

Peroxide Forming List

A. Chemicals that form explosive levels of peroxides without concentration		
Butadiene ^a	Isopropyl ether	Sodium amide (sodamide)
Chloroprene ^a	Potassium metal	Tetrafluoroethylene ^a
Divinylacetylene	Potassium amide	Vinylidene chloride
B. Chemicals that form explosive levels of peroxides on concentration		
Acetal	Diethyl ether	4-Methyl-2-pentanol
Acetaldehyde	Diethylene glycol dimethyl	2-Pentanol
	ether (diglyme)	
Benzyl alcohol	Dioxanes	4-Penten-1-ol
2-Butanol	Ethylene glycol dimethyl	1-Phenylethanol
	ether (glyme)	
Cumene	4-Heptanol	2-Phenylethanol
2-Cyclohexen-1-ol	2-Hexanol	2-Propanol
Cyclohexene	Methylacetylene	Tetrahydrofuran
Decahydronaphthalene	3-Methyl-1-butanol	Tetrahydronaphthalene
Diacetylene	Methylcyclopentane	Vinyl ethers
Dicyclopentadiene	Methyl isobutyl ketone	Other secondary alcohols
C. Chemicals that may autopolymerize as a result of peroxide accumulation		
Acrylic acid ^b	Methyl methacrylate ^b	Vinyl chloride
Acrylonitrile ^b	Styrene	Vinylpyridine
Butadiene ^c	Tetrafluoroethylene ^c	Vinyladiene chloride
Chloroprene ^c	Vinyl acetate	
Chlorotrifluoroethylene	Vinylacetylene	
D. Chemicals that may form peroxides but cannot clearly be placed in sections A-C		
Acrolein	p-Chlorophenetole	4,5-Hexadien-2-yn-1-ol
Allyl ether ^d	Cyclooctene ^d	n-Hexyl ether

Allyl ethyl ether	Cyclopropyl methyl ether	o,p-Iodophenetole
Allyl phenyl ether	Diallyl ether ^d	Isoamyl benzyl ether ^d
p-(n-Amyloxy)benzoyl	p-Di-n-butoxybenzene	Isoamyl ether ^d
chloride		
n-Amyl ether	1,2-Dibenzoyloxyethane ^d	Isobutyl vinyl ether
Benzyl n-butyl ether ^d	p-Dibenzoyloxybenzene ^d	Isophorone ^d
Benzyl ether ^d	1,2-Dichloroethyl ethyl	B-Isopropoxypropionitrile ^d
	Ether	
Benzyl ethyl ether ^d	2,4-Dichlorophenetole	Isopropyl 2,4,5-trichloro-
		phenoxy- acetate
Benzyl methyl ether	Diethoxymethane ^d	Limonene
Benzyl 1-naphthyl ether ^d	2,2-Diethoxypropane	1,5-p-Methadiene
1,2-Bis(2-chloroethoxy)	Diethyl ethoxymethylene-	Methyl p-(n-amlyoxy)-
Ethane	Malonate	benzoate
Bis(2 ethoxyethyl)ether	Diethyl fumarate ^d	4-Methyl-2-pentanone
Bis(2-(methoxyethoxy)-	Diethyl acetal ^d	n-Methylphenetole
ethyl) ether		
Bis(2-chloroethyl)ether	Diethyketene ^f	2-Methyltetrahydrofuran
Bis(2-ethoxyethyl)adipate	m,o,p-diethoxybenzene	3-Methoxy-1-butyl acetate
Bis(2-ethoxyethyl)phthalate	1,2-Diethoxyethane	2-Methoxyethanol
Bis(2-methoxyethyl)-	Dimethoxymethane ^d	3-Methoxyethyl acetate
Carbonate		
Bis(2-methoxyethyl) ether	1,1-Dimethoxyethane ^d	2-Methoxyethyl vinyl ether
Bis(2-methoxyethyl)	Dimethylketene ^f	Methonxy-1,3,5,7-cyclo-
Phthalate		octa-tetraene
Bis(2-methoxymethyl)	3,3-Dimethoxypropene	B-Methoxypropionitrile
Adipate		
Bis(2-n-butoxyethyl)	2,4-Dinitrophenetole	m-Nitrophenetole
Phthalate		
Bis(2-phenoxyethyl) ether	1,3-Dioxepane ^d	1-Octene
Bis(4-chlorobutyl) ether	Di(1-propynyl)ether ^f	Oxybis(2-ethyl acetate)
Bis(chloromethyl) ether ^e	Di(2-propynyl)ether	Oxybis(2-ethyl benzoate)
2-Bromomethyl ethyl ether	Di-n-propoxymethane ^d	B,B-oxydipropionitrile

B-Bromophenetole	1,2-Epoxy-3-isopropoxy-	1-Pentene
	propane ^d	
o-Bromophenetole	1,2-Epoxy-3-phenoxy-	Phenoxyacetyl chloride
	propane	
p-Bromophenetole	p-Ethoxyacethophenone	a-Phenoxypropionyl chloride
3-Bromopropyl phenyl ether	2-Ethoxyethyl acetate	Phenyl o-propyl ether
1,3-Butadiyne	(2-Ethoxyethyl)-o-benzoyl	p-Phenylphenetone
	benzoate	
Buten-3-yne	1-(2-Ethoxyethoxy)ethyl	n-Propyl ether
	acetate	
tert-Butyl ethyl ether	1-Ethoxynaphthalene	n-Propyl isopropyl ether
tert-Butyl methyl ether	o,p-Ethoxyphenyl	Sodium 8,11,14-eicosa-
	isocyanate	tetraenoate
n-Butyl phenyl ether	1-Ethoxy-2-propyne	Sodium ethoxyacetylde ^f
n-Butyl vinyl ether	3-Ethoxyopropionitrile	Tetrahydropyran
Chloroacetaldehyde	2-Ethylacrylaldehyde oxime	Triethylene glycol diacetate
diethylacetal ^d		
2-Chlorobutadiene	2-Ethylbutanol	Triethylene glycol diprop-
		ionate
1-(2-Chloroethoxy)-2-	Ethyl B-ethoxypropionate	1,3,3-Trimethoxypropene ^d
phen-oxyethane		
Chloroethylene	2-Ethylhexanal	1,1,2,3-Tetrachloro-1,3-
		butadiene
Chloromethyl methyl ether ^e	Ethyl vinyl ether	4-Vinyl cyclohexene
B-Chlorophenetole	Furan	Vinylene carbonate
o-Chlorophenetole	2,5-Hexadiyn-1-ol	Vinylidene chloride ^d

NOTES:

^a When stored as a liquid monomer.

^b Although these chemicals form peroxides, no explosions involving these monomers have been reported.

^c When stored in liquid form, these chemicals form explosive levels of peroxides

	without concentration. They may also be stored as a gas in gas cylinders.
	When stored as a gas, these chemicals may autopolymerize as a result of
	peroxide accumulation.
^d	These chemicals easily form peroxides and should probably be considered
	under Part B.
^e	OSHA - regulated carcinogen.
^f	Extremely reactive and unstable compound.

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