

## Chemical Compatibility Chart

<b>1 Inorganic Acids</b>	<b>1</b>	
<b>2 Organic acids</b>	<b>X</b>	<b>2</b>
<b>3 Caustics</b>	<b>X</b>	<b>3</b>
<b>4 Amines &amp; Alkanolamines</b>	<b>X</b>	<b>4</b>
<b>5 Halogenated Compounds</b>	<b>X</b>	<b>5</b>
<b>6 Alcohols, Glycols &amp; Glycol Ethers</b>	<b>X</b>	<b>6</b>
<b>7 Aldehydes</b>	<b>X</b>	<b>7</b>
<b>8 Ketone</b>	<b>X</b>	<b>8</b>
<b>9 Saturated Hydrocarbons</b>		<b>9</b>
<b>10 Aromatic Hydrocarbons</b>	<b>X</b>	<b>10</b>
<b>11 Olefins</b>	<b>X</b>	<b>11</b>
<b>12 Petroleum Oils</b>		<b>12</b>
<b>13 Esters</b>	<b>X</b>	<b>13</b>
<b>14 Monomers &amp; Polymerizable Esters</b>	<b>X</b>	<b>14</b>
<b>15 Phenols</b>	<b>X</b>	<b>15</b>
<b>16 Alkylene Oxides</b>	<b>X</b>	<b>16</b>
<b>17 Cyanohydrins</b>	<b>X</b>	<b>17</b>
<b>18 Nitriles</b>	<b>X</b>	<b>18</b>
<b>19 Ammonia</b>	<b>X</b>	<b>19</b>
<b>20 Halogens</b>	<b>X</b>	<b>20</b>
<b>21 Ethers</b>	<b>X</b>	<b>21</b>
<b>22 Phosphorus, Elemental</b>	<b>X</b>	<b>22</b>
<b>23 Sulfur, Molten</b>		<b>23</b>
<b>24 Acid Anhydrides</b>	<b>X</b>	<b>24</b>

**X** Represents Unsafe Combinations

Represents Safe Combinations

**Group 1: Inorganic Acids**

Chlorosulfonic acid  
Hydrochloric acid (aqueous)  
Hydrofluoric acid (aqueous)  
Hydrogen chloride (anhydrous)  
Hydrogen fluoride (anhydrous)  
Nitric acid  
Oleum  
Phosphoric acid  
Sulfuric acid

Dichloropropane  
Dichloropropene  
Ethyl chloride  
Ethylene dibromide  
Ethylene dichloride  
Methyl bromide  
Methyl chloride  
Methylene chloride  
Monochlorodifluoromethane  
Perchloroethylene  
Propylene dichloride  
1,2,4-Trichlorobenzene  
1,1,1-Trichloroethane  
Trichloroethylene  
Trichlorofluoromethane

**Group 2: Organic Acids**

Acetic acid  
Butyric acid (n-)  
Formic acid  
Propionic acid  
Rosin Oil  
Tall oil

**Group 6: Alcohols, Glycols and Glycol Ethers**

Allyl alcohol  
Amyl alcohol  
1,4-Butanediol  
Butyl alcohol (iso, n, sec, tert)  
Butylene glycol  
Corn syrup  
Cyclohexyl alcohol  
Decyl alcohol (n, iso)  
Dextrose solution  
Diacetone alcohol  
Diethylene glycol  
Diethylene glycol dimethyl ether  
Diethylene glycol monobutyl ether  
Diethylene glycol monoethyl ether  
Diethylene glycol monomethyl ether  
Diisobutyl carbitol  
Dipropylene glycol  
Dodecanol  
Ethoxylated dodecanol  
Ethoxylated pentadecanol  
Ethoxylated tetradecanol  
Ethoxylated tridecanol  
Ethyxytriglycol  
Ethyl alcohol  
Ethyl butanol

**Group 3: Caustics**

Caustic potash solution  
Caustic soda solution

2-Ethylbutyl alcohol  
2-Ethylhexyl alcohol  
Ethylene glycol  
Ethylene glycol monobutyl ether  
Ethylene glycol monoethyl ether  
Ethylene glycol monomethyl ether  
Furfuryl alcohol  
Glycerine  
Heptanol  
Hexanol

**Group 4: Amines and Alkanolamines**

Aminoethylethanolamine  
Aniline  
Diethanolamine  
Diethylenetriamine  
Diisopropanolamine  
Dimethylamine  
Ethylenediamine  
Hexamethylenediamine  
2-Methyl-5-ethylpyridine  
Monoethanolamine  
Monoisopropanolamine  
Morpholine  
Pyridine  
Triethanolamine  
Triethylamine  
Triethylenetetramine  
Trimethylamine

