIC**; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Contact with molten substance may cause severe burns to skin and eyes.
- Reaction with water or moist air will release toxic, corrosive or flammable gases.
- Reaction with water may generate much heat which will increase the concentration of fumes in the air.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind. • Keep out of low areas. • Ventilate enclosed areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

• Note: Most foams will react with the material and release corrosive/toxic gases.

**Small Fires** • CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

**Large Fires**

- Water spray, fog or alcohol-resistant foam.
- **FOR CHLOROSILANES, DO NOT USE WATER**; use AFFF alcohol-resistant medium expansion foam.
- Move containers from fire area if you can do it without risk.
- Use water spray or fog; do not use straight streams.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- A vapor suppressing foam may be used to reduce vapors.
- **FOR CHLOROSILANES**, use AFFF alcohol-resistant medium expansion foam to reduce vapors.
- **DO NOT GET WATER on spilled substance or inside containers.**
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

**Small Spills** • Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.

- Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC**; inhalation, ingestion or contact (skin, eyes) with vapors, dusts or substance may cause severe injury, burns or death.
- Reaction with water or moist air will release toxic, corrosive or flammable gases.
- Reaction with water may generate much heat that will increase the concentration of fumes in the air.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may be corrosive and/or toxic and cause pollution.

**FIRE OR EXPLOSION**

- Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
- Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.).
- Substance will react with water (some violently), releasing corrosive and/or toxic gases.
- Contact with metals may evolve flammable hydrogen gas.
- Containers may explode when heated or if contaminated with water.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate enclosed areas.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

## EMERGENCY RESPONSE

## FIRE

- Note: Most foams will react with the material and release corrosive/toxic gases.
- Small Fires** • CO<sub>2</sub> (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam.
- Large Fires**
  - Water spray, fog or alcohol-resistant foam.
  - Move containers from fire area if you can do it without risk.
  - Use water spray or fog; do not use straight streams.
  - Dike fire control water for later disposal; do not scatter the material.
- Fire involving Tanks or Car/Trailer Loads**
  - Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
  - Do not get water inside containers.
  - Cool containers with flooding quantities of water until well after fire is out.
  - Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
  - ALWAYS stay away from tanks engulfed in fire.

## SPILL OR LEAK

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- A vapor suppressing foam may be used to reduce vapors.
- DO NOT GET WATER INSIDE CONTAINERS.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.
- Small Spills** • Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.

## FIRST AID

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- Inhalation or contact with substance may cause infection, disease or death.
- Runoff from fire control may cause pollution.
- **Note: Damaged packages containing solid CO<sub>2</sub> as a refrigerant may produce water or frost from condensation of air. Do not touch this liquid as it could be contaminated by the contents of the parcel.**

**FIRE OR EXPLOSION**

- Some of these materials may burn, but none ignite readily.
- Some may be transported in flammable liquids.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Obtain identity of substance involved.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, soda ash, lime or sand.

**Large Fires**

- Use extinguishing agent suitable for type of surrounding fire.
- Move containers from fire area if you can do it without risk.
- Do not scatter spilled material with high pressure water streams.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Absorb with earth, sand or other non-combustible material.
- Cover damaged package or spilled material with damp towel or rag and keep wet with liquid bleach or other disinfectant.
- **DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.**

**FIRST AID**

- Move victim to a safe isolated area.

**CAUTION: Victim may be a source of contamination.**

- Call 911 or emergency medical service.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- **For further assistance, contact your local Poison Control Center.**
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- Inhalation of vapors or dust is extremely irritating.
- May cause burning of eyes and flow of tears.
- May cause coughing, difficult breathing and nausea.
- Brief exposure effects last only a few minutes.
- Exposure in an enclosed area may be very harmful.
- Fire will produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

**FIRE OR EXPLOSION**

- Some of these materials may burn, but none ignite readily.
- Containers may explode when heated.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Large Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Do not get water inside containers.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.

**Small Spills**

- Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- **Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.**
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim warm and quiet.
- Effects should disappear after individual has been exposed to fresh air for approximately 10 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- Toxic by ingestion.
- Vapors may cause dizziness or suffocation.
- Exposure in an enclosed area may be very harmful.
- Contact may irritate or burn skin and eyes.
- Fire may produce irritating and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

**FIRE OR EXPLOSION**

- Some of these materials may burn, but none ignite readily.
- Most vapors are heavier than air.
- Air/vapor mixtures may explode when ignited.
- Container may explode in heat of fire.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer.
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub> or water spray.

**Large Fires**

- Dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray.
- Move containers from fire area if you can do it without risk.
- Dike fire control water for later disposal; do not scatter the material.

**Fire involving Tanks or Car/Trailer Loads**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Stop leak if you can do it without risk.

**Small Liquid Spills**

- Take up with sand, earth or other non-combustible absorbent material.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Wash skin with soap and water.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases.
- Very low levels of contained radioactive materials and low radiation levels outside packages result in low risks to people. Damaged packages may release measurable amounts of radioactive material, but the resulting risks are expected to be low.
- Some radioactive materials cannot be detected by commonly available instruments.
- Packages do not have RADIOACTIVE I, II, or III labels. Some may have EMPTY labels or may have the word "Radioactive" in the package marking.

**FIRE OR EXPLOSION**

- Some of these materials may burn, but most do not ignite readily.
- Many have cardboard outer packaging; content (physically large or small) can be of many different physical forms.
- Radioactivity does not change flammability or other properties of materials.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

**PROTECTIVE CLOTHING**

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages; move undamaged packages out of fire zone.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog (flooding amounts).

**SPILL OR LEAK**

- Do not touch damaged packages or spilled material.
- Cover liquid spill with sand, earth or other non-combustible absorbent material.
- Cover powder spill with plastic sheet or tarp to minimize spreading.

**FIRST AID**

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**POTENTIAL HAZARDS****HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases.
- Undamaged packages are safe. Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released.
- Low radiation hazard when material is inside container. If material is released from package or bulk container, hazard will vary from low to moderate. Level of hazard will depend on the type and amount of radioactivity, the kind of material it is in, and/or the surfaces it is on.
- Some material may be released from packages during accidents of moderate severity but risks to people are not great.
- Released radioactive materials or contaminated objects usually will be visible if packaging fails.
- Some exclusive use shipments of bulk and packaged materials will not have "RADIOACTIVE" labels. Placards, markings and shipping papers provide identification.
- Some packages may have a "RADIOACTIVE" label and a second hazard label. The second hazard is usually greater than the radiation hazard; so follow this GUIDE as well as the response GUIDE for the second hazard class label.
- Some radioactive materials cannot be detected by commonly available instruments.
- Runoff from control of cargo fire may cause low-level pollution.

**FIRE OR EXPLOSION**

- Some of these materials may burn, but most do not ignite readily.
- Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air (see GUIDE 136).
- Nitrates are oxidizers and may ignite other combustibles (see GUIDE 141).

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. • Stay upwind. • Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

**PROTECTIVE CLOTHING**

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages; move undamaged packages out of fire zone.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

**SPILL OR LEAK**

- Do not touch damaged packages or spilled material.
- Cover liquid spill with sand, earth or other non-combustible absorbent material.
- Dike to collect large liquid spills.
- Cover powder spill with plastic sheet or tarp to minimize spreading.

**FIRST AID**

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**POTENTIAL HAZARDS****HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases.
- Undamaged packages are safe. Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released.
- Type A packages (cartons, boxes, drums, articles, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Partial releases might be expected if "Type A" packages are damaged in moderately severe accidents.
- Type B packages, and the rarely occurring Type C packages, (large and small, usually metal) contain the most hazardous amounts. They can be identified by package markings or by shipping papers. Life threatening conditions may exist only if contents are released or package shielding fails. Because of design, evaluation and testing of packages, these conditions would be expected only for accidents of utmost severity.
- The rarely occurring "Special Arrangement" shipments may be of Type A, Type B or Type C packages. Package type will be marked on packages, and shipment details will be on shipping papers.
- Radioactive White-I labels indicate radiation levels outside single, isolated, undamaged packages are very low (less than 0.005 mSv/h (0.5 mrem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mrem/h one meter from a single, isolated, undamaged package.
- Some radioactive materials cannot be detected by commonly available instruments.
- Water from cargo fire control may cause pollution.

**FIRE OR EXPLOSION**

- Some of these materials may burn, but most do not ignite readily.
- Radioactivity does not change flammability or other properties of materials.
- Type B packages are designed and evaluated to withstand total engulfment in flames at temperatures of 800°C (1475°F) for a period of 30 minutes.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. • Stay upwind. • Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

**PROTECTIVE CLOTHING**

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages; move undamaged packages out of fire zone.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog (flooding amounts).
- Dike fire-control water for later disposal.

**SPILL OR LEAK**

- Do not touch damaged packages or spilled material.
- Damp surfaces on undamaged or slightly damaged packages are seldom an indication of packaging failure. Most packaging for liquid content have inner containers and/or inner absorbent materials.
- Cover liquid spill with sand, earth or other non-combustible absorbent material.

**FIRST AID**

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**POTENTIAL HAZARDS****HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential hazard of radioactive content increases.
- Undamaged packages are safe; contents of damaged packages may cause external radiation exposure, and much higher external exposure if contents (source capsules) are released.
- Contamination and internal radiation hazards are not expected, but not impossible.
- Type A packages (cartons, boxes, drums, articles, etc.) identified as "Type A" by marking on packages or by shipping papers contain non-life endangering amounts. Radioactive sources may be released if "Type A" packages are damaged in moderately severe accidents.
- Type B packages, and the rarely occurring Type C packages, (large and small, usually metal) contain the most hazardous amounts. They can be identified by package markings or by shipping papers. Life threatening conditions may exist only if contents are released or package shielding fails. Because of design, evaluation and testing of packages, these conditions would be expected only for accidents of utmost severity.
- Radioactive White-I labels indicate radiation levels outside single, isolated, undamaged packages are very low (less than 0.005 mSv/h (0.5 mrem/h)).
- Radioactive Yellow-II and Yellow-III labeled packages have higher radiation levels. The transport index (TI) on the label identifies the maximum radiation level in mrem/h one meter from a single, isolated, undamaged package.
- Radiation from the package contents, usually in durable metal capsules, can be detected by most radiation instruments.
- Water from cargo fire control is not expected to cause pollution.

**FIRE OR EXPLOSION**

- Packagings can burn completely without risk of content loss from sealed source capsule.
- Radioactivity does not change flammability or other properties of materials.
- Radioactive source capsules and Type B packages are designed and evaluated to withstand total engulfment in flames at temperatures of 800°C (1475°F).

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions.
- Stay upwind. • Keep unauthorized personnel away.
- Delay final cleanup until instructions or advice is received from Radiation Authority.

**PROTECTIVE CLOTHING**

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages; move undamaged packages out of fire zone.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog (flooding amounts).

**SPILL OR LEAK**

- Do not touch damaged packages or spilled material.
- Damp surfaces on undamaged or slightly damaged packages are seldom an indication of packaging failure. Contents are seldom liquid. Content is usually a metal capsule, easily seen if released from package.
- If source capsule is identified as being out of package, **DO NOT TOUCH**. Stay away and await advice from Radiation Authority.

**FIRST AID**

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Persons exposed to special form sources are not likely to be contaminated with radioactive material.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**POTENTIAL HAZARDS****HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential radiation and criticality hazards of the content increase.
- Undamaged packages are safe. Contents of damaged packages may cause higher external radiation exposure, or both external and internal radiation exposure if contents are released.
- Type AF or IF packages, identified by package markings, do not contain life-threatening amounts of material. External radiation levels are low and packages are designed, evaluated and tested to control releases and to prevent a fission chain reaction under severe transport conditions.
- Type B(U)F, B(M)F and CF packages (identified by markings on packages or shipping papers) contain potentially life endangering amounts. Because of design, evaluation and testing of packages, fission chain reactions are prevented and releases are not expected to be life endangering for all accidents except those of utmost severity.
- The rarely occurring "Special Arrangement" shipments may be of Type AF, BF or CF packages. Package type will be marked on packages, and shipment details will be on shipping papers.
- The transport index (TI) shown on labels or a shipping paper might not indicate the radiation level at one meter from a single, isolated, undamaged package; instead, it might relate to controls needed during transport because of the fissile properties of the materials. Alternatively, the fissile nature of the contents may be indicated by a criticality safety index (CSI) on a special FISSILE label or on the shipping paper.
- Some radioactive materials cannot be detected by commonly available instruments.
- Water from cargo fire control is not expected to cause pollution.

**FIRE OR EXPLOSION**

- These materials are seldom flammable. Packages are designed to withstand fires without damage to contents.
- Radioactivity does not change flammability or other properties of materials.
- Type AF, IF, B(U)F, B(M)F and CF packages are designed and evaluated to withstand total engulfment in flames at temperatures of 800°C (1475°F) for a period of 30 minutes.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. • Stay upwind. • Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

**PROTECTIVE CLOTHING**

- Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection against internal radiation exposure, but not external radiation exposure.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques.
- Move containers from fire area if you can do it without risk.
- Do not move damaged packages; move undamaged packages out of fire zone.

**Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog (flooding amounts).

**SPILL OR LEAK**

- Do not touch damaged packages or spilled material.
- Damp surfaces on undamaged or slightly damaged packages are seldom an indication of packaging failure. Most packaging for liquid content have inner containers and/or inner absorbent materials.

**Liquid Spills**

- Package contents are seldom liquid. If any radioactive contamination resulting from a liquid release is present, it probably will be low-level.

**FIRST AID**

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**POTENTIAL HAZARDS****HEALTH**

- Radiation presents minimal risk to transport workers, emergency response personnel and the public during transportation accidents. Packaging durability increases as potential radiation and criticality hazards of the content increase.
- Chemical hazard greatly exceeds radiation hazard.
- Substance reacts with water and water vapor in air to form toxic and corrosive hydrogen fluoride gas and an extremely irritating and corrosive, white-colored, water-soluble residue.
- If inhaled, may be fatal.
- Direct contact causes burns to skin, eyes, and respiratory tract.
- Low-level radioactive material; very low radiation hazard to people.
- Runoff from control of cargo fire may cause low-level pollution.

**FIRE OR EXPLOSION**

- Substance does not burn. • The material may react violently with fuels.
- Containers in protective overpacks (horizontal cylindrical shape with short legs for tie-downs), are identified with "AF", "B(U)F" or "H(U)" on shipping papers or by markings on the overpacks. They are designed and evaluated to withstand severe conditions including total engulfment in flames at temperatures of 800°C (1475°F).
- Bare filled cylinders, identified with UN2978 as part of the marking (may also be marked H(U) or H(M)), may rupture in heat of engulfing fire; bare empty (except for residue) cylinders will not rupture in fires.
- Radioactivity does not change flammability or other properties of materials.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- **Priorities for rescue, life-saving, first aid, fire control and other hazards are higher than the priority for measuring radiation levels.**
- Radiation Authority must be notified of accident conditions. Radiation Authority is usually responsible for decisions about radiological consequences and closure of emergencies.
- As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. • Stay upwind. • Keep unauthorized personnel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

**EVACUATION****Large Spill**

- See the Table of Initial Isolation and Protective Action Distances.

**Fire**

- When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

**EMERGENCY RESPONSE****FIRE**

- DO NOT USE WATER OR FOAM ON MATERIAL ITSELF.
- Move containers from fire area if you can do it without risk.

**Small Fires**

- Dry chemical or CO<sub>2</sub>.

**Large Fires**

- Water spray, fog or regular foam.
- Cool containers with flooding quantities of water until well after fire is out.
- If this is impossible, withdraw from area and let fire burn.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Do not touch damaged packages or spilled material.
- Without fire or smoke, leak will be evident by visible and irritating vapors and residue forming at the point of release.
- Use fine water spray to reduce vapors; do not put water directly on point of material release from container.
- Residue buildup may self-seal small leaks.
- Dike far ahead of spill to collect runoff water.

**FIRST AID**

- Medical problems take priority over radiological concerns.
- Use first aid treatment according to the nature of the injury.
- Do not delay care and transport of a seriously injured person.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.
- Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities.
- Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; may be fatal if inhaled.**
- Vapors are extremely irritating.
- Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Runoff from fire control may cause pollution.

**FIRE OR EXPLOSION**

- Substance does not burn but will support combustion.
- This is a strong oxidizer and will react vigorously or explosively with many materials including fuels.
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Vapor explosion and poison hazard indoors, outdoors or in sewers.
- Containers may explode when heated.
- Ruptured cylinders may rocket.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations **ONLY**; it is not effective in spill situations where direct contact with the substance is possible.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances.

**Fire**

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, soda ash, lime or sand.

**Large Fires**

- Water spray, fog (flooding amounts).
- Do not get water inside containers.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- If you have not donned special protective clothing approved for this material, do not expose yourself to any risk of this material touching you.
- **Do not direct water at spill or source of leak.**
- A fine water spray remotely directed to the edge of the spill pool can be used to direct and maintain a hot flare fire which will burn the spilled material in a controlled manner.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.
- Ventilate the area.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Clothing frozen to the skin should be thawed before being removed.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- **TOXIC; Extremely Hazardous.**
- Inhalation extremely dangerous; may be fatal.
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
- Odorless, will not be detected by sense of smell.

**FIRE OR EXPLOSION**

- **EXTREMELY FLAMMABLE.**
- May be ignited by heat, sparks or flames.
- Flame may be invisible.
- Containers may explode when heated.
- Vapor explosion and poison hazard indoors, outdoors or in sewers.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Runoff may create fire or explosion hazard.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions.
- Keep unauthorized personnel away.
- Stay upwind.
- Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Keep out of low areas.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances.

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.

**Small Fires**

- Dry chemical, CO<sub>2</sub> or water spray.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks**

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- Do not direct water at source of leak or safety devices; icing may occur.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- All equipment used when handling the product must be grounded.
- Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.
- Do not direct water at spill or source of leak.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Prevent entry into waterways, sewers, basements or confined areas.
- Isolate area until gas has dispersed.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water.
- Keep victim warm and quiet. • Keep victim under observation.
- Effects of contact or inhalation may be delayed.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Substance is transported in molten form at a temperature above 705°C (1300°F).
- Violent reaction with water; contact may cause an explosion or may produce a flammable gas.
- Will ignite combustible materials (wood, paper, oil, debris, etc.).
- Contact with nitrates or other oxidizers may cause an explosion.
- Contact with containers or other materials, including cold, wet or dirty tools, may cause an explosion.
- Contact with concrete will cause spalling and small pops.

**HEALTH**

- Contact causes severe burns to skin and eyes.
- Fire may produce irritating and/or toxic gases.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Keep unauthorized personnel away.
- Ventilate closed spaces before entering.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear flame retardant structural firefighters' protective clothing, including faceshield, helmet and gloves, this will provide limited thermal protection.

