

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)
1695	Chloroacetone, stabilized	30 m	(100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	60 m	(200 ft)	0.6 km (0.4 mi)	1.3 km (0.8 mi)
1697	CN (when used as a weapon)	30 m	(100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	125 m	(400 ft)	1.1 km (0.7 mi)	3.2 km (2.0 mi)
1698	Adamsite (when used as a weapon)	60 m	(200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	185 m	(600 ft)	2.3 km (1.4 mi)	5.1 km (3.2 mi)
1698	DM (when used as a weapon)								
1699	DA (when used as a weapon)	60 m	(200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	185 m	(600 ft)	2.3 km (1.4 mi)	5.1 km (3.2 mi)
1703	Tetraethyl dithiopyrophosphate and gases, in solution	30 m	(100 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	365 m	(1200 ft)	3.7 km (2.3 mi)	6.9 km (4.3 mi)
1703	Tetraethyl dithiopyrophosphate and gases, mixtures								
1703	Tetraethyl dithiopyrophosphate and gases, mixtures, or in solution (LC50 more than 200 ppm but not more than 5000 ppm)	30 m	(100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	125 m	(400 ft)	0.8 km (0.5 mi)	2.9 km (1.8 mi)
1703	Tetraethyl dithiopyrophosphate and gases, mixtures, or in solution (LC50 not more than 200 ppm)	30 m	(100 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	365 m	(1200 ft)	3.7 km (2.3 mi)	6.9 km (4.3 mi)
1705	Tetraethyl pyrophosphate and compressed gas mixtures	30 m	(100 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)	400 m	(1300 ft)	4.0 km (2.5 mi)	7.2 km (4.5 mi)
1705	Tetraethyl pyrophosphate and compressed gas mixtures (LC50 more than 200 ppm but not more than 5000 ppm)	30 m	(100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	125 m	(400 ft)	0.8 km (0.5 mi)	2.9 km (1.8 mi)
1705	Tetraethyl pyrophosphate and compressed gas mixtures (LC50 not more than 200 ppm)	30 m	(100 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)	400 m	(1300 ft)	4.0 km (2.5 mi)	7.2 km (4.5 mi)

1714	Zinc phosphide (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	185 m (600 ft)	1.8 km (1.1 mi)	5.1 km (3.2 mi)
1716	Acetyl bromide (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	95 m (300 ft)	0.8 km (0.5 mi)	2.3 km (1.4 mi)
1717	Acetyl chloride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	95 m (300 ft)	1.0 km (0.6 mi)	2.7 km (1.7 mi)
1722	Allyl chloroformate	155 m (500 ft)	1.3 km (0.8 mi)	2.7 km (1.7 mi)	610 m (2000 ft)	6.1 km (3.8 mi)	10.8 km (6.7 mi)
1724	Allyltrichlorosilane, stabilized (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	125 m (400 ft)	1.0 km (0.6 mi)	2.9 km (1.8 mi)
1725	Aluminum bromide, anhydrous (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	95 m (300 ft)	1.0 km (0.6 mi)	2.7 km (1.7 mi)
1726	Aluminum chloride, anhydrous (when spilled in water)	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)	1.6 km (1.0 mi)
1728	Amyltrichlorosilane (when spilled in water)	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)	1.6 km (1.0 mi)
1732	Antimony pentafluoride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.6 km (0.4 mi)	155 m (500 ft)	1.6 km (1.0 mi)	3.7 km (2.3 mi)
1736	Benzoyl chloride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	30 m (100 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)
1741	Boron trichloride	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.6 km (1.0 mi)
1744	Bromine	60 m (200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	185 m (600 ft)	1.6 km (1.0 mi)	4.0 km (2.5 mi)
1744	Bromine, solution						
1745	Bromine pentafluoride (when spilled on land)	60 m (200 ft)	0.5 km (0.3 mi)	1.3 km (0.8 mi)	245 m (800 ft)	2.3 km (1.4 mi)	5.0 km (3.1 mi)
1745	Bromine pentafluoride (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	215 m (700 ft)	1.9 km (1.2 mi)	4.2 km (2.6 mi)
1746	Bromine trifluoride (when spilled on land)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	60 m (200 ft)	0.3 km (0.2 mi)	0.8 km (0.5 mi)

