

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 ₂ S
1340	139	Phosphorus pentasulphide, free from yellow and white Phosphorus	H ₂ S
1360	139	Calcium phosphide	PH ₃
1384	135	Sodium dithionite	H ₂ S SO ₂
1384	135	Sodium hydrosulfite	H ₂ S SO ₂
1384	135	Sodium hydrosulphite	H ₂ S SO ₂
1397	139	Aluminum phosphide	PH ₃
1412	139	Lithium amide	NH ₃
1419	139	Magnesium aluminum phosphide	PH ₃
1432	139	Sodium phosphide	PH ₃
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 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

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	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)