**EMERGENCY RESPONSE****FIRE**

- **Do Not Use Water**, except in life threatening situations and then only in a fine spray.
- **Do not use halogenated extinguishing agents or foam.**
- Move combustibles out of path of advancing pool if you can do so without risk.
- Extinguish fires started by molten material by using appropriate method for the burning material; keep water, halogenated extinguishing agents and foam away from the molten material.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Do not attempt to stop leak, due to danger of explosion.
- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Substance is very fluid, spreads quickly, and may splash. Do not try to stop it with shovels or other objects.
- Dike far ahead of spill; use dry sand to contain the flow of material.
- Where possible allow molten material to solidify naturally.
- Avoid contact even after material solidifies. Molten, heated and cold aluminum look alike; do not touch unless you know it is cold.
- Clean up under the supervision of an expert after material has solidified.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- For severe burns, immediate medical attention is required.
- Removal of solidified molten material from skin requires medical assistance.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- May react violently or explosively on contact with water.
- Some are transported in flammable liquids.
- May be ignited by friction, heat, sparks or flames.
- Some of these materials will burn with intense heat.
- Dusts or fumes may form explosive mixtures in air.
- Containers may explode when heated.
- May re-ignite after fire is extinguished.

**HEALTH**

- Oxides from metallic fires are a severe health hazard.
- Inhalation or contact with substance or decomposition products may cause severe injury or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Stay upwind.
- Keep unauthorized personnel away.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 50 meters (160 feet).

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- **DO NOT USE WATER, FOAM OR CO<sub>2</sub>.**
- Dousing metallic fires with water may generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.).
- Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1® or Met-L-X® powder.
- Confining and smothering metal fires is preferable rather than applying water.
- Move containers from fire area if you can do it without risk.

**Fire involving Tanks or Car/Trailer Loads**

- If impossible to extinguish, protect surroundings and allow fire to burn itself out.

**SPILL OR LEAK**

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****FIRE OR EXPLOSION**

- Some may burn but none ignite readily.
- Containers may explode when heated.
- Some may be transported hot.

**HEALTH**

- Inhalation of material may be harmful.
- Contact may cause burns to skin and eyes.
- Inhalation of Asbestos dust may have a damaging effect on the lungs.
- Fire may produce irritating, corrosive and/or toxic gases.
- Some liquids produce vapors that may cause dizziness or suffocation.
- Runoff from fire control may cause pollution.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Spill**

- See the Table of Initial Isolation and Protective Action Distances for highlighted substances. For non-highlighted substances, increase, in the downwind direction, as necessary, the isolation distance shown under "PUBLIC SAFETY".

**Fire**

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

**EMERGENCY RESPONSE****FIRE****Small Fires**

- Dry chemical, CO<sub>2</sub>, water spray or regular foam.

**Large Fires**

- Water spray, fog or regular foam.
- Move containers from fire area if you can do it without risk.
- Do not scatter spilled material with high pressure water streams.
- Dike fire-control water for later disposal.

**Fire involving Tanks**

- Cool containers with flooding quantities of water until well after fire is out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- ALWAYS stay away from tanks engulfed in fire.

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Stop leak if you can do it without risk.
- Prevent dust cloud.
- Avoid inhalation of asbestos dust.

**Small Dry Spills**

- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

**Small Spills**

- Take up with sand or other non-combustible absorbent material and place into containers for later disposal.

**Large Spills**

- Dike far ahead of liquid spill for later disposal.
- Cover powder spill with plastic sheet or tarp to minimize spreading.
- Prevent entry into waterways, sewers, basements or confined areas.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**POTENTIAL HAZARDS****HEALTH**

- Inhalation of vapors or contact with substance will result in contamination and potential harmful effects.
- Fire will produce irritating, corrosive and/or toxic gases.

**FIRE OR EXPLOSION**

- Non-combustible, substance itself does not burn but may react upon heating to produce corrosive and/or toxic fumes.
- Runoff may pollute waterways.

**PUBLIC SAFETY**

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions.
- Stay upwind.
- Keep unauthorized personnel away.

**PROTECTIVE CLOTHING**

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters' protective clothing will only provide limited protection.

**EVACUATION****Large Spill**

- Consider initial downwind evacuation for at least 100 meters (330 feet).

**Fire**

- When any large container is involved in a fire, consider initial evacuation for 500 meters (1/3 mile) in all directions.

**EMERGENCY RESPONSE****FIRE**

- Use extinguishing agent suitable for type of surrounding fire.
- **Do not direct water at the heated metal.**

**SPILL OR LEAK**

- Do not touch or walk through spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Do not use steel or aluminum tools or equipment.
- Cover with earth, sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
- For mercury, use a mercury spill kit.
- Mercury spill areas may be subsequently treated with calcium sulphide/calcium sulfide or with sodium thiosulphate/sodium thiosulfate wash to neutralize any residual mercury.

**FIRST AID**

- Move victim to fresh air. • Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

## NOTES

## INTRODUCTION TO THE TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

The Table of Initial Isolation and Protective Action Distances suggests distances useful to protect people from vapors resulting from spills involving dangerous goods which are considered toxic by inhalation (TIH), including certain chemical warfare agents, or which produce toxic gases upon contact with water. The Table provides first responders with initial guidance until technically qualified emergency response personnel are available. **Distances show areas likely to be affected during the first 30 minutes after materials are spilled and could increase with time.**

The **Initial Isolation Zone** defines an area SURROUNDING the incident in which persons may be exposed to dangerous (upwind) and life threatening (downwind) concentrations of material. The **Protective Action Zone** defines an area DOWNWIND from the incident in which persons may become incapacitated and unable to take protective action and/or incur serious or irreversible health effects. The Table provides specific guidance for small and large spills occurring day or night.

Adjusting distances for a specific incident involves many interdependent variables and should be made only by personnel technically qualified to make such adjustments. For this reason, no precise guidance can be provided in this document to aid in adjusting the table distances; however, general guidance follows.

### **Factors That May Change the Protective Action Distances**

**The guide for a material** (orange-bordered pages) clearly indicates under the section EVACUATION – Fire, the evacuation distance required to protect against fragmentation hazard of a large container. If the material becomes involved in a **FIRE**, the toxic hazard may become less important than the fire or explosion hazard.

If more than one tank car, cargo tank, portable tank, or large cylinder involved in the incident is leaking, LARGE SPILL distances may need to be increased.

For a material with a protective action distance of 11.0+ km (7.0+ miles), the actual distance can be larger in certain atmospheric conditions. If the dangerous goods vapor plume is channeled in a valley or between many tall buildings, distances may be larger than shown in the Table due to less mixing of the plume with the atmosphere. Daytime spills in regions with known strong inversions or snow cover, or occurring near sunset, accompanied by a steady wind, may require an increase in protective action distance. When these conditions are present, airborne contaminants mix and disperse more slowly and may travel much farther downwind. In addition, protective action distances may be larger for liquid spills when either the material or outdoor temperature exceeds 30° C (86°F).

Materials which react with water to produce large amounts of toxic gases are included in the Table of Initial Isolation and Protective Action Distances. Note that some water-reactive materials

(WRM) which are also TIH (e.g., Bromine trifluoride (1746), Thionyl chloride (1836), etc.) produce additional TIH materials when spilled in water. For these materials, two entries are provided in the Table of Initial Isolation and Protective Action Distances (i.e., for spills on land and for spills in water). If it is not clear whether the spill is on land or in water, or in cases where the spill occurs both on land and in water, choose the larger Protective Action Distance. Following the Table of Initial Isolation and Protective Action Distances is a table that lists the materials which, when spilled in water, produce toxic gases. The toxic gases that these water-reactive materials (WRM) produce are also included in the Table.

When a water-reactive TIH producing material is spilled into a river or stream, the source of the toxic gas may move with the current and stretch from the spill point downstream for a substantial distance.

Certain chemical warfare agents have been added to the Table of Initial Isolation and Protective Action Distances. The distances shown were calculated using worst case scenarios for these agents **when used as a weapon**.

Initial isolation and protective action distances in this guidebook are derived from historical data on transportation incidents and the use of statistical models. For worst case scenarios involving the instantaneous release of the entire contents of a package (e.g., as a result of terrorism, sabotage or catastrophic accident) the distances may increase. The increase can be estimated by multiplying the distances by a factor of two (2).

## PROTECTIVE ACTION DECISION FACTORS TO CONSIDER

The choice of protective actions for a given situation depends on a number of factors. For some cases, evacuation may be the best option; in others, sheltering in-place may be the best course. Sometimes, these two actions may be used in combination. In any emergency, officials need to quickly give the public instructions. The public will need continuing information and instructions while being evacuated or sheltered in-place.

Proper evaluation of the factors listed below will determine the effectiveness of evacuation or in-place protection. The importance of these factors can vary with emergency conditions. In specific emergencies, other factors may need to be identified and considered as well. This list indicates what kind of information may be needed to make the initial decision.

### **The Dangerous Goods**

- Degree of health hazard
- Chemical and physical properties
- Amount involved
- Containment/control of release
- Rate of vapor movement

### **The Population Threatened**

- Location
- Number of people
- Time available to evacuate or shelter in-place
- Ability to control evacuation or shelter in-place
- Building types and availability
- Special institutions or populations, e.g., nursing homes, hospitals, prisons

### **Weather Conditions**

- Effect on vapor and cloud movement
- Potential for change
- Effect on evacuation or protection in-place

## PROTECTIVE ACTIONS

**Protective Actions** are those steps taken to preserve the health and safety of emergency responders and the public during an incident involving releases of dangerous goods. The Table of Initial Isolation and Protective Action Distances (green-bordered pages) predicts the size of downwind areas which could be affected by a cloud of toxic gas. People in this area should be evacuated and/or sheltered in-place inside buildings.

**Isolate Hazard Area and Deny Entry** means keep everybody away from the area if they are not directly involved in emergency response operations. Unprotected emergency responders should not be allowed to enter the isolation zone. This "isolation" task is done first to establish control over the area of operations. This is the first step for any protective actions that may follow. See the Table of Isolation and Protective Action Distances (green-bordered pages) for more detailed information on specific materials.

**Evacuate** means move all people from a threatened area to a safer place. To perform an evacuation, there must be enough time for people to be warned, to get ready, and to leave an area. If there is enough time, evacuation is the best protective action. Begin evacuating people nearby and those outdoors in direct view of the scene. When additional help arrives, expand the area to be evacuated downwind and crosswind to at least the extent recommended in this guidebook. Even after people move to the distances recommended, they may not be completely safe from harm. They should not be permitted to congregate at such distances. Send evacuees to a definite place, by a specific route, far enough away so they will not have to be moved again if the wind shifts.

**Shelter In-Place** means people should seek shelter inside a building and remain inside until the danger passes. **Sheltering in-place is used when evacuating the public would cause greater risk than staying where they are, or when an evacuation cannot be performed.** Direct the people inside to **close all doors and windows** and to **shut off all ventilating, heating and cooling systems.** In-place protection may not be the best option if (a) the vapors are flammable; (b) if it will take a long time for the gas to clear the area; or (c) if buildings cannot be closed tightly. Vehicles can offer some protection for a short period if the windows are closed and the ventilating systems are shut off. Vehicles are not as effective as buildings for in-place protection.

**It is vital to maintain communications with competent persons inside the building** so that they are advised about changing conditions. **Persons protected-in-place should be warned to stay far from windows** because of the danger from glass and projected metal fragments in a fire and/or explosion.

Every dangerous goods incident is different. Each will have special problems and concerns. Action to protect the public must be selected carefully. These pages can help with **initial** decisions on how to protect the public. Officials must continue to gather information and monitor the situation until the threat is removed.

## **BACKGROUND ON THE INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCE TABLE**

Initial Isolation and Protective Action Distances in this guidebook were determined for small and large spills occurring during day or night. The overall analysis was statistical in nature and utilized state-of-the-art emission rate and dispersion models; statistical release data from the U.S. DOT HMIS (Hazardous Materials Incident Reporting System) database; 5 years of meteorological observations from over 120 locations in United States, Canada and Mexico; and the most current toxicological exposure guidelines.

For each chemical, thousands of hypothetical releases were modeled to account for the statistical variation in both release amount and atmospheric conditions. Based on this statistical sample, the 90% percentile Protective Action Distance for each chemical and category was selected to appear in the Table. A brief description of the analysis is provided below. A detailed report outlining the methodology and data used in the generation of the Initial Isolation and Protective Action Distances may be obtained from the U.S. Department of Transportation, Research and Special Programs Administration.

**Release amounts and emission rates** into the atmosphere were statistically modeled based on (1) data from the U.S. DOT HMIS database; (2) container types and sizes authorized for transport as specified in 49 CFR §172.101 and Part 173; (3) physical properties of the materials involved, and (4) atmospheric data from a historical database. The emission model calculated the release of vapor due to evaporation of pools on the ground, direct release of vapors from the container, or a combination of both, as would occur for liquefied gases which can flash to form both a vapor/aerosol mixture and an evaporating pool. In addition, the emission model also calculated the emission of toxic vapor by-products generated from spilling water-reactive chemicals in water. Spills that involve releases of approximately 200 liters or less are considered Small Spills, while spills that involve quantities greater than 200 liters are considered Large Spills.

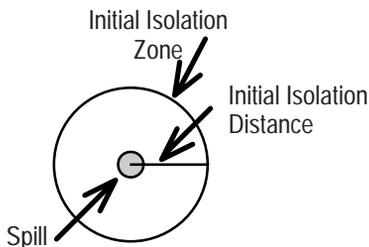
**Downwind dispersion** of the vapor was estimated for each case modeled. Atmospheric parameters affecting the dispersion, and the emission rate, were selected in a statistical fashion from a database containing hourly meteorological data from 120 cities in United States, Canada and Mexico. The dispersion calculation accounted for the time dependent emission rate from the source as well as the density of the vapor plume (i.e., heavy gas effects). Since atmospheric mixing is less effective at dispersing vapor plumes during nighttime, day and night were separated in the analysis. In the Table, "Day" refers to time periods after sunrise and before sunset, while "Night" includes all hours between sunset and sunrise.

**Toxicological short-term exposure guidelines** for the chemicals were applied to determine the downwind distance to which persons may become incapacitated and unable to take protective action or may incur serious health effects. Toxicological exposure guidelines were chosen from (1) emergency response guidelines, (2) occupational health guidelines, or (3) lethal concentrations determined from animal studies, as recommended by an independent panel of toxicological experts from industry and academia.

## HOW TO USE THE TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

- (1) The responder should already have:
  - Identified the material by its ID Number and Name; (if an ID Number cannot be found, use the Name of Material index in the blue-bordered pages to locate that number.)
  - Found the three-digit guide for that material in order to consult the emergency actions recommended jointly with this table;
  - **Noted the wind direction.**
- (2) Look in this Table (the green-bordered pages) for the ID Number and Name of the Material involved in the incident. Some ID Numbers have more than one shipping name listed—look for the specific name of the material. (If the shipping name is not known and the Table lists more than one name for the same ID Number, use the entry with the largest protective action distances.)
- (3) Determine if the incident involves a SMALL or LARGE spill and if DAY or NIGHT. Generally, a SMALL SPILL is one which involves a single, small package (e.g., a drum containing up to approximately 200 liters), a small cylinder, or a small leak from a large package. A LARGE SPILL is one which involves a spill from a large package, or multiple spills from many small packages. DAY is any time after sunrise and before sunset. NIGHT is any time between sunset and sunrise.

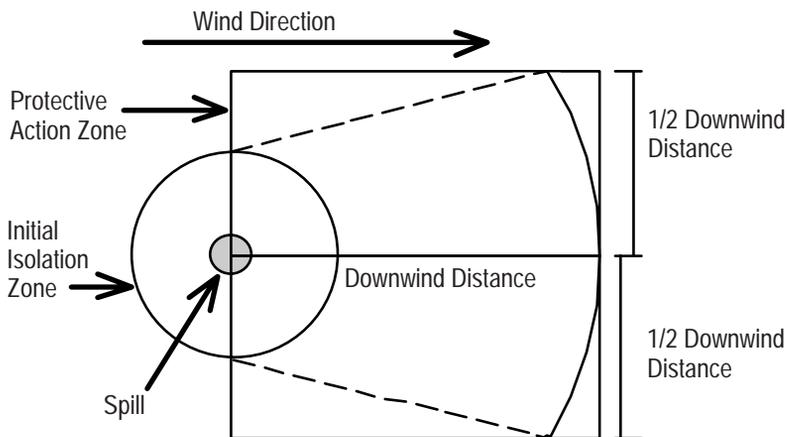
- (4) Look up the initial ISOLATION distance. Direct all persons to move, in a crosswind direction, away from the spill to the distance specified—in meters and feet.



- (5) Look up the initial PROTECTIVE ACTION DISTANCE shown in the Table. For a given material, spill size, and whether day or night, the Table gives the downwind distance—in kilometers and miles—for which protective actions should be considered. For practical purposes, the Protective Action Zone (i.e., the area in which people are at risk of harmful exposure) is a square, whose length and width are the same as the downwind distance shown in the Table.

- (6) Initiate Protective Actions to the extent possible, beginning with those closest to the spill site and working away from the site in the downwind direction. When a water-reactive TIH producing material is spilled into a river or stream, the source of the toxic gas may move with the current or stretch from the spill point downstream for a substantial distance.

The shape of the area in which protective actions should be taken (the Protective Action Zone) is shown in this figure. The spill is located at the center of the small circle. The larger circle represents the INITIAL ISOLATION zone around the spill.



**NOTE:** See "Introduction To The Table Of Initial Isolation And Protective Action Distances" for factors which may increase or decrease Protective Action Distances.

Call the emergency response telephone number listed on the shipping paper, or the appropriate response agency as soon as possible for additional information on the material, safety precautions, and mitigation procedures.

