

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)
2691	Phosphorus pentabromide (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)	2.4 km (1.5 mi)
2692	Boron tribromide (when spilled on land)	30 m	(100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	60 m	(200 ft)	0.6 km (0.4 mi)	1.4 km (0.9 mi)
2692	Boron tribromide (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)
2740	n-Propyl chloroformate	30 m	(100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	60 m	(200 ft)	0.5 km (0.3 mi)	1.4 km (0.9 mi)
2742	sec-Butyl chloroformate	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)	0.6 km (0.4 mi)
2742	Isobutyl chloroformate	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)	0.8 km (0.5 mi)
2743	n-Butyl chloroformate	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)	0.5 km (0.3 mi)
2806	Lithium nitride (when spilled in water)	30 m	(100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	95 m	(300 ft)	0.8 km (0.5 mi)	2.1 km (1.3 mi)
2810	Bis-(2-chloroethyl) ethylamine	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)	0.3 km (0.2 mi)
2810	Bis-(2-chloroethyl) methylamine								
2810	Bis-(2-chloroethyl) sulfide								
2810	Bis-(2-chloroethyl) sulphide								
2810	Buzz (when used as a weapon)	30 m	(100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	60 m	(200 ft)	0.5 km (0.3 mi)	1.9 km (1.2 mi)
2810	BZ (when used as a weapon)								
2810	CS (when used as a weapon)	60 m	(200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	245 m	(800 ft)	2.6 km (1.6 mi)	5.6 km (3.5 mi)
2810	DC (when used as a weapon)	30 m	(100 ft)	0.2 km (0.1 mi)	0.8 km (0.5 mi)	245 m	(800 ft)	2.3 km (1.4 mi)	5.3 km (3.3 mi)
2810	O-Ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate	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)	0.2 km (0.1 mi)

2810	Ethyl N,N-dimethylphosphoramidocyanidate	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)	1.0 km (0.6 mi)
2810	GA (when used as a weapon)	30 m (100 ft)	0.3 km (0.2 mi)	0.6 km (0.4 mi)	155 m (500 ft)	1.6 km (1.0 mi)	3.1 km (1.9 mi)
2810	GB (when used as a weapon)	155 m (500 ft)	1.6 km (1.0 mi)	3.4 km (2.1 mi)	915 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
2810	GD (when used as a weapon)	95 m (300 ft)	0.8 km (0.5 mi)	1.8 km (1.1 mi)	765 m (2500 ft)	6.8 km (4.2 mi)	10.5 km (6.5 mi)
2810	GF (when used as a weapon)	30 m (100 ft)	0.3 km (0.2 mi)	0.6 km (0.4 mi)	245 m (800 ft)	2.3 km (1.4 mi)	5.1 km (3.2 mi)
2810	H (when used as a weapon)	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.1 km (0.7 mi)
2810	HD (when used as a weapon)						
2810	HL (when used as a weapon)	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)	1.8 km (1.1 mi)
2810	HN-1 (when used as a weapon)	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.3 km (0.8 mi)
2810	HN-2 (when used as a weapon)	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)	1.1 km (0.7 mi)
2810	HN-3 (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)	0.3 km (0.2 mi)
2810	Isopropyl methylphosphonofluoridate	125 m (400 ft)	1.3 km (0.8 mi)	2.3 km (1.4 mi)	550 m (1800 ft)	5.3 km (3.3 mi)	8.7 km (5.4 mi)
2810	L (Lewisite) (when used as a weapon)	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)	1.8 km (1.1 mi)
2810	Lewisite (when used as a weapon)						
2810	Mustard (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)	0.3 km (0.2 mi)
2810	Mustard Lewisite (when used as a weapon)	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)	1.8 km (1.1 mi)
2810	Pinacolyl methylphosphonofluoridate	60 m (200 ft)	0.5 km (0.3 mi)	0.8 km (0.5 mi)	215 m (700 ft)	2.1 km (1.3 mi)	3.1 km (1.9 mi)
2810	Poisonous liquid, n.o.s. (when "Inhalation Hazard" is on a package or shipping paper)	215 m (700 ft)	1.9 km (1.2 mi)	4.3 km (2.7 mi)	915 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
2810	Poisonous liquid, n.o.s. (Inhalation Hazard Zone A)						

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

2810	Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone B)	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)
2810	Tris-(2-chloroethyl) amine	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)	0.2 km (0.1 mi)
2810	VX (when used as a weapon)	30 m (100 ft)	0.2 km (0.1 mi)	0.2 km (0.1 mi)	60 m (200 ft)	0.6 km (0.4 mi)	1.0 km (0.6 mi)
2811	CX (when used as a weapon)	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	95 m (300 ft)	1.0 km (0.6 mi)	3.1 km (1.9 mi)
2826	Ethylchlorothioformate	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)	0.8 km (0.5 mi)
2845	Ethylphosphonous dichloride, anhydrous	60 m (200 ft)	0.5 km (0.3 mi)	1.3 km (0.8 mi)	155 m (500 ft)	1.6 km (1.0 mi)	3.4 km (2.1 mi)
2845	Methyl phosphonous dichloride	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)
2901	Bromine chloride	30 m (100 ft)	0.3 km (0.2 mi)	1.0 km (0.6 mi)	155 m (500 ft)	1.6 km (1.0 mi)	4.0 km (2.5 mi)
2927	Ethylphosphonothioic dichloride, anhydrous	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)	0.2 km (0.1 mi)
2927	Ethylphosphorodichloridate	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)	0.3 km (0.2 mi)
2927	Poisonous liquid, corrosive, n.o.s. (when "Inhalation Hazard" is on a package or shipping paper)	215 m (700 ft)	1.9 km (1.2 mi)	4.3 km (2.7 mi)	915 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
2927	Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone A)						
2927	Poisonous liquid, corrosive, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	245 m (800 ft)	1.6 km (1.0 mi)	5.0 km (2.5 mi)
2927	Toxic liquid, corrosive, organic, n.o.s. (when "Inhalation Hazard" is on a package or shipping paper)	215 m (700 ft)	1.9 km (1.2 mi)	4.3 km (2.7 mi)	915 m (3000 ft)	11.0+ km (7.0+ mi)	11.0+ km (7.0+ mi)
2927	Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone A)						
2927	Toxic liquid, corrosive, organic, n.o.s. (Inhalation Hazard Zone B)	60 m (200 ft)	0.3 km (0.2 mi)	1.1 km (0.7 mi)	245 m (800 ft)	1.6 km (1.0 mi)	5.0 km (2.5 mi)
2929	Poisonous liquid, flammable, n.o.s. (when "Inhalation	155 m (500 ft)	1.3 km (0.8 mi)	3.4 km (2.1 mi)	915 m (3000 ft)	8.7 km (5.4 mi)	11.0+ km (7.0+ mi)

