



United States Department of Transportation Pipeline and Hazardous Materials Safety

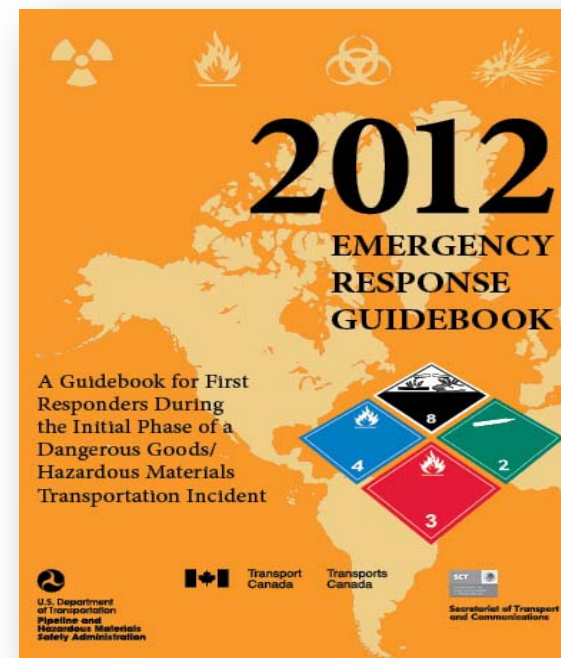
Administration

Emergency Response Guidebook (ERG)



2012 ERG

- Internationally Recognized
- Four Year Publication
- Joint Collaboration
Canada, Mexico





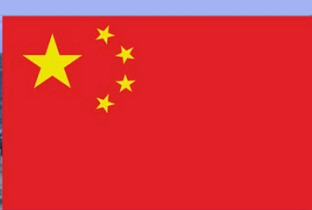
2012 ERG

Aids Emergency Responders

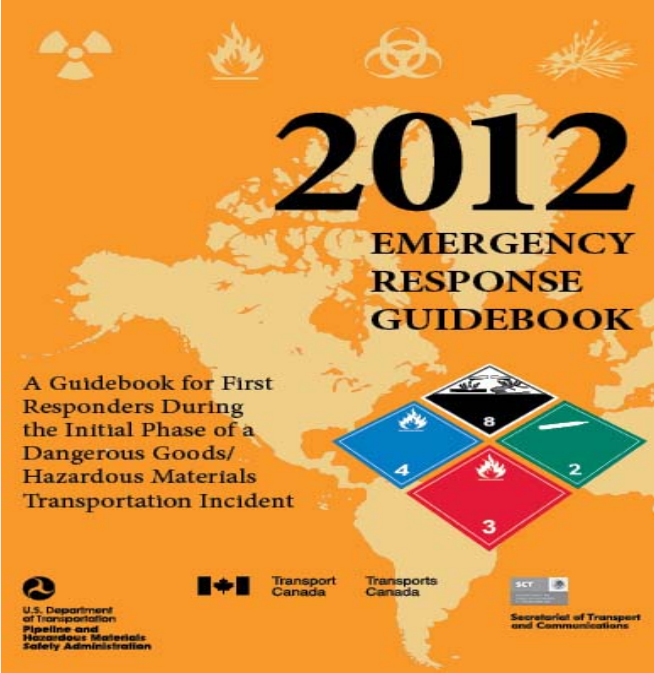
Identify Hazardous Materials

Protect Themselves & The Public





ERG Layout



- White Pages
- Bordered Pages
- Yellow
- Blue
- Orange
- Green

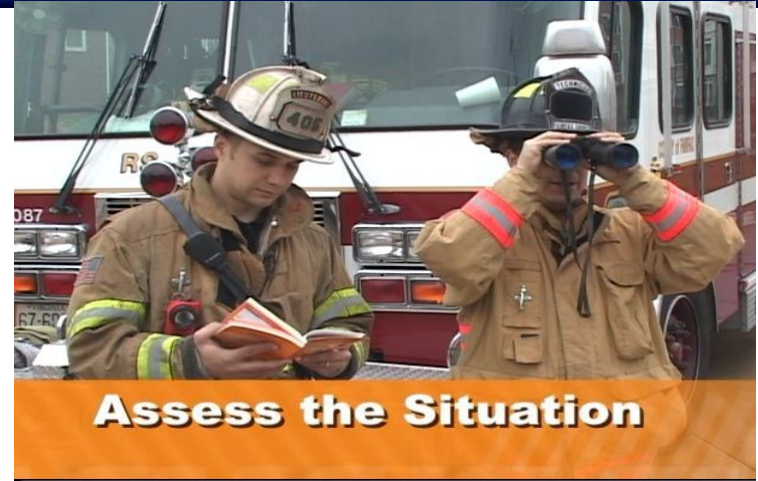


Hazmat Incident

RESIST Rushing In!