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-				First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-			
				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1005	Ammonia, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
1005	Ammonia, anhydrous, liquefied												
1005	Ammonia, solution, with more than 50% Ammonia												
1005	Anhydrous ammonia												
1005	Anhydrous ammonia, liquefied												
1008	Boron trifluoride	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	180 m	(600 ft)	1.8 km	(1.1 mi)	4.8 km	(3.0 mi)
1008	Boron trifluoride, compressed												
1016	Carbon monoxide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	90 m	(300 ft)	0.7 km	(0.4 mi)	2.4 km	(1.5 mi)
1016	Carbon monoxide, compressed												
1017	Chlorine	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	7.4 km	(4.6 mi)
1023	Coal gas	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.2 mi)	0.5 km	(0.3 mi)
1023	Coal gas, compressed												
1026	Cyanogen	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	120 m	(400 ft)	1.1 km	(0.7 mi)	4.3 km	(2.7 mi)
1026	Cyanogen, liquefied												
1026	Cyanogen gas												
1040	Ethylene oxide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
1040	Ethylene oxide with Nitrogen												
1045	Fluorine	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	3.5 km	(2.2 mi)
1045	Fluorine, compressed												
1048	Hydrogen bromide, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	180 m	(600 ft)	1.8 km	(1.1 mi)	5.7 km	(3.6 mi)
1050	Hydrogen chloride, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.3 mi)	360 m	(1200 ft)	3.6 km	(2.2 mi)	10.4 km	(6.5 mi)
1051	AC (when used as a weapon)	60 m	(200 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	500 m	(1500 ft)	1.7 km	(1.0 mi)	3.9 km	(2.4 mi)

1051	Hydrocyanic acid, aqueous solutions, with more than 20% Hydrogen cyanide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.3 mi)	150 m	(500 ft)	1.3 km	(0.8 mi)	3.7 km	(2.3 mi)
1051	Hydrocyanic acid, liquefied												
1051	Hydrogen cyanide, anhydrous, stabilized												
1051	Hydrogen cyanide, stabilized												
1052	Hydrogen fluoride, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	210 m	(700 ft)	1.9 km	(1.2 mi)	4.3 km	(2.7 mi)
1053	Hydrogen sulfide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	210 m	(700 ft)	2.1 km	(1.3 mi)	6.2 km	(3.9 mi)
1053	Hydrogen sulfide, liquefied												
1053	Hydrogen sulphide												
1053	Hydrogen sulphide, liquefied												
1062	Methyl bromide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	2.2 km	(1.4 mi)
1064	Methyl mercaptan	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.2 mi)	150 m	(500 ft)	1.3 km	(0.8 mi)	4.5 km	(2.8 mi)
1067	Dinitrogen tetroxide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.3 mi)	150 m	(500 ft)	1.6 km	(1.0 mi)	4.1 km	(2.5 mi)
1067	Dinitrogen tetroxide, liquefied												
1067	Nitrogen dioxide												
1067	Nitrogen dioxide, liquefied												
1069	Nitrosyl chloride	30 m	(100 ft)	0.2 km	(0.1 mi)	1.0 km	(0.6 mi)	450 m	(1500 ft)	4.3 km	(2.7 mi)	11.0 km	(6.9 mi)
1071	Oil gas	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.2 mi)	0.5 km	(0.3 mi)
1071	Oil gas, compressed												
1076	<b>CG (when used as a weapon)</b>	150 m	(500 ft)	1.3 km	(0.8 mi)	3.3 km	(2.0 mi)	800 m	(2500 ft)	7.3 km	(4.5 mi)	11.0+ km	(7.0+ mi)
1076	Diphosgene	90 m	(300 ft)	0.9 km	(0.6 mi)	4.1 km	(2.6 mi)	800 m	(2500 ft)	6.6 km	(4.1 mi)	11.0+ km	(7.0+ mi)
1076	<b>DP (when used as a weapon)</b>	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	180 m	(600 ft)	1.7 km	(1.0 mi)	4.6 km	(2.8 mi)
1076	Phosgene	90 m	(300 ft)	0.9 km	(0.6 mi)	4.1 km	(2.6 mi)	800 m	(2500 ft)	6.6 km	(4.1 mi)	11.0+ km	(7.0+ mi)
1079	Sulfur dioxide	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	210 m	(700 ft)	2.0 km	(1.3 mi)	6.3 km	(3.9 mi)
1079	Sulfur dioxide, liquefied												
1079	Sulphur dioxide												
1079	Sulphur dioxide, liquefied												

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)					LARGE SPILLS (From a large package or from many small packages)						
		First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-				First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-			
				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1082	Trifluorochloroethylene	30m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60m	(200 ft)	0.4 km	(0.3 mi)	0.8 km	(0.5 mi)
1082	Trifluorochloroethylene, inhibited												
1082	Trifluorochloroethylene, stabilized												
1092	Acrolein, inhibited	60m	(200 ft)	0.5 km	(0.3 mi)	1.7 km	(1.1 mi)	500m	(1600 ft)	4.8 km	(3.0 mi)	10.2 km	(6.3 mi)
1092	Acrolein, stabilized												
1098	Allyl alcohol	30m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60m	(200 ft)	0.4 km	(0.2 mi)	0.6 km	(0.4 mi)
1135	Ethylene chlorohydrin	30m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	90m	(300 ft)	0.8 km	(0.5 mi)	1.5 km	(1.0 mi)
1143	Crotonaldehyde, inhibited	30m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60m	(200 ft)	0.4 km	(0.3 mi)	0.8 km	(0.5 mi)
1143	Crotonaldehyde, stabilized												
1162	Dimethyldichlorosilane (when spilled in water)	30m	(100 ft)	0.2 km	(0.2 mi)	1.1 km	(0.7 mi)	300m	(1000 ft)	3.0 km	(1.9 mi)	7.9 km	(4.9 mi)
1163	1,1-Dimethylhydrazine	30m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60m	(200 ft)	0.5 km	(0.4 mi)	1.2 km	(0.8 mi)
1163	Dimethylhydrazine, unsymmetrical												
1182	Ethyl chloroformate	30m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	90m	(300 ft)	0.9 km	(0.6 mi)	1.8 km	(1.1 mi)
1185	Ethyleneimine, inhibited	30m	(100 ft)	0.2 km	(0.2 mi)	0.7 km	(0.5 mi)	180m	(600 ft)	1.8 km	(1.2 mi)	4.0 km	(2.5 mi)
1185	Ethyleneimine, stabilized												
1196	Ethyltrichlorosilane (when spilled in water)	30m	(100 ft)	0.2 km	(0.2 mi)	1.1 km	(0.7 mi)	300m	(1000 ft)	3.0 km	(1.9 mi)	7.9 km	(4.9 mi)
1238	Methyl chloroformate	30m	(100 ft)	0.3 km	(0.2 mi)	0.8 km	(0.5 mi)	180m	(600 ft)	1.8 km	(1.1 mi)	3.9 km	(2.4 mi)
1239	Methyl chloromethyl ether	30m	(100 ft)	0.3 km	(0.2 mi)	1.0 km	(0.6 mi)	270m	(900 ft)	2.5 km	(1.6 mi)	5.6 km	(3.5 mi)
1242	Methyldichlorosilane (when spilled in water)	30m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	180m	(600 ft)	1.6 km	(1.0 mi)	4.8 km	(3.0 mi)
1244	Methylhydrazine	30m	(100 ft)	0.3 km	(0.2 mi)	0.5 km	(0.3 mi)	150m	(500 ft)	1.4 km	(0.9 mi)	2.9 km	(1.8 mi)

1250	Methyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	150 m (500 ft)	1.3 km (0.8 mi)	4.0 km (2.5 mi)
1251	Methyl vinyl ketone	150 m (500 ft)	1.3 km (0.8 mi)	3.3 km (2.1 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
1251	Methyl vinyl ketone, stabilized						
1259	Nickel carbonyl	90 m (300 ft)	0.8 km (0.5 mi)	3.5 km (2.2 mi)	500 m (1600 ft)	4.7 km (2.9 mi)	9.8 km (6.1 mi)
1295	Trichlorosilane (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	270 m (900 ft)	2.5 km (1.6 mi)	6.5 km (4.1 mi)
1298	Trimethylchlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.7 km (1.7 mi)
1305	Vinyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.5 mi)	180 m (600 ft)	1.8 km (1.1 mi)	5.0 km (3.1 mi)
1305	Vinyltrichlorosilane, inhibited (when spilled in water)						
1305	Vinyltrichlorosilane, stabilized (when spilled in water)						
1340	Phosphorus pentasulfide, free from yellow or white Phosphorus (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	150 m (500 ft)	1.0 km (0.6 mi)	3.9 km (2.4 mi)
1340	Phosphorus pentasulphide, free from yellow or white Phosphorus (when spilled in water)						
1360	Calcium phosphide (when spilled in water)	60 m (200 ft)	0.5 km (0.3 mi)	2.1 km (1.3 mi)	800 m (2500 ft)	6.3 km (3.9 mi)	11.0+ km (7.0+ mi)
1380	Pentaborane	90 m (300 ft)	0.9 km (0.6 mi)	3.3 km (2.1 mi)	600 m (1800 ft)	5.3 km (3.3 mi)	11.0 km (6.9 mi)
1384	Sodium dithionite (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.4 km (0.3 mi)	1.3 km (0.8 mi)
1384	Sodium hydrosulfite (when spilled in water)						
1384	Sodium hydrosulphite (when spilled in water)						
1397	Aluminum phosphide (when spilled in water)	90 m (300 ft)	0.6 km (0.4 mi)	2.7 km (1.7 mi)	1000 m (3000 ft)	9.0 km (5.6 mi)	11.0+ km (7.0+ mi)

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1412	Lithium amide (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.2 mi)	30 m	(100 ft)	0.4 km	(0.2 mi)	1.6 km	(1.0 mi)
1419	Magnesium aluminum phosphide (when spilled in water)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.5 km	(1.6 mi)	1000 m	(3000 ft)	7.9 km	(4.9 mi)	11.0+ km	(7.0+ mi)
1432	Sodium phosphide (when spilled in water)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.7 km	(1.1 mi)	500 m	(1600 ft)	4.7 km	(2.9 mi)	11.0+ km	(7.0+ mi)
1510	Tetranitromethane	30 m	(100 ft)	0.3 km	(0.2 mi)	0.6 km	(0.4 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	1.6 km	(1.0 mi)
1541	Acetone cyanohydrin, stabilized (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	240 m	(800 ft)	0.8 km	(0.5 mi)	3.0 km	(1.9 mi)
1556	MD (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)	60 m	(200 ft)	0.5 km	(0.4 mi)	1.1 km	(0.7 mi)
1556	Methyldichloroarsine	30 m	(100 ft)	0.4 km	(0.2 mi)	0.9 km	(0.5 mi)	120 m	(400 ft)	1.3 km	(0.8 mi)	3.6 km	(2.2 mi)
1556	PD (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)
1560	Arsenic chloride	30 m	(100 ft)	0.2 km	(0.2 mi)	0.4 km	(0.2 mi)	90 m	(300 ft)	0.9 km	(0.6 mi)	1.8 km	(1.1 mi)
1560	Arsenic trichloride												
1569	Bromoacetone	30 m	(100 ft)	0.2 km	(0.1 mi)	0.6 km	(0.4 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.3 km	(1.5 mi)
1580	Chloropicrin	60 m	(200 ft)	0.4 km	(0.3 mi)	0.8 km	(0.5 mi)	210 m	(700 ft)	1.9 km	(1.2 mi)	3.6 km	(2.2 mi)
1581	Chloropicrin and Methyl bromide mixture	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	210 m	(700 ft)	2.1 km	(1.3 mi)	5.9 km	(3.7 mi)
1581	Methyl bromide and Chloropicrin mixture												
1582	Chloropicrin and Methyl chloride mixture	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.3 mi)	30 m	(100 ft)	0.4 km	(0.2 mi)	1.7 km	(1.1 mi)
1582	Methyl chloride and Chloropicrin mixture												
1583	Chloropicrin mixture, n.o.s.	60 m	(200 ft)	0.4 km	(0.3 mi)	0.8 km	(0.5 mi)	210 m	(700 ft)	1.9 km	(1.2 mi)	3.6 km	(2.2 mi)

1589	CK (when used as a weapon)	60 m (200 ft)	0.7 km (0.4 mi)	2.5 km (1.5 mi)	420 m (1300 ft)	4.1 km (2.5 mi)	8.1 km (5.0 mi)
1589	Cyanogen chloride, inhibited	60 m (200 ft)	0.6 km (0.4 mi)	2.8 km (1.8 mi)	450 m (1400 ft)	4.3 km (2.7 mi)	10.1 km (6.3 mi)
1589	Cyanogen chloride, stabilized						
1595	Dimethyl sulfate	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.5 km (0.3 mi)	0.8 km (0.5 mi)
1595	Dimethyl sulphate						
1605	Ethylene dibromide	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.6 km (0.4 mi)
1612	Hexaethyl tetraphosphate and compressed gas mixture	90 m (300 ft)	0.8 km (0.5 mi)	2.7 km (1.7 mi)	360 m (1200 ft)	3.5 km (2.2 mi)	8.1 km (5.1 mi)
1613	Hydrocyanic acid, aqueous solution, with not more than 20% Hydrogen cyanide	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	120 m (400 ft)	0.5 km (0.3 mi)	1.3 km (0.8 mi)
1613	Hydrogen cyanide, aqueous solution, with not more than 20% Hydrogen cyanide						
1614	Hydrogen cyanide, anhydrous, stabilized (absorbed)	30 m (100 ft)	0.2 km (0.1 mi)	0.6 km (0.4 mi)	60 m (200 ft)	0.5 km (0.3 mi)	1.7 km (1.1 mi)
1614	Hydrogen cyanide, stabilized (absorbed)						
1647	Ethylene dibromide and Methyl bromide mixture, liquid	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.6 km (0.4 mi)
1647	Methyl bromide and Ethylene dibromide mixture, liquid						
1660	Nitric oxide	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.7 km (1.7 mi)
1660	Nitric oxide, compressed						
1670	Perchloromethyl mercaptan	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.2 mi)	60 m (200 ft)	0.7 km (0.4 mi)	1.2 km (0.8 mi)
1680	Potassium cyanide (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	300 m (1000 ft)	1.0 km (0.6 mi)	3.9 km (2.4 mi)
1680	Potassium cyanide, solid (when spilled in water)						

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		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1689	Sodium cyanide (when spilled in water)	60 m	(200 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	390 m	(1300 ft)	1.3 km	(0.8 mi)	4.9 km	(3.0 mi)
1689	Sodium cyanide, solid (when spilled in water)												
1694	CA (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	150 m	(500 ft)	1.7 km	(1.0 mi)	4.2 km	(2.6 mi)
1695	Chloroacetone, stabilized	30 m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	1.5 km	(0.9 mi)
1697	CN (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	120 m	(400 ft)	1.2 km	(0.7 mi)	3.3 km	(2.0 mi)
1698	Adamsite (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.2 km	(0.7 mi)	180 m	(600 ft)	2.3 km	(1.4 mi)	5.2 km	(3.2 mi)
1698	DM (when used as a weapon)												
1699	DA (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.2 km	(0.7 mi)	180 m	(600 ft)	2.3 km	(1.4 mi)	5.2 km	(3.2 mi)
1716	Acetyl bromide (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	2.3 km	(1.4 mi)
1717	Acetyl chloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.3 mi)	120 m	(400 ft)	1.1 km	(0.7 mi)	3.5 km	(2.2 mi)
1722	Allyl chlorocarbonate	30 m	(100 ft)	0.4 km	(0.2 mi)	0.8 km	(0.5 mi)	210 m	(700 ft)	2.0 km	(1.2 mi)	3.8 km	(2.4 mi)
1722	Allyl chloroformate												
1724	Allyltrichlorosilane, stabilized (when spilled in water)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.5 mi)	180 m	(600 ft)	1.8 km	(1.2 mi)	5.4 km	(3.4 mi)
1725	Aluminum bromide, anhydrous (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	90 m	(300 ft)	0.7 km	(0.4 mi)	2.6 km	(1.6 mi)
1726	Aluminum chloride, anhydrous (when spilled in water)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.5 mi)	120 m	(400 ft)	1.2 km	(0.7 mi)	4.5 km	(2.8 mi)
1728	Amyltrichlorosilane (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.9 km	(1.2 mi)

1732	Antimony pentafluoride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.9 km (0.6 mi)	180 m (600 ft)	1.9 km (1.2 mi)	5.4 km (3.4 mi)
1741	Boron trichloride	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.7 km (1.1 mi)
1744	Bromine	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.1 mi)	330 m (1100 ft)	3.3 km (2.1 mi)	7.3 km (4.6 mi)
1744	Bromine, solution						
1745	Bromine pentafluoride (when spilled on land)	30 m (100 ft)	0.4 km (0.2 mi)	1.4 km (0.9 mi)	270 m (900 ft)	2.7 km (1.7 mi)	6.9 km (4.3 mi)
1745	Bromine pentafluoride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	240 m (800 ft)	2.2 km (1.4 mi)	6.6 km (4.1 mi)
1746	Bromine trifluoride (when spilled on land)	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	180 m (600 ft)	1.8 km (1.1 mi)	4.8 km (3.0 mi)
1746	Bromine trifluoride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.9 km (0.6 mi)	210 m (700 ft)	1.9 km (1.2 mi)	5.8 km (3.6 mi)
1747	Butyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.0 km (1.3 mi)
1749	Chlorine trifluoride	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	300 m (1000 ft)	2.8 km (1.8 mi)	8.1 km (5.1 mi)
1752	Chloroacetyl chloride (when spilled on land)	30 m (100 ft)	0.3 km (0.2 mi)	0.5 km (0.4 mi)	150 m (500 ft)	1.4 km (0.9 mi)	2.6 km (1.6 mi)
1752	Chloroacetyl chloride (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.4 km (0.3 mi)	1.5 km (1.0 mi)
1754	Chlorosulfonic acid (when spilled on land)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.4 km (0.3 mi)
1754	Chlorosulfonic acid (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	90 m (300 ft)	0.7 km (0.5 mi)	2.8 km (1.7 mi)
1754	Chlorosulfonic acid and Sulfur trioxide mixture (when spilled on land)	60 m (200 ft)	0.4 km (0.2 mi)	1.0 km (0.6 mi)	330 m (1000 ft)	2.5 km (1.5 mi)	6.5 km (4.0 mi)
1754	Chlorosulfonic acid and Sulfur trioxide mixture (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.6 km (0.4 mi)	90 m (300 ft)	0.7 km (0.5 mi)	2.8 km (1.7 mi)

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1754	Chlorosulphonic acid (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	0.4 km	(0.3 mi)
1754	Chlorosulphonic acid (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	2.8 km	(1.7 mi)
1754	Chlorosulphonic acid and Sulphur trioxide mixture (when spilled on land)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	330 m	(1000 ft)	2.5 km	(1.5 mi)	6.5 km	(4.0 mi)
1754	Chlorosulphonic acid and Sulphur trioxide mixture (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	2.8 km	(1.7 mi)
1754	Sulfur trioxide and Chlorosulfonic acid mixture (when spilled on land)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	330 m	(1000 ft)	2.5 km	(1.5 mi)	6.5 km	(4.0 mi)
1754	Sulfur trioxide and Chlorosulfonic acid mixture (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	2.8 km	(1.7 mi)
1754	Sulphur trioxide and Chlorosulphonic acid mixture (when spilled on land)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	330 m	(1000 ft)	2.5 km	(1.5 mi)	6.5 km	(4.0 mi)
1754	Sulphur trioxide and Chlorosulphonic acid mixture (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	2.8 km	(1.7 mi)
1758	Chromium oxychloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.3 km	(0.8 mi)
1763	Cyclohexyltrichlorosilane (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	3.0 km	(1.9 mi)
1766	Dichlorophenyltrichlorosilane (when spilled in water)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.9 km	(0.6 mi)	210 m	(700 ft)	2.1 km	(1.3 mi)	5.7 km	(3.6 mi)

1767	Diethyldichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.4 km (0.3 mi)	1.3 km (0.8 mi)
1769	Diphenyldichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)
1771	Dodecyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.2 mi)
1777	Fluorosulfonic acid (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	120 m (400 ft)	1.0 km (0.6 mi)	3.4 km (2.1 mi)
1777	Fluorosulphonic acid (when spilled in water)							
1784	Hexyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.3 mi)	0.4 km (0.3 mi)	120 m (400 ft)	1.0 km (0.7 mi)	3.8 km (2.4 mi)
1799	Nonyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	0.3 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.5 km (1.6 mi)
1800	Octadecyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	0.3 km (0.2 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.9 km (1.8 mi)
1801	Octyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	0.3 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.5 km (1.6 mi)
1804	Phenyltrichlorosilane (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.9 km (0.6 mi)	0.9 km (0.6 mi)	240 m (800 ft)	2.2 km (1.4 mi)	6.4 km (4.0 mi)
1806	Phosphorus pentachloride (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	0.5 km (0.3 mi)	90 m (300 ft)	0.8 km (0.5 mi)	3.1 km (1.9 mi)
1809	Phosphorus trichloride (when spilled on land)	30 m (100 ft)	0.2 km (0.1 mi)	0.4 km (0.3 mi)	0.4 km (0.3 mi)	150 m (500 ft)	1.5 km (1.0 mi)	3.5 km (2.2 mi)
1809	Phosphorus trichloride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	0.7 km (0.4 mi)	180 m (600 ft)	1.6 km (1.0 mi)	4.8 km (3.0 mi)
1810	Phosphorus oxychloride (when spilled on land)	30 m (100 ft)	0.2 km (0.2 mi)	0.4 km (0.3 mi)	0.4 km (0.3 mi)	120 m (400 ft)	1.0 km (0.7 mi)	2.2 km (1.4 mi)
1810	Phosphorus oxychloride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	1.0 km (0.6 mi)	240 m (800 ft)	2.3 km (1.5 mi)	6.3 km (3.9 mi)