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2929	Toxic liquid, flammable, organic, n.o.s. (Inhalation Hazard Zone 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)
2977	Radioactive material, Uranium hexafluoride, fissile (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	95 m (300 ft)	1.0 km (0.6 mi)	3.1 km (1.9 mi)
2977	Uranium hexafluoride, fissile containing more than 1% Uranium-235 (when spilled in water)						
2978	Radioactive material, Uranium hexafluoride, non fissile or fissile-excepted (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.5 km (0.3 mi)	95 m (300 ft)	1.0 km (0.6 mi)	3.1 km (1.9 mi)
2978	Uranium hexafluoride, fissile-excepted (when spilled in water)						
2978	Uranium hexafluoride, low specific activity (when spilled in water)						
2978	Uranium hexafluoride, non-fissile (when spilled in water)						
2985	Chlorosilanes, flammable, corrosive, n.o.s. (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	125 m (400 ft)	1.1 km (0.7 mi)	2.9 km (1.8 mi)
2985	Chlorosilanes, n.o.s. (when spilled in water)						
2986	Chlorosilanes, corrosive, flammable, n.o.s. (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	125 m (400 ft)	1.1 km (0.7 mi)	2.9 km (1.8 mi)
2986	Chlorosilanes, n.o.s. (when spilled in water)						
2987	Chlorosilanes, corrosive, n.o.s. (when spilled in water)	30 m (100 ft)	0.2 km (0.1 mi)	0.3 km (0.2 mi)	125 m (400 ft)	1.1 km (0.7 mi)	2.9 km (1.8 mi)
2987	Chlorosilanes, n.o.s. (when spilled in water)						

"+" 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
1834	137	Sulfuryl chloride	HCl SO ₃
1834	137	Sulphuryl chloride	HCl SO ₃
1836	137	Thionyl chloride	HCl SO ₂
1838	137	Titanium tetrachloride	HCl
1898	156	Acetyl iodide	HI
1923	135	Calcium dithionite	H ₂ S SO ₂
1923	135	Calcium hydrosulfite	H ₂ S SO ₂
1923	135	Calcium hydrosulphite	H ₂ S SO ₂
1939	137	Phosphorus oxybromide	HBr
1939	137	Phosphorus oxybromide, solid	HBr
2004	135	Magnesium diamide	NH ₃
2011	139	Magnesium phosphide	PH ₃
2012	139	Potassium phosphide	PH ₃
2013	139	Strontium phosphide	PH ₃
2442	156	Trichloroacetyl chloride	HCl
2495	144	Iodine pentafluoride	HF
2576	137	Phosphorus oxybromide, molten	HBr
2691	137	Phosphorus pentabromide	HBr
2692	157	Boron tribromide	HBr
2806	138	Lithium nitride	NH ₃
2977	166	Radioactive material, Uranium hexafluoride, fissile	HF
2977	166	Uranium hexafluoride, fissile containing more than 1% Uranium-235	HF
2978	166	Radioactive material, Uranium hexafluoride, non-fissile or fissile excepted	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

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
2978	166	Uranium hexafluoride, fissile excepted	HF
2978	166	Uranium hexafluoride, low specific activity	HF
2978	166	Uranium hexafluoride, non-fissile	HF
2985	155	Chlorosilanes, flammable, corrosive, n.o.s.	HCl
2985	155	Chlorosilanes, n.o.s.	HCl
2986	155	Chlorosilanes, corrosive, flammable, n.o.s.	HCl
2986	155	Chlorosilanes, n.o.s.	HCl
2987	156	Chlorosilanes, corrosive, n.o.s.	HCl
2987	156	Chlorosilanes, n.o.s.	HCl
2988	139	Chlorosilanes, n.o.s.	HCl
2988	139	Chlorosilanes, water-reactive, flammable, corrosive, n.o.s.	HCl
3048	157	Aluminum phosphide pesticide	PH ₃
3049	138	Metal alkyl halides, n.o.s.	HCl
3049	138	Metal alkyl halides, water-reactive, n.o.s.	HCl
3049	138	Metal aryl halides, n.o.s.	HCl
3049	138	Metal aryl halides, water-reactive, n.o.s.	HCl
3052	135	Aluminum alkyl halides	HCl
9191	143	Chlorine dioxide, hydrate, frozen	Cl ₂

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.