APPROACH Incidents from Upwind

STAY Clear of All Spills, Vapors, Fumes, Smoke





How to Use the ERG

- 1) Identify the Material
- 2) Look up 3-Digit Guide Number
- 3) Turn to Numbered Guide
Read Carefully

HOW TO USE THIS GUIDEBOOK
RESIST RUSHING IN!
APPROACH INCIDENT FROM UPWIND, UPHILL OR UPSTREAM
STAY CLEAR OF ALL SPILLS, VAPORS, FUMES, SMOKE AND SUSPICIOUS SOURCES

STEP ONE: IDENTIFY THE MATERIAL AND USE ANY OF THE FOLLOWING:

- IDENTIFICATION NUMBER (4-DIGIT ID AFTER UNNA) FROM A:
 - PLACARD
 - ORANGE PANEL
 - SHIPPING PAPER OR PACKAGE
- NAME OF THE MATERIAL FROM A:
 - SHIPPING DOCUMENT OR PACKAGE

STEP TWO: IDENTIFY 3-DIGIT GUIDE NUMBER. USE:

- ID NUMBER INDEX in **yellow-bordered pages** or
- NAME OF MATERIAL INDEX in **blue-bordered pages**

Guide number supplemented with the letter **(P)** indicates that the material may undergo violent polymerization if subjected to heat or contamination.

INDEX ENTRIES HIGHLIGHTED IN GREEN are a TIH (Toxic Inhalation Hazard) material, a chemical warfare agent or a Dangerous Water Reactive Material (produces toxic gas upon contact with water).

IDENTIFY ID NUMBER AND NAME OF MATERIAL IN TABLE 1 – INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES. (the green-bordered pages)

IF NECESSARY, BEGIN PROTECTIVE ACTIONS IMMEDIATELY (see Protective Actions page 288). If no protective action required, use the information jointly with the 3-digit guide.

IF A REFERENCE TO A GUIDE CANNOT BE FOUND AND THIS INCIDENT IS BELIEVED TO INVOLVE DANGEROUS GOODS:

- **Use GUIDE 111.** UNTIL ADDITIONAL INFORMATION BECOMES AVAILABLE
- **Use GUIDE 112.** EXPLOSIVES (other than 1.4 and 1.6)
- **Use GUIDE 114.** EXPLOSIVES (1.4 and 1.6)

STEP THREE: TURN TO THE NUMBERED GUIDE (the orange-bordered page) **READ CAREFULLY.**

IF A PLACARD IS THE ONLY SOURCE OF INFORMATION, turn to pages 6-7 and use the 3-digit guide next to the placard and Proceed to Numbered Guide in orange-bordered pages.

AS A LAST RESORT: IF ONLY THE CONTAINER CAN BE IDENTIFIED, CONSULT THE TABLE OF RAIL CAR AND ROAD TRAILER IDENTIFICATION CHART (pages 8-9). INFORMATION ASSOCIATED WITH THESE CONTAINERS IS FOR WORST-CASE SCENARIOS.

CALL THE EMERGENCY RESPONSE TELEPHONE NUMBER:

- Listed on the shipping paper, if available.
- If shipping paper is not available, **IMMEDIATELY CALL the appropriate emergency response agency telephone number 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.

BEFORE AN EMERGENCY – BECOME FAMILIAR WITH THIS GUIDEBOOK!
First responders must be trained in the use of this guidebook.

