

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 ₂
1746	144	Bromine trifluoride	HF Br ₂
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 ₂	Bromine	HF	Hydrogen fluoride	PH ₃	Phosphine
Cl ₂	Chlorine	HI	Hydrogen iodide	SO ₂	Sulfur dioxide
HBr	Hydrogen bromide	H ₂ S	Hydrogen sulfide	SO ₂	Sulphur dioxide
HCl	Hydrogen chloride	H ₂ S	Hydrogen sulphide	SO ₃	Sulfur trioxide
HCN	Hydrogen cyanide	NH ₃	Ammonia	SO ₃	Sulphur trioxide

Use this list only when material is spilled in water.

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)	
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 1744	Bromine Bromine, solution	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)
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)