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-				First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-			
				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1816	Propyltrichlorosilane (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	120 m	(400 ft)	1.3 km	(0.8 mi)	4.1 km	(2.6 mi)
1818	Silicon tetrachloride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	150 m	(500 ft)	1.5 km	(1.0 mi)	4.6 km	(2.9 mi)
1828	Sulfur chlorides (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.9 km	(0.6 mi)	1.7 km	(1.1 mi)
1828	Sulfur chlorides (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	150 m	(500 ft)	1.4 km	(0.9 mi)	4.9 km	(3.0 mi)
1828	Sulphur chlorides (when spilled on land)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.9 km	(0.6 mi)	1.7 km	(1.1 mi)
1828	Sulphur chlorides (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	150 m	(500 ft)	1.4 km	(0.9 mi)	4.9 km	(3.0 mi)
1829	Sulfur trioxide	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	330 m	(1000 ft)	2.5 km	(1.5 mi)	6.5 km	(4.0 mi)
1829	Sulfur trioxide, inhibited												
1829	Sulfur trioxide, stabilized												
1829	Sulfur trioxide, uninhibited												
1829	Sulphur trioxide												
1829	Sulphur trioxide, inhibited												
1829	Sulphur trioxide, stabilized												
1829	Sulphur trioxide, uninhibited												
1831	Sulfuric acid, fuming	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	330 m	(1000 ft)	2.5 km	(1.5 mi)	6.5 km	(4.0 mi)
1831	Sulfuric acid, fuming, with not less than 30% free Sulfur trioxide												
1831	Sulphuric acid, fuming												
1831	Sulphuric acid, fuming, with not less than 30% free Sulphur trioxide												

1834	Sulfuryl chloride (when spilled on land)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.7 km (0.5 mi)
1834	Sulfuryl chloride (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.2 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.9 km (1.8 mi)
1834	Sulphuryl chloride (when spilled on land)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.7 km (0.5 mi)
1834	Sulphuryl chloride (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.2 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.9 km (1.8 mi)
1836	Thionyl chloride (when spilled on land)	30 m (100 ft)	0.3 km (0.2 mi)	0.8 km (0.5 mi)	90 m (300 ft)	1.0 km (0.6 mi)	2.2 km (1.4 mi)
1836	Thionyl chloride (when spilled in water)	60 m (200 ft)	0.4 km (0.2 mi)	1.7 km (1.1 mi)	450 m (1500 ft)	4.5 km (2.8 mi)	10.5 km (6.5 mi)
1838	Titanium tetrachloride (when spilled on land)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.5 km (0.3 mi)	0.8 km (0.5 mi)
1838	Titanium tetrachloride (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	120 m (400 ft)	1.1 km (0.7 mi)	3.7 km (2.3 mi)
1859	Silicon tetrafluoride	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.5 km (0.3 mi)	0.8 km (0.5 mi)
1859	Silicon tetrafluoride, compressed						
1892	ED (when used as a weapon)	30 m (100 ft)	0.4 km (0.2 mi)	0.9 km (0.5 mi)	120 m (400 ft)	1.3 km (0.8 mi)	2.6 km (1.6 mi)
1892	Ethylchloroarsine	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.1 km (0.7 mi)
1898	Acetyl iodide (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.8 km (1.1 mi)
1911	Diborane	60 m (200 ft)	0.4 km (0.2 mi)	1.6 km (1.0 mi)	180 m (600 ft)	1.8 km (1.1 mi)	5.4 km (3.4 mi)
1911	Diborane, compressed						
1923	Calcium dithionite (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.4 km (0.3 mi)	1.3 km (0.8 mi)
1923	Calcium hydrosulfite (when spilled in water)						
1923	Calcium hydrosulphite (when spilled in water)						

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		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1931	Zinc dithionite (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.3 mi)	1.3 km	(0.8 mi)
1931	Zinc hydrosulfite (when spilled in water)												
1931	Zinc hydrosulphite (when spilled in water)												
1953	Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone A)	120 m	(400 ft)	1.2 km	(0.8 mi)	5.1 km	(3.2 mi)	1000 m	(3000 ft)	8.7 km	(5.4 mi)	11.0+ km	(7.0+ mi)
1953	Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	420 m	(1400 ft)	4.0 km	(2.5 mi)	10.8 km	(6.7 mi)
1953	Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
1953	Compressed gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
1953	Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone A)	120 m	(400 ft)	1.2 km	(0.8 mi)	5.1 km	(3.2 mi)	1000 m	(3000 ft)	8.7 km	(5.4 mi)	11.0+ km	(7.0+ mi)
1953	Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	420 m	(1400 ft)	4.0 km	(2.5 mi)	10.8 km	(6.7 mi)
1953	Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)

1953	Compressed gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)
1953	Compressed gas, poisonous, flammable, n.o.s.	120 m (400 ft)	1.2 km (0.8 mi)	5.1 km (3.2 mi)	1000 m (3000 ft)	8.7 km (5.4 mi)	11.0+ km (7.0+ mi)
1953	Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)						
1953	Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)
1953	Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)
1953	Compressed gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)
1953	Compressed gas, toxic, flammable, n.o.s.	120 m (400 ft)	1.2 km (0.8 mi)	5.1 km (3.2 mi)	1000 m (3000 ft)	8.7 km (5.4 mi)	11.0+ km (7.0+ mi)
1953	Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)						
1953	Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)
1953	Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)
1953	Compressed gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)

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		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1953	Liquefied gas, flammable, poisonous, n.o.s.	120 m	(400 ft)	1.2 km	(0.8 mi)	5.1 km	(3.2 mi)	1000 m	(3000 ft)	8.7 km	(5.4 mi)	11.0+ km	(7.0+ mi)
1953	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone A)												
1953	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	420 m	(1400 ft)	4.0 km	(2.5 mi)	10.8 km	(6.7 mi)
1953	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
1953	Liquefied gas, flammable, poisonous, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
1953	Liquefied gas, flammable, toxic, n.o.s.	120 m	(400 ft)	1.2 km	(0.8 mi)	5.1 km	(3.2 mi)	1000 m	(3000 ft)	8.7 km	(5.4 mi)	11.0+ km	(7.0+ mi)
1953	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone A)												
1953	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	420 m	(1400 ft)	4.0 km	(2.5 mi)	10.8 km	(6.7 mi)
1953	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
1953	Liquefied gas, flammable, toxic, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
1955	Compressed gas, poisonous, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
1955	Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone A)												

1955	Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	800 m (2500 ft)	7.8 km (4.9 mi)	11.0+ km (7.0+ mi)				
1955	Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)				
1955	Compressed gas, poisonous, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)				
1955 1955	Compressed gas, toxic, n.o.s. Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone A)	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
1955	Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	800 m (2500 ft)	7.8 km (4.9 mi)	11.0+ km (7.0+ mi)				
1955	Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)				
1955	Compressed gas, toxic, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)				
1955 1955	Liquefied gas, poisonous, n.o.s. Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone A)	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
1955	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	800 m (2500 ft)	7.8 km (4.9 mi)	11.0+ km (7.0+ mi)				
1955	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)				
1955	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)				
1955 1955	Liquefied gas, toxic, n.o.s. Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone A)	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
1955	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	800 m (2500 ft)	7.8 km (4.9 mi)	11.0+ km (7.0+ mi)				

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No.      NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
1955	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
1955	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	120 m	(400 ft)	1.2 km	(0.8 mi)	3.8 km	(2.4 mi)
1955	Organic phosphate compound mixed with compressed gas	120 m	(400 ft)	1.0 km	(0.7 mi)	3.4 km	(2.1 mi)	450 m	(1500 ft)	4.4 km	(2.7 mi)	9.6 km	(6.0 mi)
1955	Organic phosphate mixed with compressed gas												
1955	Organic phosphorus compound mixed with compressed gas												
1967	Insecticide gas, poisonous, n.o.s.	120 m	(400 ft)	1.0 km	(0.7 mi)	3.4 km	(2.1 mi)	450 m	(1500 ft)	4.4 km	(2.7 mi)	9.6 km	(6.0 mi)
1967	Insecticide gas, toxic, n.o.s.												
1967	Parathion and compressed gas mixture												
1975	Dinitrogen tetroxide and Nitric oxide mixture	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.7 km	(1.7 mi)
1975	Nitric oxide and Dinitrogen tetroxide mixture												
1975	Nitric oxide and Nitrogen dioxide mixture												
1975	Nitric oxide and Nitrogen tetroxide mixture												
1975	Nitrogen dioxide and Nitric oxide mixture												
1975	Nitrogen tetroxide and Nitric oxide mixture												
1994	Iron pentacarbonyl	30 m	(100 ft)	0.3 km	(0.2 mi)	0.6 km	(0.4 mi)	150 m	(500 ft)	1.6 km	(1.0 mi)	3.0 km	(1.9 mi)
2004	Magnesium diamide (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.3 mi)	90 m	(300 ft)	0.7 km	(0.4 mi)	2.9 km	(1.8 mi)

2011	Magnesium phosphide (when spilled in water)	60 m (200 ft)	0.5 km (0.4 mi)	2.4 km (1.5 mi)	800 m (2500 ft)	7.5 km (4.7 mi)	11.0+ km (7.0+ mi)
2012	Potassium phosphide (when spilled in water)	60 m (200 ft)	0.4 km (0.3 mi)	1.7 km (1.1 mi)	500 m (1600 ft)	4.7 km (2.9 mi)	11.0+ km (7.0+ mi)
2013	Strontium phosphide (when spilled in water)	60 m (200 ft)	0.4 km (0.2 mi)	1.7 km (1.1 mi)	500 m (1600 ft)	4.6 km (2.9 mi)	11.0+ km (7.0+ mi)
2032 2032	Nitric acid, fuming Nitric acid, red fuming	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.2 km (0.8 mi)
2186	Hydrogen chloride, refrigerated liquid	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.3 mi)	360 m (1200 ft)	3.6 km (2.2 mi)	10.4 km (6.5 mi)
2188	Arsine	60 m (200 ft)	0.6 km (0.4 mi)	3.0 km (1.9 mi)	420 m (1400 ft)	4.1 km (2.6 mi)	9.5 km (5.9 mi)
2188	SA (when used as a weapon)	60 m (200 ft)	0.9 km (0.5 mi)	2.5 km (1.5 mi)	420 m (1300 ft)	4.1 km (2.5 mi)	8.1 km (5.0 mi)
2189	Dichlorosilane	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)
2190 2190	Oxygen difluoride Oxygen difluoride, compressed	600 m (2000ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
2191 2191	Sulfuryl fluoride Sulphuryl fluoride	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)
2192	Germane	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	90 m (300 ft)	0.8 km (0.5 mi)	3.0 km (1.9 mi)
2194	Selenium hexafluoride	90 m (300 ft)	0.7 km (0.5 mi)	3.2 km (2.0 mi)	450 m (1500 ft)	4.4 km (2.7 mi)	9.0 km (5.6 mi)
2195	Tellurium hexafluoride	90 m (300 ft)	1.0 km (0.6 mi)	4.0 km (2.5 mi)	600 m (2000 ft)	6.0 km (3.7 mi)	11.0+ km (7.0+ mi)
2196	Tungsten hexafluoride	30 m (100 ft)	0.2 km (0.1 mi)	1.1 km (0.7 mi)	120 m (400 ft)	1.0 km (0.6 mi)	3.7 km (2.3 mi)
2197	Hydrogen iodide, anhydrous	30 m (100 ft)	0.1 km (0.1 mi)	0.4 km (0.2 mi)	120 m (400 ft)	1.3 km (0.8 mi)	3.7 km (2.3 mi)
2198 2198	Phosphorus pentafluoride Phosphorus pentafluoride, compressed	30 m (100 ft)	0.3 km (0.2 mi)	1.6 km (1.0 mi)	180 m (600 ft)	1.6 km (1.0 mi)	4.6 km (2.9 mi)
2199	Phosphine	60 m (200 ft)	0.7 km (0.4 mi)	3.1 km (1.9 mi)	450 m (1400 ft)	4.3 km (2.7 mi)	9.6 km (6.0 mi)
2202	Hydrogen selenide, anhydrous	120 m (400 ft)	1.2 km (0.8 mi)	5.1 km (3.2 mi)	1000 m (3000 ft)	8.7 km (5.4 mi)	11.0+ km (7.0+ mi)

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ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
2204	Carbonyl sulfide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.6 km	(0.4 mi)	300 m	(1000 ft)	3.0 km	(1.9 mi)	8.1 km	(5.0 mi)
2204	Carbonyl sulphide												
2232	Chloroacetaldehyde	30 m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	1.6 km	(1.0 mi)
2232	2-Chloroethanal												
2334	Allylamine	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	120 m	(400 ft)	1.1 km	(0.7 mi)	2.5 km	(1.5 mi)
2337	Phenyl mercaptan	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.2 mi)	0.6 km	(0.4 mi)
2382	1,2-Dimethylhydrazine	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	1.2 km	(0.8 mi)
2382	Dimethylhydrazine, symmetrical												
2407	Isopropyl chloroformate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	1.5 km	(0.9 mi)
2417	Carbonyl fluoride	30 m	(100 ft)	0.2 km	(0.1 mi)	1.1 km	(0.7 mi)	90 m	(300 ft)	1.0 km	(0.6 mi)	3.6 km	(2.3 mi)
2417	Carbonyl fluoride, compressed												
2418	Sulfur tetrafluoride	60 m	(200 ft)	0.7 km	(0.4 mi)	3.2 km	(2.0 mi)	500 m	(1600 ft)	4.7 km	(2.9 mi)	10.6 km	(6.6 mi)
2418	Sulphur tetrafluoride												
2420	Hexafluoroacetone	30 m	(100 ft)	0.3 km	(0.2 mi)	1.3 km	(0.8 mi)	800 m	(2500 ft)	7.2 km	(4.5 mi)	11.0+ km	(7.0+ mi)
2421	Nitrogen trioxide	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	60 m	(200 ft)	0.4 km	(0.3 mi)	1.9 km	(1.2 mi)
2437	Methylphenyldichlorosilane (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.1 km	(0.7 mi)
2438	Trimethylacetyl chloride	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	0.8 km	(0.5 mi)
2442	Trichloroacetyl chloride	30 m	(100 ft)	0.2 km	(0.2 mi)	0.8 km	(0.5 mi)	120 m	(400 ft)	1.2 km	(0.8 mi)	2.2 km	(1.4 mi)
2474	Thiophosgene	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)	360 m	(1200 ft)	3.6 km	(2.3 mi)	6.8 km	(4.2 mi)
2477	Methyl isothiocyanate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.0 km	(0.7 mi)
2480	Methyl isocyanate	60 m	(200 ft)	0.5 km	(0.3 mi)	1.9 km	(1.2 mi)	600 m	(1800 ft)	5.4 km	(3.3 mi)	11.0+ km	(7.0+ mi)

2481	Ethyl isocyanate	60 m (200 ft)	0.6 km (0.4 mi)	2.1 km (1.3 mi)	800 m (2500 ft)	6.2 km (3.9 mi)	11.0+ km (7.0+ mi)
2482	n-Propyl isocyanate	120 m (400 ft)	1.0 km (0.7 mi)	2.5 km (1.6 mi)	1000 m (3000 ft)	9.0 km (5.6 mi)	11.0+ km (7.0+ mi)
2483	Isopropyl isocyanate	120 m (400 ft)	1.1 km (0.7 mi)	2.8 km (1.8 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
2484	tert-Butyl isocyanate	90 m (300 ft)	1.0 km (0.6 mi)	2.4 km (1.5 mi)	1000 m (3000 ft)	8.4 km (5.2 mi)	11.0+ km (7.0+ mi)
2485	n-Butyl isocyanate	90 m (300 ft)	0.7 km (0.5 mi)	1.6 km (1.0 mi)	500 m (1600 ft)	4.7 km (2.9 mi)	8.0 km (5.0 mi)
2486	Isobutyl isocyanate	90 m (300 ft)	0.7 km (0.5 mi)	1.6 km (1.0 mi)	500 m (1600 ft)	4.7 km (3.0 mi)	7.8 km (4.8 mi)
2487	Phenyl isocyanate	30 m (100 ft)	0.4 km (0.2 mi)	0.5 km (0.3 mi)	180 m (600 ft)	1.6 km (1.0 mi)	2.9 km (1.8 mi)
2488	Cyclohexyl isocyanate	30 m (100 ft)	0.2 km (0.2 mi)	0.3 km (0.2 mi)	90 m (300 ft)	0.9 km (0.6 mi)	1.6 km (1.0 mi)
2495	Iodine pentafluoride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	210 m (700 ft)	1.9 km (1.2 mi)	5.7 km (3.6 mi)
2521	Diketene, inhibited	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.5 km (0.3 mi)
2521	Diketene, stabilized						
2534	Methylchlorosilane	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)
2548	Chlorine pentafluoride	30 m (100 ft)	0.3 km (0.2 mi)	1.7 km (1.1 mi)	240 m (800 ft)	2.4 km (1.5 mi)	7.4 km (4.6 mi)
2600	Carbon monoxide and Hydrogen mixture	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.7 km (0.4 mi)	2.4 km (1.5 mi)
2600	Carbon monoxide and Hydrogen mixture, compressed						
2600	Hydrogen and Carbon monoxide mixture						
2600	Hydrogen and Carbon monoxide mixture, compressed						
2605	Methoxymethyl isocyanate	60 m (200 ft)	0.4 km (0.2 mi)	0.6 km (0.4 mi)	180 m (600 ft)	1.6 km (1.0 mi)	2.6 km (1.6 mi)
2606	Methyl orthosilicate	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.4 km (0.3 mi)	0.7 km (0.4 mi)
2644	Methyl iodide	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.8 km (0.5 mi)
2646	Hexachlorocyclopentadiene	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.4 km (0.3 mi)	0.5 km (0.3 mi)
2668	Chloroacetonitrile	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.5 km (0.3 mi)