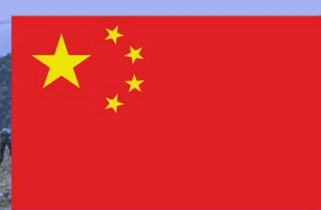
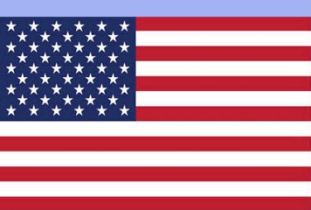
Page 1



Yellow Bordered Pages

- 4-Digit UN ID Number
- Listed in Numerical Order
- Guide Page Number
Proper Shipping Name

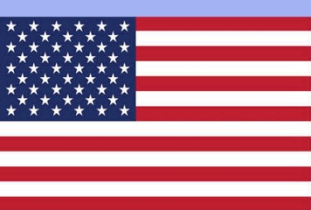
ID No.	Guide No.	Name of Material	ID No.	Guide No.	Name of Material
3306	124	Compressed gas, poisonous, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	3307	124	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone C)
3306	124	Compressed gas, toxic, oxidizing, corrosive, n.o.s.	3307	124	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone D)
3306	124	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone A)	3308	123	Liquefied gas, poisonous, corrosive, n.o.s.
3306	124	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone B)	3308	123	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone A)
3306	124	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone C)	3308	123	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone B)
3306	124	Compressed gas, toxic, oxidizing, corrosive, n.o.s. (Inhalation Hazard Zone D)	3308	123	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone C)
3307	124	Liquefied gas, poisonous, oxidizing, n.o.s.	3308	123	Liquefied gas, poisonous, corrosive, n.o.s. (Inhalation Hazard Zone D)
3307	124	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone A)	3308	123	Liquefied gas, toxic, corrosive, n.o.s.
3307	124	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone B)	3308	123	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone A)
3307	124	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone C)	3308	123	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone B)
3307	124	Liquefied gas, poisonous, oxidizing, n.o.s. (Inhalation Hazard Zone D)	3308	123	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone C)
3307	124	Liquefied gas, toxic, oxidizing, n.o.s.	3308	123	Liquefied gas, toxic, corrosive, n.o.s. (Inhalation Hazard Zone D)
3307	124	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone A)	3309	119	Liquefied gas, poisonous, flammable, corrosive, n.o.s.
3307	124	Liquefied gas, toxic, oxidizing, n.o.s. (Inhalation Hazard Zone B)	3309	119	Liquefied gas, poisonous, flammable, corrosive, n.o.s. (Inhalation Hazard Zone A)



Blue Bordered Pages

- Proper Shipping Name
- Listed Alphabetical Order
- Guide Page Number
UN ID Number

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



Orange Bordered Pages

- Guidance Organized in Sections:

1. Potential Hazards

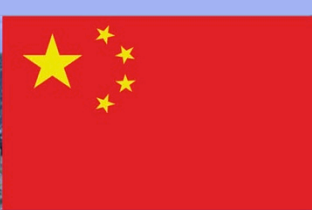
2. Public Safety

3. Emergency Response

GUIDE 111	MIXED LOAD/UNIDENTIFIED CARGO	ERG 2004	ERG 2004	MIXED LOAD/UNIDENTIFIED CARGO	GUIDE 111
<p>POTENTIAL HAZARDS</p> <p>FIRE OR EXPLOSION</p> <ul style="list-style-type: none"> 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. Regulated containers may react. <p>HEALTH</p> <ul style="list-style-type: none"> 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. <p>PUBLIC SAFETY</p> <p>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.</p> <ul style="list-style-type: none"> As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (328 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. <p>PROTECTIVE CLOTHING</p> <ul style="list-style-type: none"> 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. <p>EVACUATION</p> <p>Fire</p> <ul style="list-style-type: none"> 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. 			<p>EMERGENCY RESPONSE</p> <p>FIRE</p> <p>CAUTION: Material may react with extinguishing agent.</p> <p>Small Fires</p> <ul style="list-style-type: none"> Dry chemical, CO₂, water spray or regular foam. <p>Large Fires</p> <ul style="list-style-type: none"> Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. <p>Fire Involving Tanks</p> <ul style="list-style-type: none"> 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. <p>SPILL ON LEAK</p> <ul style="list-style-type: none"> 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. <p>Small Spills - Take up with sand or other non-combustible absorbent material and place into containers for later disposal.</p> <p>Large Spills - Dike far ahead of liquid spill for later disposal.</p> <p>FIRST AID</p> <ul style="list-style-type: none"> 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. 		
Page 170					Page 171

LEFT
Safety

RIGHT
Response



Green Bordered Pages

- Table 1 – Initial Isolation and Protective Action Distances
- Table 2 – Water Reactive Materials Produce Toxic Gases
- Table 3 – Six Common Toxic Inhalation Hazard Gases

