

Appendix 5 – Shock Sensitive and Explosive Chemicals

Other chemicals are classified as either shock sensitive, specifically, susceptibility of a chemical to rapidly decompose or explode when struck, vibrated or otherwise agitated or explosive, specifically, higher propensity to explode under a given set of circumstances than other chemicals (extreme heat, pressure, mixture with an incompatible chemical, etc.). The specific chemical has the shock sensitive or explosive on the label and/or the MSDS. The following lists some common chemicals that may be shock sensitive or explode under a given number of circumstances. This list is only a sample of all the possible shock sensitive or explosive chemicals that can be found in the laboratory and should not be considered inclusive. When working with these types of materials, follow these practices:

1. Write the date received and date opened on all containers of shock sensitive chemicals. Some chemicals become increasingly shock sensitive with age.
2. Unless the manufacturer added an inhibitor, closed containers of shock sensitive materials should be discarded after 1 year.
3. Wear appropriate personal protective equipment when handling shock sensitive chemicals.

acetylene	fulminate of mercury	nitroguanidine
acetylides of heavy metal	fulminate of silver	nitroparaffins
amatex	ethylene oxide	nitrourea
amatol	ethyl-tetryl	organic nitramines
ammonal	fulminating gold	ozonides
ammonium nitrate	fulminating mercury	pentolite
ammonium perchlorate	fulminating platinum	perchlorates of heavy metals
ammonium picrate	fulminating silver	peroxides (more detail in Appendix 7)
azides of heavy metals	gelatinized nitrocellulose	picramic acid
baratol	guanyl	picramide
calcium nitrate	guanyl nitrsamino	picratol
chlorate	guanyltetrazene	picric acid
copper acetylde	hydrazine	picryl sulphonic acid
cyanuric triazide	nitrated carbohydrate	silver acetylde
cyclotrimethylenetrinitramine	nitrated glucoside	silver azide
dinitrophenol	nitrogen triiodide	tetranitromethane
dinitrophenyl hydrazine	nitrogen trichloride	
dinitrotoluene	nitroglycerin	
ednatol	nitroglycide	
erythritol tetranitrate	nitroglycol	

Mixtures:

germanium	tetracene
hexanitrodiphenylamine	tetrytol
hexanitrostilbene	trimethylolethane
hexogen	trimonite
hydrazoic acid	trinitroanisole
lead azide	trinitrobenzene
lead mononitroresorcinate	trinitrobenzoic acid
lead styphnate	trinitrocresol
mannitol hexanitrate	trinitroresorcinol
sodium picramate	tritonol
tetranitrocarbazole	urea nitrate

References: Material Safety Data Sheets, various chemical companies.