

SPILL PREVENTION GUIDANCE DOCUMENT

**Appendix E
Chemical/ Material Compatibility Matrix**

Chemical	Wood	Cement	Glass	Cast Iron	Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Nickel	Monel	Inconel	Hastelloy	Ceramic	Ceromagnet	Epoxy Resins	Phenolic Resins	PVC	EPDM	Polyethylene	Chlorinated Polyethylene	Polypropylene	Teflon	Neoprene	Hypalon	Buna-N	Natural Rubber	
Chloroform	-	-	A	A	C	A	A	A	A	A	A	A	A	A	A	A	X	X	X	X	X	A	X	X	X	X	
Chlorosulfonic Acid	-	-	A	X	-	-	C	C	A	A	A	A	-	-	X	X	A	-	-	-	-	-	X	-	-	-	
Chromic Acid	X	X	A	X	-	X	X	X	X	X	-	-	A	-	X	X	A	-	C	-	-	-	-	X	-	-	
Creosote	-	X	A	-	-	A	A	C	-	C	-	-	-	-	-	X	-	X	-	-	-	-	X	C	-	X	
Cresol	-	X	A	A	-	A	A	A	A	A	-	-	-	-	-	X	X	-	X	-	-	-	-	X	A	X	
Cyclohexane	-	-	A	A	C	-	-	A	-	A	-	-	-	-	-	X	A	X	X	A	A	-	-	X	X	A	X
Cyclohexanol	-	-	A	-	-	-	A	X	-	-	-	-	-	-	A	-	X	-	A	-	-	-	X	-	-	-	
Cyclohexanone	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	X	-	-	-	X	-	-	-	
Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	A	-	-	-	X	X	-	X	
Diesel Oil	-	-	-	A	-	A	A	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diethylamine	-	-	-	-	-	A	A	C	A	A	A	-	A	-	-	-	X	-	-	-	-	-	X	-	-	-	
Dimethyl Hydrazine	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	-	-	
Ether (Ethyl or Diethyl)	-	-	A	-	-	-	C	C	-	-	-	-	-	-	X	-	X	-	X	-	-	-	X	-	-	-	
Ethyl Acetate	A	X	A	A	-	A	A	A	A	A	A	A	A	-	A	A	X	-	X	-	-	-	X	-	-	-	
Ethyl Alcohol (Ethanol)	-	-	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	-	-	A	-	A	A	A	A	
Ethyl Benzene	-	-	A	-	A	-	A	A	-	-	-	-	-	-	A	-	X	X	X	C	-	X	A	X	-	X	
Ethyl Chloride	-	-	-	-	X	A	A	C	-	-	-	A	A	-	-	-	-	-	-	C	-	X	A	C	X	X	
Ethyl Mercaptan	-	-	A	-	-	-	A	A	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	
Ethylene	-	-	-	-	A	A	A	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ethylene Dichloride	-	-	A	-	X	A	A	C	A	A	C	A	A	-	A	A	X	C	X	C	A	A	X	X	X	X	
Ethylene Oxide	-	-	-	-	X	A	A	A	-	-	-	A	A	-	-	-	-	-	-	-	-	-	A	-	-	X	
Formaldehyde Solution	-	-	A	C	C	-	C	C	A	A	A	A	A	C	A	A	A	C	A	C	A	A	A	C	C	C	
Formic Acid	-	-	A	X	-	A	A	C	A	A	X	A	A	-	A	C	A	-	A	-	-	-	A	-	-	-	
Gasoline	-	-	A	A	-	A	A	A	A	A	A	A	A	-	A	A	C	-	X	-	-	-	X	-	-	-	
Glycerin	-	X	A	A	-	A	A	A	A	A	A	A	A	-	A	A	-	-	-	-	-	-	C	-	-	-	
