

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)	
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)												