TABLE 1 - INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES

ID No.	NAME OF MATERIAL	SMALL SPILLS (Less than 100 lbs. of material)			LARGE SPILLS (100 lbs. or more of material)		
		Initial Isolation (mi.)	Protective Action (mi.)	Protective Action (mi.)	Initial Isolation (mi.)	Protective Action (mi.)	Protective Action (mi.)
100	Acetylene cylinders	0.01	0.01	0.01	0.01	0.01	0.01
101	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
102	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
103	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
104	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
105	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
106	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
107	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
108	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
109	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
110	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
111	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
112	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
113	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
114	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
115	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
116	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
117	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
118	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
119	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
120	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
121	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
122	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
123	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
124	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
125	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
126	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
127	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
128	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
129	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
130	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
131	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
132	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
133	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
134	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
135	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
136	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
137	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
138	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
139	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
140	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
141	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
142	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
143	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
144	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
145	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
146	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
147	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
148	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
149	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
150	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
151	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
152	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
153	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
154	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
155	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
156	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
157	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
158	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
159	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
160	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
161	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
162	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
163	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
164	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
165	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
166	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
167	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
168	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
169	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
170	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
171	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
172	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
173	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
174	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
175	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
176	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
177	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
178	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
179	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
180	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
181	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
182	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
183	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
184	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
185	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
186	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
187	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
188	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
189	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
190	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
191	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
192	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
193	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
194	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
195	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
196	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
197	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
198	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
199	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01
200	Acetylene cylinders, compressed	0.01	0.01	0.01	0.01	0.01	0.01

TABLE 2 - 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	Dimethylchlorosilane	HCl
1183	139	Ethylchlorosilane	HCl
1199	155	Ethylchlorosilane	HCl
1242	139	Methylchlorosilane	HCl
1250	155	Methylchlorosilane	HCl
1295	139	Tetrachlorosilane	HCl
1295	155	Tetrachlorosilane	HCl
1305	159P	Vinylchlorosilane	HCl
1305	159P	Vinylchlorosilane, stabilized	HCl
1340	139	Phosphorus pentasulfide, free from yellow and white Phosphorus	H ₂ S

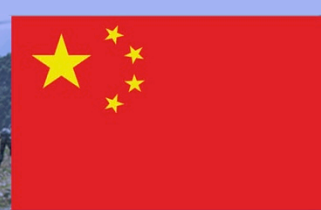
HOW TO USE TABLE 3 - INITIAL ISOLATION AND PROTECTIVE ACTION DISTANCES FOR DIFFERENT QUANTITIES OF SIX COMMON TIH GASES

Table 3 lists Toxic Inhalation Hazard materials that may be more commonly encountered.

The selected materials are:

- Ammonia (UN1005)
- Chlorine (UN1017)
- Ethylene oxide (UN1040)
- Hydrogen chloride (UN1050) and Hydrogen chloride, refrigerated liquid (UN2195)
- Hydrogen fluoride (UN1052)
- Sulfur dioxide/Sulphur dioxide (UN1079)

The materials are presented in alphabetical order and provide Initial Isolation and Protective Action Distances for large spills (more than 200 liters or 55 US gallons) involving different container types (therefore different volume capacities) for day time and night time situations and different wind speeds.



Where to Find More Information...

PHMSA
Pipeline and Hazardous Materials
Safety Administration

U.S. Department of Transportation

Contact Us | FAQs | Site Map

PHMSA Home | Pipeline Safety | **Hazardous Materials Safety**

Go Advanced Search

Hazmat News | **Most Viewed Info**

Safety Advisories

- > [PHMSA Continues Push to Clarify & Update Hazmat Rules](#)
- > [2011 Hazmat Penalty Action Report](#)
- > [Hazmat Harmonization Rule on Air Packaging Issued](#)
- > [PHMSA seeks comment on transportation of lithium batteries](#)
- > [PHMSA Proposes Updating Hazmat Rules to Better Balance Safety Standards and Regulatory Requirements](#)

DOT Distributes Over 2 Million New Hazardous Materials Emergency Guidebooks to Nation's First Responders

1 2 3 4 5

Find PHMSA Offices

[Key Officials](#)

Regional Offices

PHMSA/Hazmat Resources

Regulations & Rulemakings
PHMSA regulates and ensures the safe movement of hazardous materials.

Data & Reports
PHMSA tracks data on the frequency of failures, incidents and accidents.

Permits & Approvals

<http://hazmat.dot.gov>