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ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-				First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-			
				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)				DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
2676	Stibine	60 m	(200 ft)	0.4 km	(0.3 mi)	2.2 km	(1.4 mi)	270 m	(900 ft)	2.8 km	(1.7 mi)	7.5 km	(4.7 mi)
2691	Phosphorus pentabromide (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.7 km	(0.4 mi)	90 m	(300 ft)	0.7 km	(0.4 mi)	2.8 km	(1.7 mi)
2692	Boron tribromide (when spilled on land)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	60 m	(200 ft)	0.5 km	(0.4 mi)	1.3 km	(0.8 mi)
2692	Boron tribromide (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.5 km	(0.3 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	2.6 km	(1.6 mi)
2740	n-Propyl chloroformate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	90 m	(300 ft)	0.7 km	(0.5 mi)	1.5 km	(0.9 mi)
2742	sec-Butyl chloroformate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.4 km	(0.3 mi)	0.6 km	(0.4 mi)
2742	Isobutyl chloroformate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	0.5 km	(0.3 mi)
2743	n-Butyl chloroformate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.4 km	(0.2 mi)	0.5 km	(0.3 mi)
2806	Lithium nitride (when spilled in water)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.4 km	(0.2 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.6 km	(1.6 mi)
2810	Buzz (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	2.0 km	(1.2 mi)
2810	BZ (when used as a weapon)												
2810	CS (when used as a weapon)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.2 km	(0.7 mi)	240 m	(800 ft)	2.6 km	(1.6 mi)	5.7 km	(3.5 mi)
2810	DC (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.9 km	(0.5 mi)	240 m	(800 ft)	2.3 km	(1.4 mi)	5.4 km	(3.3 mi)
2810	GA (when used as a weapon)	30 m	(100 ft)	0.4 km	(0.2 mi)	0.7 km	(0.4 mi)	150 m	(500 ft)	1.7 km	(1.0 mi)	3.1 km	(1.9 mi)
2810	GB (when used as a weapon)	150 m	(500 ft)	1.7 km	(1.0 mi)	3.4 km	(2.1 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
2810	GD (when used as a weapon)	90 m	(300 ft)	0.9 km	(0.5 mi)	1.8 km	(1.1 mi)	800 m	(2500 ft)	6.8 km	(4.2 mi)	10.5 km	(6.5 mi)
2810	GF (when used as a weapon)	30 m	(100 ft)	0.4 km	(0.2 mi)	0.7 km	(0.4 mi)	240 m	(800 ft)	2.3 km	(1.4 mi)	5.2 km	(3.2 mi)

2810	H (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.7 km	(0.4 mi)	1.2 km	(0.7 mi)
2810	HD (when used as a weapon)												
2810	HL (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)	90 m	(300 ft)	1.0 km	(0.6 mi)	1.8 km	(1.1 mi)
2810	HN-1 (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.7 km	(0.4 mi)	1.3 km	(0.8 mi)
2810	HN-2 (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.2 km	(0.7 mi)
2810	HN-3 (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)
2810	L (Lewisite)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)	90 m	(300 ft)	1.0 km	(0.6 mi)	1.8 km	(1.1 mi)
2810	Lewisite (when used as a weapon)												
2810	Mustard (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)
2810	Mustard Lewisite (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)	90 m	(300 ft)	1.0 km	(0.6 mi)	1.8 km	(1.1 mi)
2810	Poisonous liquid, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.5 km	(2.2 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
2810	Poisonous liquid, n.o.s. (Inhalation Hazard Zone A)												
2810	Poisonous liquid, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330 m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
2810	Poisonous liquid, organic, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.3 km	(2.1 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
2810	Poisonous liquid, organic, n.o.s. (Inhalation Hazard Zone A)												
2810	Poisonous liquid, organic, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	270 m	(900 ft)	2.5 km	(1.6 mi)	5.6 km	(3.5 mi)
2810	Sarin (when used as a weapon)	150 m	(500 ft)	1.7 km	(1.0 mi)	3.4 km	(2.1 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
2810	Soman (when used as a weapon)	90 m	(300 ft)	0.9 km	(0.5 mi)	1.8 km	(1.1 mi)	800 m	(2500 ft)	6.8 km	(4.2 mi)	10.5 km	(6.5 mi)
2810	Tabun (when used as a weapon)	30 m	(100 ft)	0.4 km	(0.2 mi)	0.7 km	(0.4 mi)	150 m	(500 ft)	1.7 km	(1.0 mi)	3.1 km	(1.9 mi)
2810	Thickened GD (when used as a weapon)	90 m	(300 ft)	0.9 km	(0.5 mi)	1.8 km	(1.1 mi)	800 m	(2500 ft)	6.8 km	(4.2 mi)	10.5 km	(6.5 mi)

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
2810	Toxic liquid, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.5 km	(2.2 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
2810	Toxic liquid, n.o.s. (Inhalation Hazard Zone A)												
2810	Toxic liquid, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330 m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
2810	Toxic liquid, organic, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.3 km	(2.1 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
2810	Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone A)												
2810	Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.2 mi)	1.0 km	(0.6 mi)	270 m	(900 ft)	2.5 km	(1.6 mi)	5.6 km	(3.5 mi)
2810	VX (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.7 km	(0.4 mi)	1.0 km	(0.6 mi)
2811	CX (when used as a weapon)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.5 km	(0.3 mi)	90 m	(300 ft)	1.0 km	(0.6 mi)	3.1 km	(1.9 mi)
2826	Ethyl chloroethioformate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	60 m	(200 ft)	0.5 km	(0.4 mi)	1.0 km	(0.6 mi)
2845	Ethyl phosphonous dichloride, anhydrous	30 m	(100 ft)	0.4 km	(0.2 mi)	0.8 km	(0.5 mi)	210 m	(700 ft)	1.9 km	(1.2 mi)	3.6 km	(2.2 mi)
2845	Methyl phosphonous dichloride	60 m	(200 ft)	0.4 km	(0.3 mi)	1.2 km	(0.8 mi)	330 m	(1000 ft)	3.1 km	(1.9 mi)	5.9 km	(3.7 mi)
2901	Bromine chloride	30 m	(100 ft)	0.2 km	(0.2 mi)	0.9 km	(0.6 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.3 km	(3.9 mi)
2927	Ethyl phosphonothioic dichloride, anhydrous	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.3 km	(0.2 mi)
2927	Ethyl phosphorodichloridate	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	30 m	(100 ft)	0.3 km	(0.2 mi)	0.4 km	(0.2 mi)
2927	Poisonous liquid, corrosive, n.o.s.	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)	800 m	(2500 ft)	6.2 km	(3.9 mi)	11.0+ km	(7.0+ mi)
2927	Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)												

2927	Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.1 mi)	330 m (1100 ft)	3.3 km (2.1 mi)	7.3 km (4.6 mi)				
2927	Toxic liquid, corrosive, organic, n.o.s.	60 m (200 ft)	0.6 km (0.4 mi)	2.1 km (1.3 mi)	800 m (2500 ft)	6.2 km (3.9 mi)	11.0+ km (7.0+ mi)				
2927	Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone A)										
2927	Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.4 km (0.2 mi)	0.5 km (0.4 mi)	180 m (600 ft)	1.6 km (1.0 mi)	2.9 km (1.8 mi)				
2929	Poisonous liquid, flammable, n.o.s.	150 m (500 ft)	1.3 km (0.8 mi)	3.5 km (2.2 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
2929	Poisonous liquid, flammable, n.o.s. (Inhalation Hazard Zone A)										
2929	Poisonous liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.2 mi)	1.0 km (0.6 mi)	270 m (900 ft)	2.5 km (1.6 mi)	5.6 km (3.5 mi)				
2929	Poisonous liquid, flammable, organic, n.o.s.	150 m (500 ft)	1.3 km (0.8 mi)	3.3 km (2.1 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
2929	Poisonous liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone A)										
2929	Poisonous liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.2 mi)	1.0 km (0.6 mi)	270 m (900 ft)	2.5 km (1.6 mi)	5.6 km (3.5 mi)				
2929	Toxic liquid, flammable, n.o.s.	150 m (500 ft)	1.3 km (0.8 mi)	3.5 km (2.2 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
2929	Toxic liquid, flammable, n.o.s. (Inhalation Hazard Zone A)										
2929	Toxic liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.2 mi)	1.0 km (0.6 mi)	270 m (900 ft)	2.5 km (1.6 mi)	5.6 km (3.5 mi)				
2929	Toxic liquid, flammable, organic, n.o.s.	150 m (500 ft)	1.3 km (0.8 mi)	3.3 km (2.1 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
2929	Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone A)										



2986	Chlorosilanes, corrosive, flammable, n.o.s. <b>(when spilled in water)</b>	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	150 m (500 ft)	1.3 km (0.8 mi)	3.9 km (2.4 mi)
2986	Chlorosilanes, n.o.s. <b>(when spilled in water)</b>						
2987	Chlorosilanes, corrosive, n.o.s. <b>(when spilled in water)</b>	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	150 m (500 ft)	1.3 km (0.8 mi)	3.9 km (2.4 mi)
2987	Chlorosilanes, n.o.s. <b>(when spilled in water)</b>						
2988	Chlorosilanes, n.o.s. <b>(when spilled in water)</b>	30 m (100 ft)	0.1 km (0.1 mi)	0.5 km (0.3 mi)	150 m (500 ft)	1.3 km (0.8 mi)	3.9 km (2.4 mi)
2988	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s. <b>(when spilled in water)</b>						
3023	2-Methyl-2-heptanethiol	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	60 m (200 ft)	0.5 km (0.3 mi)	0.8 km (0.5 mi)
3023	tert-Octyl mercaptan						
3048	Aluminum phosphide pesticide <b>(when spilled in water)</b>	90 m (300 ft)	0.6 km (0.4 mi)	2.7 km (1.7 mi)	1000 m (3000 ft)	9.0 km (5.6 mi)	11.0+ km (7.0+ mi)
3049	Metal alkyl halides, n.o.s. <b>(when spilled in water)</b>	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)
3049	Metal alkyl halides, water-reactive, n.o.s. <b>(when spilled in water)</b>						
3049	Metal aryl halides, n.o.s. <b>(when spilled in water)</b>						
3049	Metal aryl halides, water-reactive, n.o.s. <b>(when spilled in water)</b>						
3052	Aluminum alkyl halides <b>(when spilled in water)</b>	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)
3052	Aluminum alkyl halides, liquid <b>(when spilled in water)</b>						
3052	Aluminum alkyl halides, solid <b>(when spilled in water)</b>						
3057	Trifluoroacetyl chloride	30 m (100 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)	800 m (2500 ft)	7.8 km (4.9 mi)	11.0+ km (7.0+ mi)

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

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		First ISOLATE in all Directions		Then PROTECT persons Downwind during-		First ISOLATE in all Directions		Then PROTECT persons Downwind during-					
		Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)	Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)				
3079	Methacrylonitrile, inhibited	30 m	(100 ft)	0.1 km	(0.1 mi)	0.3 km	(0.2 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	1.6 km	(1.0 mi)
3079	Methacrylonitrile, stabilized												
3083	Perchloryl fluoride	30 m	(100 ft)	0.2 km	(0.1 mi)	0.6 km	(0.4 mi)	360 m	(1200 ft)	3.5 km	(2.2 mi)	8.8 km	(5.5 mi)
3122	Poisonous liquid, oxidizing, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.5 km	(2.2 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3122	Poisonous liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)												
3122	Poisonous liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.4 km	(0.2 mi)	1.4 km	(0.9 mi)	270 m	(900 ft)	2.7 km	(1.7 mi)	6.9 km	(4.3 mi)
3122	Toxic liquid, oxidizing, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.5 km	(2.2 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3122	Toxic liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)												
3122	Toxic liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.4 km	(0.2 mi)	1.4 km	(0.9 mi)	270 m	(900 ft)	2.7 km	(1.7 mi)	6.9 km	(4.3 mi)
3123	Poisonous liquid, water-reactive, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.5 km	(2.2 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3123	Poisonous liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)												
3123	Poisonous liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330 m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
3123	Poisonous liquid, which in contact with water emits flammable gases, n.o.s.	150 m	(500 ft)	1.3 km	(0.8 mi)	3.5 km	(2.2 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3123	Poisonous liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone A)												

3123	Poisonous liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.1 mi)	330 m (1100 ft)	3.3 km (2.1 mi)	7.3 km (4.6 mi)
3123	Toxic liquid, water-reactive, n.o.s.	150 m (500 ft)	1.3 km (0.8 mi)	3.5 km (2.2 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
3123	Toxic liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)						
3123	Toxic liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.1 mi)	330 m (1100 ft)	3.3 km (2.1 mi)	7.3 km (4.6 mi)
3123	Toxic liquid, which in contact with water emits flammable gases, n.o.s.	150 m (500 ft)	1.3 km (0.8 mi)	3.5 km (2.2 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
3123	Toxic liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone A)						
3123	Toxic liquid, which in contact with water emits flammable gases, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.1 mi)	330 m (1100 ft)	3.3 km (2.1 mi)	7.3 km (4.6 mi)
3160	Liquefied gas, poisonous, flammable, n.o.s.	120 m (400 ft)	1.2 km (0.8 mi)	5.1 km (3.2 mi)	1000 m (3000 ft)	8.7 km (5.4 mi)	11.0+ km (7.0+ mi)
3160	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)						
3160	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)
3160	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)
3160	Liquefied gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)

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		First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-			First ISOLATE in all Directions Meters (Feet)		Then PROTECT persons Downwind during-				
				DAY Kilometers (Miles)	NIGHT Kilometers (Miles)				DAY Kilometers (Miles)	NIGHT Kilometers (Miles)			
3160	Liquefied gas, toxic, flammable, n.o.s.	120 m	(400 ft)	1.2 km	(0.8 mi)	5.1 km	(3.2 mi)	1000 m	(3000 ft)	8.7 km	(5.4 mi)	11.0+ km	(7.0+ mi)
3160	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)												
3160	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	420 m	(1400 ft)	4.0 km	(2.5 mi)	10.8 km	(6.7 mi)
3160	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3160	Liquefied gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
3162	Liquefied gas, poisonous, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3162	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone A)												
3162	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.3 mi)	2.0 km	(1.3 mi)	800 m	(2500 ft)	7.8 km	(4.9 mi)	11.0+ km	(7.0+ mi)
3162	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3162	Liquefied gas, poisonous, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	120 m	(400 ft)	1.2 km	(0.8 mi)	3.8 km	(2.4 mi)
3162	Liquefied gas, toxic, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3162	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone A)												
3162	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.3 mi)	2.0 km	(1.3 mi)	800 m	(2500 ft)	7.8 km	(4.9 mi)	11.0+ km	(7.0+ mi)
3162	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)

3162	Liquefied gas, toxic, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)
3246 3246	Methanesulfonyl chloride Methanesulphonyl chloride	60 m (200 ft)	0.4 km (0.2 mi)	0.5 km (0.4 mi)	150 m (500 ft)	1.6 km (1.0 mi)	2.6 km (1.6 mi)
3275 3275	Nitriles, poisonous, flammable, n.o.s. Nitriles, toxic, flammable, n.o.s.	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	90 m (300 ft)	0.8 km (0.5 mi)	1.6 km (1.0 mi)
3276 3276 3276 3276	Nitriles, poisonous, liquid, n.o.s. Nitriles, poisonous, n.o.s. Nitriles, toxic, liquid, n.o.s. Nitriles, toxic, n.o.s.	30 m (100 ft)	0.1 km (0.1 mi)	0.3 km (0.2 mi)	90 m (300 ft)	0.8 km (0.5 mi)	1.6 km (1.0 mi)
3278 3278 3278 3278	Organophosphorus compound, poisonous, liquid, n.o.s. Organophosphorus compound, poisonous, n.o.s. Organophosphorus compound, toxic, liquid, n.o.s. Organophosphorus compound, toxic, n.o.s.	60 m (200 ft)	0.4 km (0.3 mi)	1.2 km (0.8 mi)	330 m (1000 ft)	3.1 km (1.9 mi)	5.9 km (3.7 mi)
3279 3279	Organophosphorus compound, poisonous, flammable, n.o.s. Organophosphorus compound, toxic, flammable, n.o.s.	60 m (200 ft)	0.4 km (0.3 mi)	1.2 km (0.8 mi)	330 m (1000 ft)	3.1 km (1.9 mi)	5.9 km (3.7 mi)
3280 3280	Organoarsenic compound, liquid, n.o.s. Organoarsenic compound, n.o.s.	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	210 m (700 ft)	2.1 km (1.3 mi)	5.1 km (3.2 mi)
3281 3281	Metal carbonyls, liquid, n.o.s. Metal carbonyls, n.o.s.	90 m (300 ft)	0.8 km (0.5 mi)	3.5 km (2.2 mi)	500 m (1600 ft)	4.7 km (2.9 mi)	9.8 km (6.1 mi)
3287 3287	Poisonous liquid, inorganic, n.o.s. Poisonous liquid, inorganic, n.o.s. (Inhalation Hazard Zone A)	90 m (300 ft)	0.9 km (0.6 mi)	3.5 km (2.2 mi)	600 m (1800 ft)	5.3 km (3.3 mi)	11.0 km (6.9 mi)
3287	Poisonous liquid, inorganic, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.1 mi)	330 m (1100 ft)	3.3 km (2.1 mi)	7.3 km (4.6 mi)

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)				LARGE SPILLS (From a large package or from many small packages)							
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-		First ISOLATE in all Directions		Then PROTECT persons Downwind during-					
		Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)	Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)				
3287	Toxic liquid, inorganic, n.o.s.	90 m	(300 ft)	0.9 km	(0.6 mi)	3.5 km	(2.2 mi)	600 m	(1800 ft)	5.3 km	(3.3 mi)	11.0 km	(6.9 mi)
3287	Toxic liquid, inorganic, n.o.s. (Inhalation Hazard Zone A)												
3287	Toxic liquid, inorganic, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330 m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
3289	Poisonous liquid, corrosive, inorganic, n.o.s.	90 m	(300 ft)	0.9 km	(0.6 mi)	3.5 km	(2.2 mi)	600 m	(1800 ft)	5.3 km	(3.3 mi)	11.0 km	(6.9 mi)
3289	Poisonous liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone A)												
3289	Poisonous liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
3289	Toxic liquid, corrosive, inorganic, n.o.s.	90 m	(300 ft)	0.9 km	(0.6 mi)	3.5 km	(2.2 mi)	600 m	(1800 ft)	5.3 km	(3.3 mi)	11.0 km	(6.9 mi)
3289	Toxic liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone A)												
3289	Toxic liquid, corrosive, inorganic, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
3294	Hydrogen cyanide, solution in alcohol, with not more than 45% Hydrogen cyanide	30 m	(100 ft)	0.2 km	(0.1 mi)	0.4 km	(0.2 mi)	210 m	(700 ft)	0.7 km	(0.4 mi)	2.1 km	(1.3 mi)

3300	Carbon dioxide and Ethylene oxide mixture, with more than 87% Ethylene oxide	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)			
3300	Ethylene oxide and Carbon dioxide mixture, with more than 87% Ethylene oxide									
3303	Compressed gas, poisonous, oxidizing, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)			
3303	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone A)									
3303	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	360 m (1200 ft)	3.5 km (2.2 mi)	8.8 km (5.5 mi)			
3303	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)			
3303	Compressed gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)			
3303	Compressed gas, toxic, oxidizing, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)			
3303	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone A)									
3303	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	360 m (1200 ft)	3.5 km (2.2 mi)	8.8 km (5.5 mi)			
3303	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)			
3303	Compressed gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)			

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
3304	Compressed gas, poisonous, corrosive, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3304	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)												
3304	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.3 mi)	2.0 km	(1.3 mi)	800 m	(2500 ft)	7.2 km	(4.5 mi)	11.0+ km	(7.0+ mi)
3304	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3304	Compressed gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
3304	Compressed gas, toxic, corrosive, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3304	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)												
3304	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.3 mi)	2.0 km	(1.3 mi)	800 m	(2500 ft)	7.2 km	(4.5 mi)	11.0+ km	(7.0+ mi)
3304	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3304	Compressed gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)