Hydrazine	X	-	X	X	-	A	A	A	X	X	X	X	-	-	A	A	A	-	-	-	-	-	X	-	-	-	
Hydrochloric Acid	-	-	A	X	X	X	X	X	X	X	A	X	A	X	A	X	A	-	A	C	A	A	X	A	C	A	
Hydrofluoric Acid	-	X	X	X	X	X	X	X	A	A	-	A	X	-	A	A	A	-	A	C	-	A	X	A	X	A	
Hydrogen	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	C	A	-	-	A	A	A	-	C	
Hydrogen Cyanide	-	-	A	C	-	A	A	A	A	A	A	A	-	A	C	A	-	A	-	A	-	-	X	-	-	-	
Hydrogen Peroxide	X	C	C	X	-	C	C	C	C	A	C	A	A	A	-	C	A	-	A	C	A	A	A	A	X	C	
Hydrogen Sulfide	-	-	-	-	X	C	C	C	A	C	-	A	A	A	-	-	-	A	-	A	-	A	A	A	C	C	X
Isopropyl Alcohol (Isopropanol)	-	-	-	-	A	A	A	C	-	-	-	A	A	-	-	-	-	C	A	-	A	-	A	A	C	A	
Kerosene	-	-	A	A	-	A	A	A	A	A	A	A	A	-	A	A	A	-	X	-	-	-	X	-	-	-	
Mercury	-	-	-	-	C	A	A	C	-	-	-	C	A	-	-	-	-	A	A	-	A	C	A	A	C	A	
Methane Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	A	-	-	-	A	C	-	X	
Methyl Alcohol (Methanol)	A	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	
Methyl Ethyl Ketone	-	A	A	-	A	A	A	-	-	-	-	-	-	-	X	A	X	A	X	-	A	A	X	X	X	C	
Methyl Isobutyl Ketone	-	-	A	-	-	A	A	A	-	-	-	-	-	-	C	A	X	-	X	C	C	-	X	X	X	X	
Methylene Chloride	-	-	-	-	C	A	A	A	-	-	-	A	A	-	-	-	-	-	-	C	X	A	-	-	-	X	
Naphtha	-	-	A	A	-	A	A	A	A	A	A	A	A	-	A	A	C	-	A	-	-	-	X	-	-	-	
Naphthalene	-	-	-	A	A	-	-	A	-	-	-	-	-	-	-	-	-	X	X	X	-	C	A	X	X	X	
Nitric Acid	X	X	A	X	-	C	C	C	X	X	X	X	A	C	X	X	X	-	X	X	X	A	X	X	X	X	
Nitrobenzene	-	-	A	A	-	A	A	A	A	A	A	A	-	C	C	X	-	X	-	-	-	-	X	-	-	-	
Nitropropanes	-	-	-	-	-	A	A	-	-	-	-	-	-	-	-	-	A	-	-	-	-	-	X	-	-	-	
Oxalic Acid	-	A	A	X	-	C	C	C	A	A	A	A	A	-	A	-	A	-	A	-	-	-	A	-	-	-	
Oxygen Gas	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-	C	A	C	-	-	C	C	-	C	
Parathion	-	-	-	-	-	A	A	A	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	-	-	-	-	-	A	A	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	C	-	-	X	
Perchloric Acid	X	X	C	X	-	X	X	X	X	X	-	-	-	-	A	-	C	-	C	-	-	-	X	-	-	-	
Petroleum Ether	-	-	A	A	-	A	A	A	A	A	A	A	A	-	A	A	C	-	A	-	-	-	X	-	-	-	
Phenol	A	A	A	A	C	A	A	A	A	A	A	A	A	A	X	X	C	X	C	C	C	A	X	X	X	X	
Picric Acid	-	-	A	X	-	A	A	X	X	X	X	X	A	A	-	X	X	-	A	-	-	-	X	-	-	-	
Potassium Cyanide	-	A	C	C	-	A	A	A	A	A	A	A	A	-	A	X	A	-	A	-	-	-	A	-	-	-	
Pyridine	A	A	A	A	-	A	A	A	-	-	-	-	A	-	-	A	X	-	A	-	-	-	X	-	-	-	
Silver Nitrate	-	-	A	A	-	A	A	X	X	X	A	A	A	-	A	A	A	-	A	-	-	-	A	-	-	-	

