

Pyrophoric materials react with air, or with moisture in air. Typical reactions which occur are oxidation and hydrolysis, and the heat generated by the reactions may ignite the chemical. In some cases, these reactions liberate flammable gases which makes ignition a certainty and explosion a real possibility.

Examples of pyrophoric materials are shown below. (List may not be complete)

(a) Pyrophoric alkyl metals and derivatives

Groups	Dodecacarbonyltetracobalt	Silver sulphide
Dialkylzincs	Dodecacarbonyltriiron	Sodium disulphide
Diplumbanes	Hexacarbonylchromium	Sodium polysulphide
Trialkylaluminiums	Hexacarbonylmolybdenum	Sodium sulphide
Trialkylbismuths	Hexacarbonyltungsten	Tin (II) sulphide
	Nonacarbonyldiiron	Tin (IV) sulphide
Compounds	Octacarbonyldicobalt	Titanium (IV) sulphide
Bis-dimethylstibinyl oxide	Pentacarbonyliron	Uranium (IV) sulphide
Bis(dimethylthallium) acetylide	Tetracarbonylnickel	
Butyllithium		
Diethylberyllium		

(c) Pyrophoric metals (finely divided state)

Diethylcadmium	Caesium	Rubidium
Diethylmagnesium	Calcium	Sodium
Diethylzinc	Cerium	Tantalum
Diisopropylberyllium	Chromium	Thorium
Dimethylberyllium	Cobalt	Titanium
Dimethylbismuth chloride	Hafnium	Uranium
Dimethylcadmium	Iridium	Zirconium
Dimethylmagnesium	Iron	
Dimethylmercury	Lead	Alloys
Dimethyl-phenylethynylthallium	Lithium	Aluminium-Mercury
Dimethyl-1-propynylthallium	Manganese	Bismuth-Plutonium
Dimethylzinc	Nickel	Copper-Zirconium
Ethoxydiethylaluminium	Palladium	Nickel-Titanium
Methylbismuth oxide	Platinum	
Methylcopper	Plutonium	
Methylthallium	Potassium	

(d) Pyrophoric metal sulphides

Methylsilver	(Ammonium sulphide)
Methylsodium	Barium sulphide
Poly (methylenemagnesium)	Calcium sulphide
Propylcopper	Chromium (II) sulphide
Tetramethyldistibine	Copper (II) sulphide
Tetramethyllead	Diantimony trisulphide
Triethylantimony	Dibismuth trisulphide
Triethyl bismuth	Dicaesium selenide
Triethylgallium	Dicerium trisulphide
Trimethylantimony	Digold trisulphide
Trimethylgallium	Europium (II) sulphide
Trimethylthallium	Germanium (II) sulphide
Trivinylbismuth	Iron disulphide
Vinylthallium	Iron (II) sulphide
	Manganese (II) sulphide
	Mercury (II) sulphide
	Molybdenum (IV) sulphide
	Potassium sulphide
	Rhenium (VII) sulphide

(b) Pyrophoric carbonyl metals

Carbonyllithium
Carbonylpotassium
Carboylsodium
Dodecacarbonyldivanadium

(e) Pyrophoric alkyl non-metals

Bis-(dibutylborino) acetylene
Bis-dimethylarsinyl oxide
Bis-trimethylsilyl oxide
Dibutyl-3-methyl-3-buten-1-Ynborane
Diethoxydimethylsilane
Diethylmethylphosphine
Ethylmethylphosphine
Tetraethylarsine
Tetramethyldiarsine
Tetramethylsilane
Tribenzylarsine
mixo-Tributylborane
Tributylphosphine
Triethylarsine
Triethylborane
Triethylphosphine
Triisopropylphosphine
Trimethylarsine
Trimethylborane
Trimethylphosphine

(f) Pyrophoric alkyl non-metal halides

Butyldichloroborane
Dichlorodiethylsilane
Dichlorodimethylsilane
Dichloro(ethyl)silane
Dichloro(methyl)silane
Iododimethylarsine
Trichloro(ethyl)silane
Trichloro(methyl)silane
Trichloro(vinyl)silane

(g) Pyrophoric alkyl non-metal hydrides

Diethylarsine
Diethylphosphine
Dimethylarsine
1,1-Dimethyldiborane
1,2-Dimethyldiborane
Dimethylphosphine
Ethylphosphine
Methylphosphine
Methylsilane