3305	Compressed gas, poisonous, flammable, corrosive, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)		
3305	Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)								
3305	Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)		
3305	Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)		
3305	Compressed gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)		
3305	Compressed gas, toxic, flammable, corrosive, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)		
3305	Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)								
3305	Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)		
3305	Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)		
3305	Compressed gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)		
3306	Compressed gas, poisonous, oxidizing, corrosive, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)		
3306	Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)								

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
3306	Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.3 mi)	2.0 km	(1.3 mi)	360 m	(1200 ft)	3.5 km	(2.2 mi)	8.8 km	(5.5 mi)
3306	Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3306	Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
3306	Compressed gas, toxic, oxidizing, corrosive, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3306	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)												
3306	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.3 mi)	2.0 km	(1.3 mi)	360 m	(1200 ft)	3.5 km	(2.2 mi)	8.8 km	(5.5 mi)
3306	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3306	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
3307	Liquefied gas, poisonous, oxidizing, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3307	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone A)												

3307	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	360 m (1200 ft)	3.5 km (2.2 mi)	8.8 km (5.5 mi)
3307	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)
3307	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)
3307	Liquefied gas, toxic, oxidizing, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
3307	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone A)						
3307	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	360 m (1200 ft)	3.5 km (2.2 mi)	8.8 km (5.5 mi)
3307	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)
3307	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	120 m (400 ft)	1.2 km (0.8 mi)	3.8 km (2.4 mi)
3308	Liquefied gas, poisonous, corrosive, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
3308	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)						
3308	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	800 m (2500 ft)	7.2 km (4.5 mi)	11.0+ km (7.0+ mi)
3308	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)
3308	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)					LARGE SPILLS (From a large package or from many small packages)						
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-			First ISOLATE in all Directions		Then PROTECT persons Downwind during-				
		Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)	NIGHT Kilometers (Miles)			
3308	Liquefied gas, toxic, corrosive, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3308	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)												
3308	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.4 km	(0.3 mi)	2.0 km	(1.3 mi)	800 m	(2500 ft)	7.2 km	(4.5 mi)	11.0+ km	(7.0+ mi)
3308	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3308	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
3309	Liquefied gas, poisonous, flammable, corrosive, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3309	Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)												
3309	Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.1 mi)	1.0 km	(0.6 mi)	420 m	(1400 ft)	4.0 km	(2.5 mi)	10.8 km	(6.7 mi)
3309	Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3309	Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
3309	Liquefied gas, toxic, flammable, corrosive, n.o.s.	600 m	(2000 ft)	5.9 km	(3.7 mi)	11.0+ km	(7.0+ mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3309	Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)												

3309	Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.2 km (0.1 mi)	1.0 km (0.6 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)				
3309	Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)				
3309	Liquefied gas, toxic, flammable, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)				
3310	Liquefied gas, poisonous, oxidizing, corrosive, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
3310	Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)										
3310	Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	360 m (1200 ft)	3.5 km (2.2 mi)	8.8 km (5.5 mi)				
3310	Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.3 km (0.2 mi)	1.2 km (0.8 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)				
3310	Liquefied gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)	60 m (200 ft)	0.6 km (0.4 mi)	2.2 km (1.4 mi)				
3310	Liquefied gas, toxic, oxidizing, corrosive, n.o.s.	600 m (2000 ft)	5.9 km (3.7 mi)	11.0+ km (7.0+ mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
3310	Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)										
3310	Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.3 mi)	2.0 km (1.3 mi)	360 m (1200 ft)	3.5 km (2.2 mi)	8.8 km (5.5 mi)				

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
3310	Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.3 km	(0.2 mi)	1.2 km	(0.8 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3310	Liquefied gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.7 km	(0.4 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
3318	Ammonia solution, with more than 50% Ammonia	30 m	(100 ft)	0.1 km	(0.1 mi)	0.1 km	(0.1 mi)	60 m	(200 ft)	0.6 km	(0.4 mi)	2.2 km	(1.4 mi)
3355	Insecticide gas, poisonous, flammable, n.o.s.	120 m	(400 ft)	1.2 km	(0.8 mi)	5.1 km	(3.2 mi)	1000 m	(3000 ft)	8.7 km	(5.4 mi)	11.0+ km	(7.0+ mi)
3355	Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone A)												
3355	Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.2 km	(0.2 mi)	1.2 km	(0.8 mi)	420 m	(1400 ft)	4.0 km	(2.5 mi)	10.8 km	(6.7 mi)
3355	Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone C)	30 m	(100 ft)	0.2 km	(0.1 mi)	0.8 km	(0.5 mi)	240 m	(800 ft)	2.4 km	(1.5 mi)	6.4 km	(4.0 mi)
3355	Insecticide gas, poisonous, flammable, n.o.s. (Inhalation Hazard Zone D)	30 m	(100 ft)	0.1 km	(0.1 mi)	0.2 km	(0.1 mi)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)
3355	Insecticide gas, toxic, flammable, n.o.s.	120 m	(400 ft)	1.2 km	(0.8 mi)	5.1 km	(3.2 mi)	1000 m	(3000 ft)	8.7 km	(5.4 mi)	11.0+ km	(7.0+ mi)
3355	Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone A)												

3355	Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone B)	30 m (100 ft)	0.2 km (0.2 mi)	1.2 km (0.8 mi)	420 m (1400 ft)	4.0 km (2.5 mi)	10.8 km (6.7 mi)				
3355	Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone C)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	240 m (800 ft)	2.4 km (1.5 mi)	6.4 km (4.0 mi)				
3355	Insecticide gas, toxic, flammable, n.o.s. (Inhalation Hazard Zone D)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	90 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)				
3381	Poisonous by inhalation liquid, n.o.s. (Inhalation Hazard Zone A)	150 m (500 ft)	1.3 km (0.8 mi)	3.5 km (2.2 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
3381	Toxic by inhalation liquid, n.o.s. (Inhalation Hazard Zone A)										
3382	Poisonous by inhalation liquid, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.5 km (0.3 mi)	1.8 km (1.1 mi)	330 m (1100 ft)	3.3 km (2.1 mi)	7.3 km (4.6 mi)				
3382	Toxic by inhalation liquid, n.o.s. (Inhalation Hazard Zone B)										
3383	Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)	150 m (500 ft)	1.3 km (0.8 mi)	3.5 km (2.2 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
3383	Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone A)										
3384	Poisonous by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.4 km (0.2 mi)	1.0 km (0.6 mi)	270 m (900 ft)	2.5 km (1.6 mi)	5.6 km (3.5 mi)				
3384	Toxic by inhalation liquid, flammable, n.o.s. (Inhalation Hazard Zone B)										
3385	Poisonous by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)	150 m (500 ft)	1.3 km (0.8 mi)	3.5 km (2.2 mi)	1000 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)				
3385	Toxic by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone A)										

## TABLE OF INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No. NAME OF MATERIAL		SMALL SPILLS (From a small package or small leak from a large package)						LARGE SPILLS (From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)		Meters	(Feet)	DAY Kilometers (Miles)		NIGHT Kilometers (Miles)	
3386	Poisonous by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330 m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
3386	Toxic by inhalation liquid, water-reactive, n.o.s. (Inhalation Hazard Zone B)												
3387	Poisonous by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)	150 m	(500 ft)	1.3 km	(0.8 mi)	3.5 km	(2.2 mi)	1000 m	(3000 ft)	11.0+ km	(7.0+ mi)	11.0+ km	(7.0+ mi)
3387	Toxic by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone A)												
3388	Poisonous by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)	30 m	(100 ft)	0.4 km	(0.2mi)	1.4 km	(0.9 mi)	270 m	(900 ft)	2.7 km	(1.7 mi)	6.9 km	(4.3 mi)
3388	Toxic by inhalation liquid, oxidizing, n.o.s. (Inhalation Hazard Zone B)												
3389	Poisonous by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)	90 m	(300 ft)	0.8 km	(0.5 mi)	2.4 km	(1.5 mi)	800 m	(2500 ft)	6.2 km	(3.9 mi)	11.0+ km	(7.0+ mi)
3389	Toxic by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)												
3390	Poisonous by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m	(200 ft)	0.5 km	(0.3 mi)	1.8 km	(1.1 mi)	330 m	(1100 ft)	3.3 km	(2.1 mi)	7.3 km	(4.6 mi)
3390	Toxic by inhalation liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)												

3461	Aluminum alkyl halides, solid (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.2 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)
9191	Chlorine dioxide, hydrate, frozen (when spilled in water)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.2 km (0.1 mi)	0.7 km (0.4 mi)
9192	Fluorine, refrigerated liquid (cryogenic liquid)	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	90 m (300 ft)	0.8 km (0.5 mi)	3.5 km (2.2 mi)
9202	Carbon monoxide, refrigerated liquid (cryogenic liquid)	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	90 m (300 ft)	0.7 km (0.4 mi)	2.4 km (1.5 mi)
9206	Methyl phosphonic dichloride	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)
9263	Chloropivaloyl chloride	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.5 km (0.3 mi)
9264	3,5-Dichloro-2,4,6-trifluoropyridine	30 m (100 ft)	0.1 km (0.1 mi)	0.1 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	0.4 km (0.3 mi)
9269	Trimethoxysilane	30 m (100 ft)	0.2 km (0.1 mi)	0.4 km (0.3 mi)	120 m (400 ft)	1.1 km (0.7 mi)	2.2 km (1.4 mi)

**See Next Page for Table of Water-Reactive Materials Which Produce Toxic Gases**

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# TABLE OF WATER-REACTIVE MATERIALS WHICH PRODUCE TOXIC GASES

## Materials Which Produce Large Amounts of Toxic-by-Inhalation (TIH) Gas(es) When Spilled in Water

ID No.	Guide No.	Name of Material	TIH Gas(es) Produced
1162	155	Dimethyldichlorosilane	HCl
1196	155	Ethyltrichlorosilane	HCl
1242	139	Methyldichlorosilane	HCl
1250	155	Methyltrichlorosilane	HCl
1295	139	Trichlorosilane	HCl
1298	155	Trimethylchlorosilane	HCl
1305	155P	Vinyltrichlorosilane	HCl
1305	155P	Vinyltrichlorosilane, inhibited	HCl
1305	155P	Vinyltrichlorosilane, stabilized	HCl
1340	139	Phosphorus pentasulfide, free from yellow and white Phosphorus	H <sub>2</sub> S
1340	139	Phosphorus pentasulphide, free from yellow and white Phosphorus	H <sub>2</sub> S
1360	139	Calcium phosphide	PH <sub>3</sub>
1384	135	Sodium dithionite	H <sub>2</sub> S SO <sub>2</sub>
1384	135	Sodium hydrosulfite	H <sub>2</sub> S SO <sub>2</sub>
1384	135	Sodium hydrosulphite	H <sub>2</sub> S SO <sub>2</sub>
1397	139	Aluminum phosphide	PH <sub>3</sub>
1412	139	Lithium amide	NH <sub>3</sub>
1419	139	Magnesium aluminum phosphide	PH <sub>3</sub>
1432	139	Sodium phosphide	PH <sub>3</sub>
1541	155	Acetone cyanohydrin, stabilized	HCN
1680	157	Potassium cyanide	HCN
1680	157	Potassium cyanide, solid	HCN
1689	157	Sodium cyanide	HCN
1689	157	Sodium cyanide, solid	HCN

### Chemical Symbols for TIH Gases:

Br <sub>2</sub>	Bromine	HF	Hydrogen fluoride	PH <sub>3</sub>	Phosphine
Cl <sub>2</sub>	Chlorine	HI	Hydrogen iodide	SO <sub>2</sub>	Sulfur dioxide
HBr	Hydrogen bromide	H <sub>2</sub> S	Hydrogen sulfide	SO <sub>2</sub>	Sulphur dioxide
HCl	Hydrogen chloride	H <sub>2</sub> S	Hydrogen sulphide	SO <sub>3</sub>	Sulfur trioxide
HCN	Hydrogen cyanide	NH <sub>3</sub>	Ammonia	SO <sub>3</sub>	Sulphur trioxide

# TABLE OF WATER-REACTIVE MATERIALS WHICH PRODUCE TOXIC GASES

## Materials Which Produce Large Amounts of Toxic-by-Inhalation (TIH) Gas(es) When Spilled in Water

ID No.	Guide No.	Name of Material	TIH Gas(es) Produced
1716	156	Acetyl bromide	HBr
1717	155	Acetyl chloride	HCl
1724	155	Allyltrichlorosilane, stabilized	HCl
1725	137	Aluminum bromide, anhydrous	HBr
1726	137	Aluminum chloride, anhydrous	HCl
1728	155	Amyltrichlorosilane	HCl
1732	157	Antimony pentafluoride	HF
1745	144	Bromine pentafluoride	HF Br <sub>2</sub>
1746	144	Bromine trifluoride	HF Br <sub>2</sub>
1747	155	Butyltrichlorosilane	HCl
1752	156	Chloroacetyl chloride	HCl
1754	137	Chlorosulfonic acid	HCl
1754	137	Chlorosulfonic acid and Sulfur trioxide mixture	HCl
1754	137	Chlorosulphonic acid	HCl
1754	137	Chlorosulphonic acid and Sulphur trioxide mixture	HCl
1754	137	Sulfur trioxide and Chlorosulfonic acid	HCl
1754	137	Sulphur trioxide and Chlorosulphonic acid	HCl
1758	137	Chromium oxychloride	HCl
1763	156	Cyclohexyltrichlorosilane	HCl
1766	156	Dichlorophenyltrichlorosilane	HCl
1767	155	Diethyldichlorosilane	HCl
1769	156	Diphenyldichlorosilane	HCl
1771	156	Dodecyltrichlorosilane	HCl
1777	137	Fluorosulfonic acid	HF

### Chemical Symbols for TIH Gases:

Br <sub>2</sub>	Bromine	HF	Hydrogen fluoride	PH <sub>3</sub>	Phosphine
Cl <sub>2</sub>	Chlorine	HI	Hydrogen iodide	SO <sub>2</sub>	Sulfur dioxide
HBr	Hydrogen bromide	H <sub>2</sub> S	Hydrogen sulfide	SO <sub>2</sub>	Sulphur dioxide
HCl	Hydrogen chloride	H <sub>2</sub> S	Hydrogen sulphide	SO <sub>3</sub>	Sulfur trioxide
HCN	Hydrogen cyanide	NH <sub>3</sub>	Ammonia	SO <sub>3</sub>	Sulphur trioxide

Use this list only when material is spilled in water.

# TABLE OF WATER-REACTIVE MATERIALS WHICH PRODUCE TOXIC GASES

## Materials Which Produce Large Amounts of Toxic-by-Inhalation (TIH) Gas(es) When Spilled in Water

ID No.	Guide No.	Name of Material	TIH Gas(es) Produced
1777	137	Fluorosulphonic acid	HF
1784	156	Hexyltrichlorosilane	HCl
1799	156	Nonyltrichlorosilane	HCl
1800	156	Octadecyltrichlorosilane	HCl
1801	156	Octyltrichlorosilane	HCl
1804	156	Phenyltrichlorosilane	HCl
1806	137	Phosphorus pentachloride	HCl
1809	137	Phosphorus trichloride	HCl
1810	137	Phosphorus oxychloride	HCl
1816	155	Propyltrichlorosilane	HCl
1818	157	Silicon tetrachloride	HCl
1828	137	Sulfur chlorides	HCl SO <sub>2</sub> H <sub>2</sub> S
1828	137	Sulphur chlorides	HCl SO <sub>2</sub> H <sub>2</sub> S
1834	137	Sulfuryl chloride	HCl SO <sub>3</sub>
1834	137	Sulphuryl chloride	HCl SO <sub>3</sub>
1836	137	Thionyl chloride	HCl SO <sub>2</sub>
1838	137	Titanium tetrachloride	HCl
1898	156	Acetyl iodide	HI
1923	135	Calcium dithionite	H <sub>2</sub> S SO <sub>2</sub>
1923	135	Calcium hydrosulfite	H <sub>2</sub> S SO <sub>2</sub>
1923	135	Calcium hydrosulphite	H <sub>2</sub> S SO <sub>2</sub>
1931	171	Zinc dithionite	H <sub>2</sub> S SO <sub>2</sub>
1931	171	Zinc hydrosulfite	H <sub>2</sub> S SO <sub>2</sub>
1931	171	Zinc hydrosulphite	H <sub>2</sub> S SO <sub>2</sub>

### Chemical Symbols for TIH Gases:

Br <sub>2</sub>	Bromine	HF	Hydrogen fluoride	PH <sub>3</sub>	Phosphine
Cl <sub>2</sub>	Chlorine	HI	Hydrogen iodide	SO <sub>2</sub>	Sulfur dioxide
HBr	Hydrogen bromide	H <sub>2</sub> S	Hydrogen sulfide	SO <sub>2</sub>	Sulphur dioxide
HCl	Hydrogen chloride	H <sub>2</sub> S	Hydrogen sulphide	SO <sub>3</sub>	Sulfur trioxide
HCN	Hydrogen cyanide	NH <sub>3</sub>	Ammonia	SO <sub>3</sub>	Sulphur trioxide

# TABLE OF WATER-REACTIVE MATERIALS WHICH PRODUCE TOXIC GASES

## Materials Which Produce Large Amounts of Toxic-by-Inhalation (TIH) Gas(es) When Spilled in Water

ID No.	Guide No.	Name of Material	TIH Gas(es) Produced
2004	135	Magnesium diamide	NH <sub>3</sub>
2011	139	Magnesium phosphide	PH <sub>3</sub>
2012	139	Potassium phosphide	PH <sub>3</sub>
2013	139	Strontium phosphide	PH <sub>3</sub>
2437	156	Methylphenyldichlorosilane	HCl
2495	144	Iodine pentafluoride	HF
2691	137	Phosphorus pentabromide	HBr
2692	157	Boron tribromide	HBr
2806	138	Lithium nitride	NH <sub>3</sub>
2977	166	Radioactive material, Uranium hexafluoride, fissile	HF
2977	166	Uranium hexafluoride, fissile containing more than 1% Uranium-235	HF
2978	166	Radioactive material, Uranium hexafluoride	HF
2978	166	Radioactive material, Uranium hexafluoride, non-fissile or fissile-excepted	HF
2978	166	Uranium hexafluoride	HF
2978	166	Uranium hexafluoride, fissile-excepted	HF
2978	166	Uranium hexafluoride, low specific activity	HF
2978	166	Uranium hexafluoride, non-fissile	HF
2985	155	Chlorosilanes, flammable, corrosive, n.o.s.	HCl
2985	155	Chlorosilanes, n.o.s.	HCl
2986	155	Chlorosilanes, corrosive, flammable, n.o.s.	HCl
2986	155	Chlorosilanes, n.o.s.	HCl
2987	156	Chlorosilanes, corrosive, n.o.s.	HCl
2987	156	Chlorosilanes, n.o.s.	HCl

### Chemical Symbols for TIH Gases:

Br <sub>2</sub>	Bromine	HF	Hydrogen fluoride	PH <sub>3</sub>	Phosphine
Cl <sub>2</sub>	Chlorine	HI	Hydrogen iodide	SO <sub>2</sub>	Sulfur dioxide
HBr	Hydrogen bromide	H <sub>2</sub> S	Hydrogen sulfide	SO <sub>2</sub>	Sulphur dioxide
HCl	Hydrogen chloride	H <sub>2</sub> S	Hydrogen sulphide	SO <sub>3</sub>	Sulfur trioxide
HCN	Hydrogen cyanide	NH <sub>3</sub>	Ammonia	SO <sub>3</sub>	Sulphur trioxide

Use this list only when material is spilled in water.