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Chemical/ Material Compatibility Matrix (continued)

Chemical	Wood	Cement	Glass	Cast Iron	Carbon Steel	Stainless Steel 304	Stainless Steel 316	Aluminum	Nickel	Monel	Inconel	Hastelloy	Ceramic	Ceramagnet	Epoxy Resins	Phenolic Resins	PVC	EPDM	Polyethylene	Chlorinated Polyethylene	Polypropylene	Teflon	Neoprene	Hypalon	Buna-N	Natural Rubber	
Sodium	-	-	-	-	-	A	A	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sodium Carbonate	-	C	A	A	C	A	A	X	A	A	A	A	-	-	A	A	A	A	A	C	A	A	A	A	A	A	
Sodium Chlorate	-	-	-	-	X	C	C	C	-	-	-	A	A	-	-	-	-	-	-	-	A	A	-	-	X	-	
Sodium Chloride	A	A	A	C	X	C	C	C	A	A	C	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	
Sodium Cyanide	A	A	C	A	C	A	A	X	X	X	X	-	A	-	A	A	A	C	A	-	A	A	A	A	A	A	
Sodium Hydroxide	-	A	C	A	A	A	A	X	A	A	A	X	A	A	A	X	A	-	A	C	A	A	X	A	X	C	
Sodium Hypochlorite	-	-	A	X	X	X	X	X	C	C	C	X	A	-	C	X	A	C	A	C	A	A	X	C	A	C	
Sodium Nitrate	-	-	-	-	C	A	A	A	C	C	-	A	A	A	-	-	-	-	A	A	A	A	A	A	A	C	A
Sodium Sulfide	-	-	-	-	-	-	X	C	C	-	-	A	-	-	-	-	-	A	A	A	A	A	A	A	A	C	A
Stoddard Solvent	-	-	A	A	-	A	A	A	A	A	A	A	A	-	A	A	C	-	A	-	-	-	X	-	-	-	
Styrene (Monomer)	-	-	A	-	-	-	C	A	-	-	-	-	-	-	-	X	X	X	X	C	-	A	X	-	X	X	
Sulfur	-	-	-	-	-	A	A	-	-	-	-	A	-	-	-	-	-	C	X	-	-	-	C	C	-	C	
Sulfur Dioxide	-	-	-	-	A	A	A	A	X	X	-	A	A	-	-	-	-	-	C	A	-	X	A	C	C	X	C
Sulfuric Acid	X	-	A	X	X	X	X	X	X	A	X	A	A	-	A	X	A	-	A	X	X	A	A	C	C	X	
Tetrahydrofuran	-	-	-	-	-	-	A	-	-	-	-	-	A	-	X	-	X	-	X	-	-	-	X	-	-	-	
Tetrachloroethane	-	-	A	-	-	-	A	X	-	-	-	-	-	-	A	-	X	-	-	-	-	-	X	-	-	-	
Tetraethyl Lead	-	-	-	-	C	-	A	-	-	-	-	-	-	-	-	-	A	-	A	-	-	-	-	-	-	-	
Toluene	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	X	X	C	X	A	X	X	X	X	
Transformer Oil	-	-	A	-	-	-	A	A	-	-	-	-	-	-	A	A	X	-	-	-	-	-	A	-	-	-	
Trichloroethane	-	-	-	-	-	-	-	C	-	-	-	-	A	-	-	-	-	X	A	C	-	A	X	X	X	X	
Trichloroethylene	-	-	A	A	-	X	A	A	A	A	A	A	-	A	A	X	-	X	-	-	-	-	X	-	-	-	
Turpentine	-	-	A	-	A	-	A	A	-	-	-	-	-	-	A	-	-	X	A	C	C	A	X	X	X	X	
Vinyl Chloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	A	-	-	-	X	X	-	C	
Xylenes	-	X	A	-	-	A	-	A	-	-	-	-	-	A	A	A	A	X	A	X	X	A	A	X	X	X	

Key:

A = Acceptable

C = Conditionally acceptable

X = Unacceptable

- = Insufficient Information