

## Common Water Reactive Chemicals

Chemical Name	Chem. Formula	Reaction With Water
Acetic Anhydride	$C_4H_6O_3$	May boil explosively
Acetyl Chloride	$CH_3COCl$	Violently decomposes to HCl and acetic acid
Aluminum Bromide	$AlBr_3$	Violent hydrolysis
Aluminum Chloride	$AlCl_3$	Violent decomposition forming HCL gas
Boron Tribromide	$BBr_3$	Violent or explosive reaction when water added
Butyl Lithium	$C_4H_9Li$	Ignites on contact with water
Calcium Carbide	$Ca_3C_2$	Gives off explosive acetylene gas
Calcium Hydride	$CaH_2$	Hydrogen gas liberated
Chlorosulfonic Acid	$ClSO_3H$	Highly exothermic violent reaction
Chlorotrimethyl Silane	$(CH_3)_3SiCl$	Violent reaction
Dichlorodimethyl Silane	$(CH_3)_2SiCl_2$	Violent reaction
Lithium Aluminum Hydride	$LiAlH$	Releases and ignites hydrogen gas
Lithium Hydride	$LiH$	Violent decomposition
Lithium Metal	$Li$	Powder reacts explosively with water
Methyltrichlorosilane	$CH_3SiCl_3$	Violent reaction forming HCl acid
Oxalyl Chloride	$C_2Cl_2O_2$	Violent reaction forming HCl acid
Phosphorus Pentachloride	$PCl_5$	Violent reaction with water
Phosphorus Pentachloride	$PCl_5$	Violent reaction
Phosphorus Pentoxide	$P_2O_5$	Violent exothermic reaction
Phosphorus Tribromide	$PBr_3$	Reacts violently with limited amounts of warm water
Phosphorus Trichloride	$PCl_3$	Violent reaction releasing flamm. diphosphane
Phosphoryl Chloride	$POCl_3$	Slow reaction which may become violent
Potassium Amide	$KNH_2$	Violent reaction which may cause ignition
Potassium Hydride	$KH$	Releases hydrogen gas
Potassium Metal	$K$	Forms KOH and hydrogen gas
Pottasium Hydroxide	$KOH$	Highly exothermic reaction
Silicon Tetrachloride	$SiCl_4$	Violent reaction producing silicic acid
Sodium Amide	$NaNH_2$	Generates NaOH and $NH_3$ (flammable)
Sodium Azide	$NaN_3$	Violent reaction with strongly heated azide
Sodium Hydride	$NaH$	Reacts explosively with water
Sodium Hydrosulfite	$Na_2S_2O_4$	Heating and spontaneous ignition with 10% $H_2O$
Sodium Hydroxide	$NaOH$	Highly exothermic reaction
Sodium Metal	$Na$	Generates flammable hydrogen gas
Sodium Peroxide	$NaO$	Reacts violently or explosively
Strontium Metal	$Sr$	Violent reaction
Sulfuric Acid	$H_2SO_4$	May boil and spatter
Tetrachloro Silane	$SiCl_4$	Violent reaction
Thionyl Chloride	$SOCl_2$	Violent reaction which forms HCl acid and $SO_2$ gas
Titanium Tetrachloride	$TiCl_4$	Violent reaction that produces HCl gas
Trichloro Silane	$SiHCl_3$	Releases toxic and corrosive fumes
Triethyl Aluminum	$Al(C_2H_5)_3$	Explodes violently in water
Triisobutly Aluminum	$Al(iC_4H_9)_3$	Violent reaction with water
Zirconium Tetrachloride	$ZrCl_4$	Violent reaction with water