"+" means distance can be larger in certain atmospheric conditions

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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)
1746	Bromine trifluoride (when spilled in water)	30 m	(100 ft)	0.2 km (0.1 mi)	0.6 km (0.4 mi)	185 m	(600 ft)	2.1 km (1.3 mi)	5.5 km (3.4 mi)
1747	Butyltrichlorosilane (when spilled in water)	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)	1.8 km (1.1 mi)
1749	Chlorine trifluoride	60 m	(200 ft)	0.5 km (0.3 mi)	1.6 km (1.0 mi)	335 m	(1100 ft)	3.4 km (2.1 mi)	7.7 km (4.8 mi)
1752	Chloroacetyl chloride (when spilled on land)	30 m	(100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	95 m	(300 ft)	0.8 km (0.5 mi)	1.6 km (1.0 mi)
1752	Chloroacetyl chloride (when spilled in water)	30 m	(100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m	(200 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)
1754	Chlorosulfonic acid (when spilled on land)	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)	0.5 km (0.3 mi)
1754	Chlorosulfonic acid (when spilled in water)	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)	1.4 km (0.9 mi)
1754	Chlorosulfonic acid and Sulfur trioxide mixture (when spilled on land)	60 m	(200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	305 m	(1000 ft)	2.1 km (1.3 mi)	5.6 km (3.5 mi)
1754	Chlorosulfonic acid and Sulfur trioxide mixture (when spilled in water)								
1754	Chlorosulphonic acid (when spilled on land)	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)	0.5 km (0.3 mi)
1754	Chlorosulphonic acid (when spilled in water)	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)	1.4 km (0.9 mi)

1754	Chlorosulphonic acid and Sulphur trioxide mixture <b>(when spilled on land)</b>	60 m (200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	305 m (1000 ft)	2.1 km (1.3 mi)	5.6 km (3.5 mi)
1754	Chlorosulphonic acid and Sulphur trioxide mixture <b>(when spilled in water)</b>						
1754	Sulfur trioxide and Chlorosulfonic acid mixture <b>(when spilled on land)</b>						
1754	Sulfur trioxide and Chlorosulfonic acid mixture <b>(when spilled in water)</b>						
1754	Sulphur trioxide and Chlorosulphonic acid mixture <b>(when spilled on land)</b>						
1754	Sulphur trioxide and Chlorosulphonic acid mixture <b>(when spilled in water)</b>						
1758	Chromium oxychloride <b>(when spilled in water)</b>	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.3 km (0.2 mi)	1.3 km (0.8 mi)
1777	Fluorosulfonic acid <b>(when spilled in water)</b>	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)	1.4 km (0.9 mi)
1777	Fluorosulphonic acid <b>(when spilled in water)</b>						
1801	Octyltrichlorosilane <b>(when spilled in water)</b>	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	95 m (300 ft)	0.8 km (0.5 mi)	2.4 km (1.5 mi)
1806	Phosphorus pentachloride <b>(when spilled in water)</b>	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	125 m (400 ft)	1.0 km (0.6 mi)	2.9 km (1.8 mi)
1809	Phosphorus trichloride <b>(when spilled on land)</b>	30 m (100 ft)	0.2 km (0.1 mi)	0.6 km (0.4 mi)	125 m (400 ft)	1.1 km (0.7 mi)	2.7 km (1.7 mi)
1809	Phosphorus trichloride <b>(when spilled in water)</b>	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	125 m (400 ft)	1.1 km (0.7 mi)	2.6 km (1.6 mi)
1810	Phosphorus oxychloride <b>(when spilled on land)</b>	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	95 m (300 ft)	0.8 km (0.5 mi)	1.8 km (1.1 mi)
1810	Phosphorus oxychloride <b>(when spilled in water)</b>	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	95 m (300 ft)	1.0 km (0.6 mi)	2.6 km (1.6 mi)

"+" means distance can be larger in certain atmospheric conditions

## 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	151	Dimethyldichlorosilane	HCl
1242	139	Methyldichlorosilane	HCl
1250	155	Methyltrichlorosilane	HCl
1295	139	Trichlorosilane	HCl
1298	155	Trimethylchlorosilane	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>
1433	139	Stannic phosphides	PH <sub>3</sub>
1541	155	Acetone cyanohydrin, stabilized	HCN
1680	157	Potassium cyanide	HCN
1689	157	Sodium cyanide	HCN
1714	139	Zinc phosphide	PH <sub>3</sub>
1716	156	Acetyl bromide	HBr
1717	132	Acetyl chloride	HCl
1724	155	Allyl trichlorosilane, stabilized	HCl
1725	137	Aluminum bromide, anhydrous	HBr

#### 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

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### 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		
1726	137	Aluminum chloride, anhydrous	HCl		
1728	155	Amyltrimchlorosilane	HCl		
1732	157	Antimony pentafluoride	HF		
1736	137	Benzoyl chloride	HCl		
1745	144	Bromine pentafluoride	HF	HBr	Br <sub>2</sub>
1746	144	Bromine trifluoride	HF	HBr	Br <sub>2</sub>
1747	155	Butyltrimchlorosilane	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		
1777	137	Fluorosulfonic acid	HF		
1777	137	Fluorosulphonic acid	HF		
1801	156	Octyltrimchlorosilane	HCl		
1806	137	Phosphorus pentachloride	HCl		
1809	137	Phosphorus trichloride	HCl		
1810	137	Phosphorus oxychloride	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

#### 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.**