# TABLE OF WATER-REACTIVE MATERIALS WHICH PRODUCE TOXIC GASES

## Materials Which Produce Large Amounts of Toxic-by-Inhalation (TIH) Gas(es) When Spilled in Water

ID No.	Guide No.	Name of Material	TIH Gas(es) Produced
2988	139	Chlorosilanes, n.o.s.	HCl
2988	139	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.	HCl
3048	157	Aluminum phosphide pesticide	PH <sub>3</sub>
3049	138	Metal alkyl halides, n.o.s.	HCl
3049	138	Metal alkyl halides, water-reactive, n.o.s.	HCl
3049	138	Metal aryl halides, n.o.s.	HCl
3049	138	Metal aryl halides, water-reactive, n.o.s.	HCl
3052	135	Aluminum alkyl halides	HCl
3052	135	Aluminum alkyl halides, liquid	HCl
3052	135	Aluminum alkyl halides, solid	HCl
3461	135	Aluminum alkyl halides, solid	HCl
9191	143	Chlorine dioxide, hydrate, frozen	Cl <sub>2</sub>

### Chemical Symbols for TIH Gases:

Br <sub>2</sub>	Bromine	HF	Hydrogen fluoride	PH <sub>3</sub>	Phosphine
Cl <sub>2</sub>	Chlorine	HI	Hydrogen iodide	SO <sub>2</sub>	Sulfur dioxide
HBr	Hydrogen bromide	H <sub>2</sub> S	Hydrogen sulfide	SO <sub>2</sub>	Sulphur dioxide
HCl	Hydrogen chloride	H <sub>2</sub> S	Hydrogen sulphide	SO <sub>3</sub>	Sulfur trioxide
HCN	Hydrogen cyanide	NH <sub>3</sub>	Ammonia	SO <sub>3</sub>	Sulphur trioxide

# TABLE OF WATER-REACTIVE MATERIALS WHICH PRODUCE TOXIC GASES

## Materials Which Produce Large Amounts of Toxic-by-Inhalation (TIH) Gas(es) When Spilled in Water

ID No.	Guide No.	Name of Material	TIH Gas(es) Produced
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### Chemical Symbols for TIH Gases:

Br <sub>2</sub>	Bromine	HF	Hydrogen fluoride	PH <sub>3</sub>	Phosphine
Cl <sub>2</sub>	Chlorine	HI	Hydrogen iodide	SO <sub>2</sub>	Sulfur dioxide
HBr	Hydrogen bromide	H <sub>2</sub> S	Hydrogen sulfide	SO <sub>2</sub>	Sulphur dioxide
HCl	Hydrogen chloride	H <sub>2</sub> S	Hydrogen sulphide	SO <sub>3</sub>	Sulfur trioxide
HCN	Hydrogen cyanide	NH <sub>3</sub>	Ammonia	SO <sub>3</sub>	Sulphur trioxide

Use this list only when material is spilled in water.

## PROTECTIVE CLOTHING

**Street Clothing and Work Uniforms.** These garments, such as uniforms worn by police and emergency medical services personnel, provide almost no protection from the harmful effects of dangerous goods.

**Structural Fire Fighters' Protective Clothing (SFPC).** This category of clothing, often called turnout or bunker gear, means the protective clothing normally worn by fire fighters during structural fire fighting operations. It includes a helmet, coat, pants, boots, gloves and a hood to cover parts of the head not protected by the helmet and facepiece. This clothing must be used with full-facepiece positive pressure self-contained breathing apparatus (SCBA). This protective clothing should, at a minimum, meet the OSHA Fire Brigades Standard (29 CFR 1910.156). Structural fire fighters' protective clothing provides limited protection from heat and cold, but may not provide adequate protection from the harmful vapors or liquids that are encountered during dangerous goods incidents. Each guide includes a statement about the use of SFPC in incidents involving those materials referenced by that guide. Some guides state that SFPC provides limited protection. In those cases, the responder wearing SFPC and SCBA may be able to perform an expedient, that is quick "in-and-out", operation. However, this type of operation can place the responder at risk of exposure, injury or death. The incident commander makes the decision to perform this operation only if an overriding benefit can be gained (i.e., perform an immediate rescue, turn off a valve to control a leak, etc.). The coverall-type protective clothing customarily worn to fight fires in forests or wildlands is **not** SFPC and is not recommended nor referred to elsewhere in this guidebook.

**Positive Pressure Self-Contained Breathing Apparatus (SCBA).** This apparatus provides a constant, positive pressure flow of air within the facepiece, even if one inhales deeply while doing heavy work. Use apparatus certified by NIOSH and the Department of Labor/Mine Safety and Health Administration in accordance with 42 CFR Part 84. Use it in accordance with the requirements for respiratory protection specified in OSHA 29 CFR 1910.134 (Respiratory Protection) and/or 29 CFR 1910.156 (f) (Fire Brigades Standard). Chemical-cartridge respirators or other filtering masks are not acceptable substitutes for positive pressure self-contained breathing apparatus. Demand-type SCBA does not meet the OSHA 29 CFR 1910.156 (f)(1)(i) of the Fire Brigades Standard.

**Chemical Protective Clothing and Equipment.** Safe use of this type of protective clothing and equipment requires specific skills developed through training and experience. It is generally not available to, or used by, first responders. This type of special clothing may protect against one chemical, yet be readily permeated by chemicals for which it was not designed. Therefore, protective clothing should not be used unless it is compatible with the released material. This type of special clothing offers little or no protection against heat and/or cold. Examples of this type of equipment have been described as (1) Vapor Protective Suits (NFPA 1991), also known as Totally-Encapsulating Chemical Protective (TECP) Suits or Level A\* protection (OSHA 29 CFR 1910.120, Appendix A & B), and (2) Liquid-Splash Protective Suits (NFPA 1992 & 1993), also known as Level B\* or C\* protection (OSHA 29 CFR 1910.120,

Appendix A & B) or suits for chemical/biological terrorism incidents (NFPA 1994), class 1, 2 or 3 Ensembles. No single protective clothing material will protect you from all dangerous goods. Do not assume any protective clothing is resistant to cold and/or heat or flame exposure unless it is so certified by the manufacturer. (NFPA 1991 5-3 Flammability Resistance Test and 5-6 Cold Temperature Performance Test)

\* Consult glossary for additional protection levels under the heading "Protective Clothing".

## FIRE AND SPILL CONTROL

### FIRE CONTROL

Water is the most common and generally most available fire extinguishing agent. Exercise caution in selecting a fire extinguishing method since there are many factors to be considered in an incident. Water may be ineffective in fighting fires involving some materials; its effectiveness depends greatly on the method of application.

Spill fires involving flammable liquids are generally controlled by applying a fire fighting foam to the surface of the burning material. Fighting flammable liquid fires requires foam concentrate which is chemically compatible with the burning material, correct mixing of the foam concentrate with water and air, and careful application and maintenance of the foam blanket. There are two general types of fire fighting foam: regular and alcohol-resistant. Examples of regular foam are protein-base, fluoroprotein, and aqueous film forming foam (AFFF). Some flammable liquids, including many petroleum products, can be controlled by applying regular foam. Other flammable liquids, including polar solvents (flammable liquids which are water soluble) such as alcohols and ketones, have different chemical properties. A fire involving these materials cannot be easily controlled with regular foam and requires application of alcohol-resistant foam. Polar-solvent fires may be difficult to control and require a higher foam application rate than other flammable liquid fires (see NFPA/ANSI Standards 11 and 11A for further information). Refer to the appropriate guide to determine which type of foam is recommended. Although it is impossible to make specific recommendations for flammable liquids which have subsidiary corrosive or toxic hazards, alcohol-resistant foam may be effective for many of these materials. The emergency response telephone number on the shipping document, or the appropriate emergency response agency, should be contacted as soon as possible for guidance on the proper fire extinguishing agent to use. The final selection of the agent and method depends on many factors such as incident location, exposure hazards, size of the fire, environmental concerns, as well as the availability of extinguishing agents and equipment at the scene.

### WATER REACTIVE MATERIALS

Water is sometimes used to flush spills and to reduce or direct vapors in spill situations. Some of the materials covered by the guidebook can react violently or even explosively with water. In these cases, consider letting the fire burn or leaving the spill alone (except to prevent its spreading by diking) until additional technical advice can be obtained. The applicable guides clearly warn you of these potentially dangerous reactions. These materials require technical advice since

- (1) water getting inside a ruptured or leaking container may cause an explosion;
- (2) water may be needed to cool adjoining containers to prevent their rupturing (exploding) or further spread of the fires;
- (3) water may be effective in mitigating an incident involving a water-reactive material only if it can be applied at a sufficient flooding rate for an extended period; and

- (4) the products from the reaction with water may be more toxic, corrosive, or otherwise more undesirable than the product of the fire without water applied.

When responding to an incident involving water-reactive chemicals, take into account the existing conditions such as wind, precipitation, location and accessibility to the incident, as well as the availability of the agents to control the fire or spill. Because there are variables to consider, the decision to use water on fires or spills involving water-reactive materials should be based on information from an authoritative source; for example, a producer of the material, who can be contacted through the emergency response telephone number or the appropriate emergency response agency.

## **VAPOR CONTROL**

Limiting the amount of vapor released from a pool of flammable or corrosive liquids is an operational concern. It requires the use of proper protective clothing, specialized equipment, appropriate chemical agents, and skilled personnel. Before engaging in vapor control, get advice from an authoritative source as to the proper tactics.

There are several ways to minimize the amount of vapors escaping from pools of spilled liquids, such as special foams, adsorbing agents, absorbing agents, and neutralizing agents. To be effective, these vapor control methods must be selected for the specific material involved and performed in a manner that will mitigate, not worsen, the incident.

Where specific materials are known, such as at manufacturing or storage facilities, it is desirable for the dangerous goods response team to prearrange with the facility operators to select and stockpile these control agents in advance of a spill. In the field, first responders may not have the most effective vapor control agent for the material available. They are likely to have only water and only one type of fire fighting foam on their vehicles. If the available foam is inappropriate for use, they are likely to use water spray. Because the water is being used to form a vapor seal, care must be taken not to churn or further spread the spill during application. Vapors that do not react with water may be directed away from the site using the air currents surrounding the water spray. Before using water spray or other methods to safely control vapor emission or to suppress ignition, obtain technical advice, based on specific chemical name identification.

## CRIMINAL/TERRORIST USE OF CHEMICAL/BIOLOGICAL/RADIOLOGICAL AGENTS

The following is intended to supply information to first responders for use in making a preliminary assessment of a situation that they suspect involves criminal/terrorist use of chemical, biological (CB) agents and/or radioactive materials. To aid in the assessment, a list of observable indicators of the use and/or presence of a CB agent or radioactive material is provided in the following paragraphs.

### **DIFFERENCES BETWEEN A CHEMICAL, BIOLOGICAL AND RADIOLOGICAL AGENT**

Chemical and biological agents as well as radioactive materials can be dispersed in the air we breathe, the water we drink, or on surfaces we physically contact. Dispersion methods may be as simple as opening a container, using conventional (garden) spray devices, or as elaborate as detonating an improvised explosive device.

**Chemical Incidents** are characterized by the rapid onset of medical symptoms (minutes to hours) and easily observed signatures (colored residue, dead foliage, pungent odor, dead insects and animals).

**Biological Incidents** are characterized by the onset of symptoms in hours to days. Typically, there will be no characteristic signatures because biological agents are usually odorless and colorless. Because of the delayed onset of symptoms in a biological incident, the area affected may be greater due to the movement of infected individuals.

**Radiological Incidents** are characterized by the onset of symptoms, if any, in days to weeks or longer. Typically, there will be no characteristic signatures because radioactive materials are usually odorless and colorless. Specialized equipment is required to determine the size of the affected area, and whether the level of radioactivity presents an immediate or long-term health hazard. Because radioactivity is not detectable without special equipment, the affected area may be greater due to the migration of contaminated individuals.

At the levels created by most probable sources, not enough radiation would be generated to kill people or cause severe illness. In a radiological incident generated by a "dirty bomb", or Radiological Dispersal Device (RDD), in which a conventional explosive is detonated to spread radioactive contamination, the primary hazard is from the explosion. However, certain radioactive materials dispersed in the air could contaminate up to several city blocks, creating fear and possibly panic, and requiring potentially costly cleanup.

### **INDICATORS OF A POSSIBLE CHEMICAL INCIDENT**

#### **Dead animals/birds/fish**

Not just an occasional road kill, but numerous animals (wild and domestic, small and large), birds, and fish in the same area.

## INDICATORS OF A POSSIBLE CHEMICAL INCIDENT (Continued)

<b>Lack of insect life</b>	If normal insect activity (ground, air, and/or water) is missing, check the ground/water surface/shore line for dead insects. If near water, check for dead fish/aquatic birds.
<b>Unexplained odors</b>	Smells may range from fruity to flowery to sharp/pungent to garlic/ horseradish-like to bitter almonds/peach kernels to new mown hay. It is important to note that the particular odor is completely out of character with its surroundings.
<b>Unusual numbers of dying or sick people (mass casualties)</b>	Health problems including nausea, disorientation, difficulty in breathing, convulsions, localized sweating, conjunctivitis (reddening of eyes/nerve agent symptoms), erythema (reddening of skin/vesicant symptoms) and death.
<b>Pattern of casualties</b>	Casualties will likely be distributed downwind, or if indoors, by the air ventilation system.
<b>Blisters/rashes</b>	Numerous individuals experiencing unexplained water-like blisters, weals (like bee stings), and/or rashes.
<b>Illness in confined area</b>	Different casualty rates for people working indoors versus outdoors dependent on where the agent was released.
<b>Unusual liquid droplets</b>	Numerous surfaces exhibit oily droplets/film; numerous water surfaces have an oily film. (No recent rain.)
<b>Different looking areas</b>	Not just a patch of dead weeds, but trees, shrubs, bushes, food crops, and/or lawns that are dead, discolored, or withered. (No current drought.)
<b>Low-lying clouds</b>	Low-lying cloud/fog-like condition that is not consistent with its surroundings.
<b>Unusual metal debris</b>	Unexplained bomb/munitions-like material, especially if it contains a liquid.

## INDICATORS OF A POSSIBLE BIOLOGICAL INCIDENT

<b>Unusual numbers of sick or dying people or animals</b>	Any number of symptoms may occur. Casualties may occur hours to days after an incident has occurred. The time required before symptoms are observed is dependent on the agent used.
<b>Unscheduled and unusual spray being disseminated</b>	Especially if outdoors during periods of darkness.
<b>Abandoned spray devices</b>	Devices may not have distinct odors.

## INDICATORS OF A POSSIBLE RADIOLOGICAL INCIDENT

<b>Radiation Symbols</b>	Containers may display a “propeller” radiation symbol.
<b>Unusual metal debris</b>	Unexplained bomb/munitions-like material.
<b>Heat-emitting material</b>	Material that is hot or seems to emit heat without any sign of an external heat source.
<b>Glowing material</b>	Strongly radioactive material may emit or cause radioluminescence.
<b>Sick people/animals</b>	In very improbable scenarios there may be unusual numbers of sick or dying people or animals. Casualties may occur hours to days or weeks after an incident has occurred. The time required before symptoms are observed is dependent on the radioactive material used, and the dose received. Possible symptoms include skin reddening or vomiting.

## PERSONAL SAFETY CONSIDERATIONS

When approaching a scene that may involve CB agents or radioactive materials, the most critical consideration is the safety of oneself and other responders. Protective clothing and respiratory protection of appropriate level of safety must be used. Be aware that the presence and identification of CB or radioactive materials may not be verifiable, especially in the case of biological or radiological agents. The following actions/measures to be considered are applicable to either a chemical, biological or radiological incident. The guidance is general in nature, not all encompassing, and its applicability should be evaluated on a case-by-case basis.

**Approach and response strategies.** Protect yourself and use a safe approach (minimize any exposure time, maximize the distance between you and the item that is likely to harm you, use cover as protection and wear appropriate personal protective equipment and respiratory protection). Identify and estimate the hazard by using indicators as provided above. Isolate the area and secure the scene; potentially contaminated people should be isolated and decontaminated as soon as possible. To the extent possible, take measures to limit the spread of contamination. In the event of a chemical incident, the fading of chemical odors is not necessarily an indication of reduced vapor concentrations. Some chemicals deaden the senses giving the false perception that the chemical is no longer present.

If there is any indication that an area may be contaminated with radioactive materials, including the site of any non-accidental explosion, responder personnel should be equipped with radiation detection equipment that would alert them if they are entering a radiologically compromised environment, and should have received adequate training in its use. This equipment should be designed in such a way that it can also alert the responders when an unacceptable ambient dose rate or ambient dose has been reached.

**Decontamination measures.** Emergency responders should follow standard decontamination procedures (flush-strip-flush). Mass casualty decontamination should begin as soon as possible by stripping (all clothing) and flushing (soap and water). If biological agents are involved or suspected, careful washing and use of a brush are more effective. If chemical agents are suspected, the most important and effective decontamination will be that done within the first one or two minutes. If possible, further decontamination should be performed using a 0.5% hypochlorite solution (1 part household bleach mixed with 9 parts water). If biological agents are suspected, a contact time of 10 to 15 minutes should be allowed before rinsing. The solution can be used on soft tissue wounds, but must not be used in eyes or open wounds of the abdomen, chest, brain, or spine. For further information contact the agencies listed in this guidebook.

For persons contaminated with radioactive material, remove them to a low radiation area if necessary. Remove their clothing and place it in a clearly marked sealed receptacle, such as a plastic bag, for later testing. Use decontamination methods described above, but avoid breaking the skin, e.g., from shaving, or overly vigorous brushing. External radiological contamination on intact skin surface rarely causes a high enough dose to be a hazard to either the contaminated person or the first responders. For this reason, except in very unusual circumstances, an injured person who is also radiologically contaminated should be medically stabilized, taking care to minimize the spread of the contamination to the extent possible, before decontamination measures are initiated.

**NOTE:** The above information was developed in part by the Department of National Defence (Canada) and the U.S. Department of the Army, Edgewood Arsenal.

