

**APPENDIX B****EXPLOSIVE LABORATORY CHEMICALS**

The following laboratory reagents are potentially explosive. Chemicals on this list must be discarded through the Hazardous Waste Disposal Program.

acetyl peroxide	nitromethane
acetylene (pure)	
ammonium picrate	picramide
ammonium nitrate	picric acid
	picryl sulphonic acid
benzoyl peroxide	picryl chloride
	propargyl bromide
cumene peroxide	
	succinic peroxide
dinitrophenylhydrazine (dry)	
dipicryl sulphide	trinitroanisole
dipicrylamine	trinitrobenzene sulphonic acid
	trinitrobenzene
ethylene oxide (pure)	trinitrobenzoic acid
	trinitrocresol
lauric peroxide	trinitronaphthalene
	trinitrophenol
methyl ethyl ketone peroxide	trinitroresorcinol
	trinitrotoluene
nitrogen trifluoride	
nitroglycerin	urea nitrate
nitroguanidine	

**APPENDIX B (con't)****CHEMICALS WHICH MAY DETERIORATE TO A HAZARDOUS CONDITION**

The following is a selection of chemicals which can deteriorate to a dangerous condition with age under common storage conditions. The degree of the hazard varies considerably with age and the exact situation.

2-acetyl furan <sup>3</sup>	decahydronaphthalene <sup>3</sup>
acetal <sup>3</sup>	decalin <sup>3</sup>
acetaldehyde diethyl acetal <sup>3</sup>	di-allyl ether <sup>3</sup>
acetyl peroxide <sup>1</sup>	di-iso-amyl ether <sup>3</sup>
ammonium dichromate <sup>4</sup>	di-iso-butyl ether <sup>2</sup>
anethole <sup>3</sup>	di-iso-propyl ether <sup>2</sup>
anisaldehyde <sup>3</sup>	di-n-butyl ether <sup>3</sup>
anisole <sup>3</sup>	di-n-propyl ether <sup>3</sup>
	dibenzyl ether <sup>3</sup>
benzoyl peroxide <sup>1</sup>	dicyclojpentadiene <sup>3</sup>
2-butoxyethyl acetate <sup>3</sup>	diethyl azidoformate <sup>4</sup>
<i>iso</i> -butyl ether <sup>3</sup>	
<i>n</i> -butyl glycidyl ether <sup>3</sup>	diethyl ether <sup>3</sup>
<i>n</i> -butyl ether <sup>3</sup>	diethylacetal <sup>3</sup>
<i>t</i> -butyl hydroperoxide <sup>4</sup>	diethylazodicarboxylate <sup>1</sup>
	diethylene glycol dimethyl ether <sup>3</sup>
cellosolve <sup>3</sup>	diglyme <sup>3</sup>
chromium trioxide <sup>4</sup>	dihydropyran <sup>3</sup>
cumene <sup>3</sup>	dimethoxymethane <sup>3</sup>
cyclohexene <sup>3</sup>	diphenyl ether <sup>3</sup>
cyclopentadiene <sup>3</sup>	
cyclopentene <sup>3</sup>	2-ethoxyethanol <sup>3</sup>
	2-ethoxyethyl acetate <sup>3</sup>
1,1-diethoxyethane <sup>3</sup>	ether <sup>3</sup>
1,2-dimethoxyethane <sup>3</sup>	ethyl ether <sup>3</sup>
1,4-dioxane <sup>3</sup>	ethyl cellosolve <sup>3</sup>
2,4-dinitrophenol <sup>1</sup>	
2,4-dinitrophenylhydrazine <sup>1</sup>	

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ethylene glycol monomethyl ether<sup>3</sup>  
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 ethylene glycol dimethyl ether<sup>3</sup>  
 ethylene glycol monobutyl ether<sup>3</sup>  
 ethylene glycol ethyl ether acetate<sup>3</sup>

furan<sup>3</sup>  
 glycidyl n-butyl ether<sup>3</sup>  
 glyme<sup>3</sup>iodine pentoxide<sup>4</sup>

isoamyl ether<sup>3</sup>  
 isobutyl ether<sup>2</sup>  
 isopentyl ether<sup>3</sup>  
 isopropyl ether<sup>2</sup>  
 isopropyl alcohol<sup>3</sup>  
 isopropyl benzene<sup>3</sup>

2-methoxyethanol<sup>3</sup>  
 magnesium perchlorate<sup>4</sup>  
 mercury fulminate<sup>1</sup>  
 methyl cellosolve<sup>3</sup>  
 methyl ethyl ketone peroxide<sup>1</sup>  
 methyl iso-butyl ketone<sup>3</sup>  
 methyl vinyl ketone<sup>3</sup>  
 methylal<sup>3</sup>

nitromethane<sup>1</sup>

peracetic acid<sup>1,4</sup>  
 perchloric acid<sup>4</sup>

picric acid<sup>1</sup>  
 picryl chloride<sup>1</sup>  
 picryl sulphonic acid<sup>1</sup>  
 potassium (metal)<sup>1</sup>

potassium amide<sup>1</sup>  
 potassium chlorate<sup>4</sup>  
 potassium perchlorate<sup>4</sup>  
 propan-2-ol<sup>3</sup>  
 propargyl bromide<sup>1</sup>  
 propargyl chloride<sup>1</sup>

sodamide<sup>1</sup>  
 sodium amide<sup>1</sup>  
 sodium perchlorate<sup>4</sup>  
 sodium chlorate<sup>4</sup>  
 sodium metal dispersions<sup>1</sup>  
 sodium chlorite<sup>4</sup>  
 styrene<sup>3</sup>

tetrahydrofuran<sup>3</sup>  
 tetralin<sup>3</sup>  
 trinitrobenzene sulphonic acid<sup>1</sup>  
 trinitrobenzene<sup>1</sup>

urea nitrate<sup>4</sup>

vinyl pyridine<sup>3</sup>  
 vinyl acetate<sup>3</sup>  
 vinylidene chloride<sup>1</sup>

**APPENDIX B (con't)**

1. Can deteriorate to a shock-sensitive explosive. Take exceptional care if there is evidence of drying out, crystallization or contamination. It may be very dangerous to attempt to open the container.
2. Forms peroxides, especially on exposure to air and light, making the material liable to explode. Material more than one year old should be discarded, even if unopened. Containers should not be opened if there are solids visible around the closure or evidence of crystals inside.
3. Forms peroxides. If very old or obviously in poor condition treat as 2 (above).
4. High energy materials which are sensitive to the presence of dust. Clean the outside of containers before opening. If in doubt, do not open. Mixtures of the material with dust, paper or organics may ignite or detonate when exposed to friction (e.g., unscrewing the top of the container).

SOURCE: M.J. Pitt and E. Pitt. Handbook of Laboratory Waste Disposal. John Wiley & Sons, New York. 1985.