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
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_2S
1340	139	Phosphorus pentasulphide, free from yellow and white Phosphorus	H_2S
1360	139	Calcium phosphide	PH_3
1384	135	Sodium dithionite	H_2S SO_2
1384	135	Sodium hydrosulfite	H_2S SO_2
1384	135	Sodium hydrosulphite	H_2S 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
1433	139	Stannic phosphides	PH_3
1541	155	Acetone cyanohydrin, stabilized	HCN
1680	157	Potassium cyanide	HCN
1689	157	Sodium cyanide	HCN
1714	139	Zinc phosphide	PH_3
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_2	Bromine	HF	Hydrogen fluoride	PH_3	Phosphine
Cl_2	Chlorine	HI	Hydrogen iodide	SO_2	Sulfur dioxide
HBr	Hydrogen bromide	H_2S	Hydrogen sulfide	SO_2	Sulphur dioxide
HCl	Hydrogen chloride	H_2S	Hydrogen sulphide	SO_3	Sulfur trioxide
HCN	Hydrogen cyanide	NH_3	Ammonia	SO_3	Sulphur trioxide

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ID No.	Guide No.	Name of Material	TIH Gas(es) Produced		
1726	137	Aluminum chloride, anhydrous	HCl		
1728	155	Amyltrichlorosilane	HCl		
1732	157	Antimony pentafluoride	HF		
1736	137	Benzoyl chloride	HCl		
1745	144	Bromine pentafluoride	HF	HBr	Br_2
1746	144	Bromine trifluoride	HF	HBr	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		
1777	137	Fluorosulfonic acid	HF		
1777	137	Fluorosulphonic acid	HF		
1801	156	Octyltrichlorosilane	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_2	H_2S
1828	137	Sulphur chlorides	HCl	SO_2	H_2S

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_2S	Hydrogen sulfide	SO_2	Sulphur dioxide
HCl	Hydrogen chloride	H_2S	Hydrogen sulphide	SO_3	Sulfur trioxide
HCN	Hydrogen cyanide	NH_3	Ammonia	SO_3	Sulphur trioxide

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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_2S	SO_2
1923	135	Calcium hydrosulfite	H_2S	SO_2
1923	135	Calcium hydrosulphite	H_2S	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	

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HCl	Hydrogen chloride	H_2S	Hydrogen sulphide	SO_3	Sulfur trioxide
HCN	Hydrogen cyanide	NH_3	Ammonia	SO_3	Sulphur trioxide

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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

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HCN	Hydrogen cyanide	NH_3	Ammonia	SO_3	Sulphur trioxide

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