## Glossary

Alcohol resistant foam	A foam that is resistant to “polar” chemicals such as ketones and esters which may break down other types of foam.
Biological agents	Living organisms that cause disease, sickness and mortality in humans. Anthrax and Ebola are examples of biological agents. <b>Refer to GUIDE 158.</b>
Blister agents (vesicants)	Substances that cause blistering of the skin. Exposure is through liquid or vapor contact with any exposed tissue (eyes, skin, lungs). Mustard (H), Distilled Mustard (HD), Nitrogen Mustard (HN) and Lewisite (L) are blister agents. <b>Symptoms:</b> Red eyes, skin irritation, burning of skin, blisters, upper respiratory damage, cough, hoarseness.
Blood agents	Substances that injure a person by interfering with cell respiration (the exchange of oxygen and carbon dioxide between blood and tissues). Hydrogen cyanide (AC) and Cyanogen chloride (CK) are blood agents. <b>Symptoms:</b> Respiratory distress, headache, unresponsiveness, seizures, coma.
Burn	Refers to either a chemical or thermal burn, the former may be caused by corrosive substances and the latter by liquefied cryogenic gases, hot molten substances, or flames.
Choking agents	Substances that cause physical injury to the lungs. Exposure is through inhalation. In extreme cases, membranes swell and lungs become filled with liquid (pulmonary edema). Death results from lack of oxygen; hence, the victim is “choked”. Phosgene (CG) is a choking agent. <b>Symptoms:</b> irritation to eyes/nose/throat, respiratory distress, nausea and vomiting, burning of exposed skin.
CO <sub>2</sub>	Carbon dioxide gas.
Cold zone	Area where the command post and support functions that are necessary to control the incident are located. This is also referred to as the clean zone, green zone or support zone in other documents. (EPA Standard Operating Safety Guidelines, OSHA 29 CFR 1910.120, NFPA 472)

## Glossary

Combustible liquid	Liquids which have a flash point greater than 60.5°C (141°F) and below 93°C (200°F). U.S. regulations permit a flammable liquid with a flash point between 38°C (100°F) and 60.5°C (141°F) to be reclassified as a combustible liquid.
Compatibility Group	<p>Letters identify explosives that are deemed to be compatible. Class 1 materials are considered to be “compatible” if they can be transported together without significantly increasing either the probability of an incident or, for a given quantity, the magnitude of the effects of such an incident.</p> <ul style="list-style-type: none"><li>A Substances which are expected to mass detonate very soon after fire reaches them.</li><li>B Articles which are expected to mass detonate very soon after fire reaches them.</li><li>C Substances or articles which may be readily ignited and burn violently without necessarily exploding.</li><li>D Substances or articles which may mass detonate (with blast and/or fragment hazard) when exposed to fire.</li></ul> <p>E&amp;F Articles which may mass detonate in a fire.</p> <ul style="list-style-type: none"><li>G Substances and articles which may mass explode and give off smoke or toxic gases.</li><li>H Articles which in a fire may eject hazardous projectiles and dense white smoke.</li><li>J Articles which may mass explode.</li><li>K Articles which in a fire may eject hazardous projectiles and toxic gases.</li><li>L Substances and articles which present a special risk and could be activated by exposure to air or water.</li><li>N Articles which contain only extremely insensitive detonating substances and demonstrate a negligible probability of accidental ignition or propagation.</li><li>S Packaged substances or articles which, if accidentally initiated, produce effects that are usually confined to the immediate vicinity.</li></ul>

## Glossary

Control zones	Designated areas at dangerous goods incidents, based on safety and the degree of hazard. Many terms are used to describe control zones; however, in this guidebook, these zones are defined as the hot/exclusion/restricted zone, warm/contamination reduction/limited access zone, and cold/support/clean zone. (EPA Standard Operating Safety Guidelines, OSHA 29 CFR 1910.120, NFPA 472)
Cryogenic liquid	A refrigerated, liquefied gas that has a boiling point colder than -90°C (-130°F) at atmospheric pressure.
Dangerous Water Reactive Material	Produces significant toxic gas when it comes in contact with water.
Decomposition products	Products of a chemical or thermal break-down of a substance.
Decontamination	The removal of dangerous goods from personnel and equipment to the extent necessary to prevent potential adverse health effects. Always avoid direct or indirect contact with dangerous goods; however, if contact occurs, personnel should be decontaminated as soon as possible. Since the methods used to decontaminate personnel and equipment differ from one chemical to another, contact the chemical manufacturer, through the agencies listed on the inside back cover, to determine the appropriate procedure. Contaminated clothing and equipment should be removed after use and stored in a controlled area (warm/contamination reduction/limited access zone) until cleanup procedures can be initiated. In some cases, protective clothing and equipment cannot be decontaminated and must be disposed of in a proper manner.
Dry chemical	A preparation designed for fighting fires involving flammable liquids, pyrophoric substances and electrical equipment. Common types contain sodium bicarbonate or potassium bicarbonate.
Edema	The accumulation of an excessive amount of watery fluid in cells and tissues. Pulmonary edema is an excessive buildup of water in the lungs, for instance, after inhalation of a gas that is corrosive to lung tissue.
ERPG(s)	Emergency Response Planning Guideline(s). Values intended to provide estimates of concentration ranges above which one could reasonably anticipate observing adverse health effects; see ERPG-1, ERPG-2 and ERPG-3.

## Glossary

ERPG-1	The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to 1 hour without experiencing more than mild, transient adverse health effects or without perceiving a clearly defined objectionable odor.
ERPG-2	The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to 1 hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair an individual's ability to take protective action.
ERPG-3	The maximum airborne concentration below which it is believed nearly all individuals could be exposed for up to 1 hour without experiencing or developing life-threatening health effects.
Flammable liquid	A liquid that has a flash point of 60.5°C (141°F) or lower.
Flash point	Lowest temperature at which a liquid or solid gives off vapor in such a concentration that, when the vapor combines with air near the surface of the liquid or solid, a flammable mixture is formed. Hence, the lower the flash point, the more flammable the material.
Hazard zones (Inhalation Hazard Zones)	<b>HAZARD ZONE A:</b> Gases: LC50 of less than or equal to 200 ppm, Liquids: V equal to or greater than 500 LC50 and LC50 less than or equal to 200 ppm, <b>HAZARD ZONE B:</b> Gases: LC50 greater than 200 ppm and less than or equal to 1000 ppm, Liquids: V equal to or greater than 10 LC50; LC50 less than or equal to 1000 ppm and criteria for Hazard Zone A are not met. <b>HAZARD ZONE C:</b> LC50 greater than 1000 ppm and less than or equal to 3000 ppm, <b>HAZARD ZONE D:</b> LC50 greater than 3000 ppm and less than or equal to 5000 ppm.
Hot zone	Area immediately surrounding a dangerous goods incident which extends far enough to prevent adverse effects from released dangerous goods to personnel outside the zone. This zone is also referred to as exclusion zone, red zone or restricted zone in other documents. (EPA Standard Operating Safety Guidelines, OSHA 29 CFR 1910.120, NFPA 472)

## Glossary

Immiscible	In this guidebook, means that a material does not mix readily with water.
LC50	Lethal concentration 50. The concentration of a material administered by inhalation that is expected to cause the death of 50% of an experimental animal population within a specified time. (Concentration is reported in either ppm or mg/m <sup>3</sup> )
Mass explosion	Explosion which affects almost the entire load virtually instantaneously.
mg/m <sup>3</sup>	Milligrams of a material per cubic meter of air.
Miscible	In this guidebook, means that a material mixes readily with water.
mL/m <sup>3</sup>	Milliliters of a material per cubic meter of air. (1 mL/m <sup>3</sup> equals 1 ppm)
Nerve agents	<p>Substances that interfere with the central nervous system. Exposure is primarily through contact with the liquid (via skin and eyes) and secondarily through inhalation of the vapor. Tabun (GA), Sarin (GB), Soman (GD) and VX are nerve agents.</p> <p><b>Symptoms:</b> Pinpoint pupils, extreme headache, severe tightness in the chest, dyspnea, runny nose, coughing, salivation, unresponsiveness, seizures.</p>
Non-polar	See "Immiscible".
n.o.s.	These letters refer to not otherwise specified. The entries which use this description are generic names such as "Corrosive liquid, n.o.s." This means that the actual chemical name for that corrosive liquid is not listed in the regulations; therefore, a generic name must be used to describe it on shipping papers.
Noxious	In this guidebook, means that a material may be harmful or injurious to health or physical well-being.
Oxidizer	A chemical which supplies its own oxygen and which helps other combustible material burn more readily.

## Glossary

P	The letter "P" following a guide number in the yellow-bordered and blue-bordered pages identifies a material which may polymerize violently under high temperature conditions or contamination with other products. This polymerization will produce heat and high pressure buildup in containers which may explode or rupture. (See polymerization below.)
pH	pH is a value that represents the acidity or alkalinity of a water solution. Pure water has a pH of 7. A pH value below 7 indicates an acid solution (a pH of 1 is extremely acidic). A pH above 7 indicates an alkaline solution (a pH of 14 is extremely alkaline). Acids and alkalies (bases) are commonly referred to as corrosive materials.
PIH	Poison Inhalation Hazard. Term used to describe gases and volatile liquids that are toxic when inhaled. (Same as TIH)
Polar	See "Miscible".
Polymerization	This term describes a chemical reaction which is generally associated with the production of plastic substances. Basically, the individual molecules of the chemical (liquid or gas) react with each other to produce what can be described as a long chain. These chains can be formed in many useful applications. A well known example is the styrofoam (polystyrene) coffee cup which is formed when liquid molecules of styrene react with each other or polymerize forming a solid, therefore changing the name from styrene to polystyrene (poly means many).
ppm	Parts per million. (1 ppm equals 1 mL/m <sup>3</sup> )
Protective clothing	Includes both respiratory and physical protection. One cannot assign a level of protection to clothing or respiratory devices separately. These levels were accepted and defined by response organizations such as U.S. Coast Guard, NIOSH, and U.S. EPA. Level A: SCBA plus totally encapsulating chemical resistant clothing (permeation resistant). Level B: SCBA plus hooded chemical resistant clothing (splash suit). Level C: Full or half-face respirator plus hooded chemical resistant clothing (splash suit). Level D: Coverall with no respiratory protection.
Pyrophoric	A material which ignites spontaneously upon exposure to air (or oxygen).

## Glossary

Radioactivity	The property of some substances to emit invisible and potentially harmful radiation.
Radiation Authority	As referred to in GUIDES 161 through 166 for radioactive materials, the Radiation Authority is either a Federal, state/provincial agency or state/province designated official. The responsibilities of this authority include evaluating radiological hazard conditions during normal operations and during emergencies. If the identity and telephone number of the authority are not known by emergency responders, or included in the local response plan, the information can be obtained from the agencies listed on the inside back cover. They maintain a periodically updated list of radiation authorities.
Refrigerated liquid	See "Cryogenic liquid".
Straight (solid) stream	Method used to apply or distribute water from the end of a hose. The water is delivered under pressure for penetration. In an efficient straight (solid) stream, approximately 90% of the water passes through an imaginary circle 38 cm (15 inches) in diameter at the breaking point. Hose (solid or straight) streams are frequently used to cool tanks and other equipment exposed to flammable liquid fires, or for washing burning spills away from danger points. However, straight streams will cause a spill fire to spread if improperly used or when directed into open containers of flammable and combustible liquids.
TIH	Toxic Inhalation Hazard. Term used to describe gases and volatile liquids that are toxic when inhaled. (Same as PIH)
V	Saturated vapor concentration in air of a material in mL/m <sup>3</sup> (volatility) at 20°C and standard atmospheric pressure.
Vapor density	Weight of a volume of pure vapor or gas (with no air present) compared to the weight of an equal volume of dry air at the same temperature and pressure. A vapor density less than 1 (one) indicates that the vapor is lighter than air and will tend to rise. A vapor density greater than 1 (one) indicates that the vapor is heavier than air and may travel along the ground.
Vapor pressure	Pressure at which a liquid and its vapor are in equilibrium at a given temperature. Liquids with high vapor pressures evaporate rapidly.

## Glossary

Viscosity	Measure of a liquid's internal resistance to flow. This property is important because it indicates how fast a material will leak out through holes in containers or tanks.
Warm zone	Area between Hot and Cold zones where personnel and equipment decontamination and hot zone support take place. It includes control points for the access corridor and thus assists in reducing the spread of contamination. Also referred to as the contamination reduction corridor (CRC), contamination reduction zone (CRZ), yellow zone or limited access zone in other documents. (EPA Standard Operating Safety Guidelines, OSHA 29 CFR 1910.120, NFPA 472)
Water-sensitive	Substances which may produce flammable and/or toxic decomposition products upon contact with water.
Water spray (fog)	<p>Method or way to apply or distribute water. The water is finely divided to provide for high heat absorption. Water spray patterns can range from about 10 to 90 degrees. Water spray streams can be used to extinguish or control the burning of a fire or to provide exposure protection for personnel, equipment, buildings, etc. <b>(This method can be used to absorb vapors, knock-down vapors or disperse vapors. Direct a water spray (fog), rather than a straight (solid) stream, into the vapor cloud to accomplish any of the above).</b></p> <p>Water spray is particularly effective on fires of flammable liquids and volatile solids having flash points above 37.8°C (100°F).</p> <p>Regardless of the above, water spray can be used successfully on flammable liquids with low flash points. The effectiveness depends particularly on the method of application. With proper nozzles, even gasoline spill fires of some types have been extinguished when coordinated hose lines were used to sweep the flames off the surface of the liquid. Furthermore, water spray carefully applied has frequently been used with success in extinguishing fires involving flammable liquids with high flash points (or any viscous liquids) by causing frothing to occur only on the surface, and this foaming action blankets and extinguishes the fire.</p>

## **PUBLICATION DATA**

The 2004 Emergency Response Guidebook (ERG2004) was prepared by the staff of Transport Canada, the U.S. Department of Transportation, and the Secretariat of Communications and Transport of Mexico with the assistance of many interested parties from government and industry including the collaboration of CIQUIME of Argentina. The principal authors of the ERG since its inception have been Transport Canada's Michel Cloutier and U.S. DOT's George Cushmac.

ERG2004 is based on earlier Transport Canada, U.S. DOT, and Secretariat of Communications and Transport emergency response guidebooks. ERG2004 is published in three languages: English, French and Spanish. The Emergency Response Guidebook has been translated and printed in other languages, including Chinese, German, Hebrew, Japanese, Portuguese, Korean, Hungarian, Polish, Turkish and Thai.

We encourage countries that wish to participate in future editions of the Guidebook to provide their emergency response center information for inclusion. Please contact any of the websites or telephone numbers in the paragraph below.

## **DISTRIBUTION OF THIS GUIDEBOOK**

The primary objective is to place one copy of the ERG2004 in each emergency service vehicle through distribution to Federal, state, provincial and local public safety authorities. The distribution of this guidebook is being accomplished through the voluntary cooperation of a network of key agencies. Emergency service organizations that have not yet received copies of ERG2004 should contact the respective distribution center in their country, state or province. In the U.S., information about the distribution center for your location may be obtained from the Office of Hazardous Materials Safety web site at <http://hazmat.dot.gov> or call 202-366-4900. In Canada, contact CANUTEC at 613-992-4624 or via the web site at <http://www.canutec.gc.ca> for information. In Mexico, call SCT at 52-555-684-1275 or 684-0188 or via email at [iflores@sct.gob.mx](mailto:iflores@sct.gob.mx). In Argentina, call CIQUIME at 011-4613-1100, or via the web site at <http://www.ciquime.org.ar>, or via email at [erg2004@ciquime.org.ar](mailto:erg2004@ciquime.org.ar)

## **REPRODUCTION and RESALE**

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Constructive comments concerning ERG2004 are solicited; in particular, comments concerning its use in handling incidents involving dangerous goods. Comments should be addressed to:

**In Canada:**

Director, CANUTEC  
Transport Dangerous Goods  
Transport Canada  
Ottawa, Ontario  
Canada K1A 0N5

Phone: 613-992-4624 (information)  
FAX: 613-954-5101  
Email: canutec@tc.gc.ca

**In the U.S.:**

U. S. Department of Transportation  
Research and Special Programs Administration  
Office of Hazardous Materials Initiatives and Training (DHM-50)  
Washington, DC 20590-0001

Phone: 202-366-4900  
FAX: 202-366-7342  
Email: welisten@rspa.dot.gov

**In Mexico:**

Secretariat for Communications and Transport  
Land Transport Directorate  
Hazardous Materials and Wastes Directorate  
Calz. de las Bombas No. 411-9 piso  
Col. San Bartolo Coapa  
Coyoacan 04800, D.F.  
Mexico

Phone and FAX: 52-555-684-1275 and 684-0188

**In Argentina:**

Information Center for Chemical Emergencies (CIQUIME)  
Juan Bautista Alberdi 2986  
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Email: erg2004@ciquime.org.ar

## NOTES

The Emergency Response Guidebook is normally revised and reissued every four years. However, in the event of a significant mistake, omission or change in the state of knowledge, special instructions to change the guidebook (in pen-and-ink, with paste-over stickers, or with a supplement) may be issued.

Users of this guidebook should check periodically (about every 6 months) to make sure their version is current. Changes should be annotated below. Contact:

**DOT/RSPA**

<http://hazmat.dot.gov/guidebook.htm>

**TRANSPORT CANADA**

<http://www.tc.gc.ca/canutec/en/guide/guide.htm>

**CIQUIME**

<http://www.ciquime.org.ar>

*This guidebook incorporates changes dated:*

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## EMERGENCY RESPONSE TELEPHONE NUMBERS

### MEXICO

1. SETIQ

**01-800-00-214-00** in the Mexican Republic  
For calls originating in Mexico City and the Metropolitan Area  
**5559-1588**  
For calls originating elsewhere, call  
**011-52-555-559-1588**

2. CENACOM

**01-800-00-413-00** in the Mexican Republic  
For calls originating in Mexico City and the Metropolitan Area  
**5550-1496, 5550-1552, 5550-1485 or 5550-4885**  
For calls originating elsewhere, call  
**011-52-555-550-1496, or 011-52-555-550-1552**  
**011-52-555-550-1485, or 011-52-555-550-4885**

### ARGENTINA

1. CIQUIME

**0-800-222-2933** in the Republic of Argentina  
For calls originating elsewhere, call  
**+54-11-4613-1100**

### BRAZIL

1. PRÓ-QUÍMICA

**0-800-118270**  
(Toll-free in Brazil)  
For calls originating elsewhere, call  
**+55-11-232-1144**  
(Collect calls are accepted)

### COLOMBIA

1. CISPROQUIM

**01-800-091-6012** in Colombia  
For calls originating in Bogotá, Colombia call  
**288-6012**  
For calls originating elsewhere call  
**011-57-1-288-6012**

For additional details see the section entitled "**WHO TO CALL FOR ASSISTANCE.**"

## EMERGENCY RESPONSE TELEPHONE NUMBERS

### CANADA

#### 1. CANUTEC

**613-996-6666**

(Collect calls are accepted)  
\*666 cellular (in Canada only)

### UNITED STATES

#### 1. CHEMTREC®

**1-800-424-9300**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

**703-527-3887** For calls originating elsewhere  
(Collect calls are accepted)

#### 2. CHEM-TEL, INC.

**1-800-255-3924**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

**813-248-0585** For calls originating elsewhere  
(Collect calls are accepted)

#### 3. INFOTRAC

**1-800-535-5053**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

**352-323-3500** For calls originating elsewhere  
(Collect calls are accepted)

#### 4. 3E COMPANY

**1-800-451-8346**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

**760-602-8703** For calls originating elsewhere  
(Collect calls are accepted)

#### 5. NATIONAL RESPONSE CENTER (NRC)

CALL **NRC** (24 hours)

**1-800-424-8802**

(Toll-free in the U.S., Canada, and the U.S. Virgin Islands)

**202-267-2675** in the District of Columbia

#### 6. MILITARY SHIPMENTS

**703-697-0218 - Explosives/ammunition incidents**

(Collect calls are accepted)

**1-800-851-8061 - All other dangerous goods incidents**

#### 7. NATIONWIDE POISON CONTROL CENTER (United States only)

**1-800-222-1222** (toll-free in the U.S.)

**THIS DOCUMENT SHOULD NOT BE USED TO  
DETERMINE COMPLIANCE WITH THE  
DANGEROUS GOODS REGULATIONS  
OR  
TO CREATE WORKER SAFETY DOCUMENTS  
FOR SPECIFIC CHEMICALS**

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**Secretariat of Transport and Communications**