**Group 5: Halogenated Compounds**

Allyl chloride  
Carbon tetrachloride  
Chlorobenzene  
Chloroform  
Chlorhydrines, crude  
Dichlorobenzene (o-)  
Dichlorobenzene (p-)  
Dichlorodifluoromethane  
Dichloroethyl ether

**Group 6: Alcohols, Glycols and Glycol Ethers  
(cont.)**

Hexylene glycol  
Isoamyl alcohol  
Isooctyl alcohol  
Methyoxytriglycol  
Methyl alcohol  
Methylamyl alcohol  
Molasses, all  
Nonanol  
Octanol  
Pentadecanol  
Polypropylene glycol methyl ether  
Propyl alcohols (n, iso)  
Propylene glycol  
Sorbitol  
Tetradecanol  
Tetraethylene glycol  
Tridecyl alcohol  
Triethylene glycol  
Undecanol

**Group 7: Aldehydes**

Acetaldehyde  
Acrolein (inhibited)  
Butyraldehyde (n, iso)  
Crotonaldehyde  
Decaldehyde (n, iso)  
2-Ethyl-3-propylacrolein  
Formaldehyde solutions  
Furfural  
Hexamethylenetetramine  
Isooctyl aldehyde  
Methyl butyraldehyde  
Methyl formal  
Paraformaldehyde  
Valeraldehyde

**Group 8: Ketones**

Acetone  
Acetophenone  
Camphor oil  
Cyclohexanone  
Diisobutyl ketone  
Isophorone  
Mesityl oxide  
Methyl ethyl ketone  
Methyl isobutyl ketone

**Group 9: Saturated Hydrocarbons**

Butane  
Cyclohexane

Ethane  
Heptane  
Hexane  
Isobutane  
Liquified natural gas  
Liquified petroleum gas  
Methane  
Nonane  
n-Paraffins  
Pentane  
Petrolatum  
Petroleum ethers  
Petroleum naphtha  
Polybutene  
Propane  
Propylene butylene polymer

**Group 10: Aromatic Hydrocarbons**

Benzene  
Cumene  
p-Cymene  
Coal tar oil  
Diethylbenzene  
Dodecyl benzene  
Dowtherm  
Ethylbenzene  
Naphtha, coal tar  
Naphthalene (includes molten)  
Tetrahydronaphthalene  
Toluene  
Triethyl benzene  
Xylene (m-, o-, p-)

**Group 11: Olefins**

Butylene  
1-Decene  
Dicylcopentadiene  
Diisobutylene  
Dipentene  
Dodecene  
1-Dodecene  
Ethylene  
Liquified petroleum gas  
1-Heptene  
1-Hexane  
Isobutylene  
Nonene  
1-Octene  
1-Pentene  
Polybutene  
Propylene  
Propylene butylene polymer

**Group 11: Olefins (cont.)**

Propylene tetramer (dodecene)  
1-Tetradecene  
1-Tridecene  
Turpentine  
1-Undecene

**Group 12: Petroleum Oils**

Asphalt  
Gasolines  
    Casinghead  
    Automotive  
    Aviation  
Jet Fuels  
JP-1 (kerosene)  
JP-3  
JP-4  
JP-5 (kerosene, heavy)  
Kerosene  
Mineral spirits  
Naphtha (non aromatic)  
Naphtha  
    Solvent  
    Stoddard solvent  
    VM&P  
Oils  
    Absorption oil  
    Clarified oil  
    Crude oil  
    Diesel oil  
    Fuel oil  
        No. 1 (kerosene)  
        No. 1-D  
        No. 2  
        No. 2-D  
        No. 4  
        No. 5  
        No. 6  
    Lubricating oil  
    Mineral oil  
    Mineral seal oil  
    Motor oil  
    Penetration oil  
    Range oil  
    Road oil  
    Spindle oil  
    Spray oil  
    Transformer oil  
    Turbine oil

**Group 13: Esters**

Amyl acetate  
Amyl tallate  
Butyl acetates (n, iso, sec)  
Butyl benzyl phthalate  
Castor oil  
Croton oil  
Dibutyl phthalate  
Diethyl carbonate  
Dimethyl sulfate  
Diocetyl adipate  
Diocetyl phthalate  
Epoxidized vegetable oils  
Ethyl acetate  
Ethyl diacetate  
Ethylene glycol monoethyl ether acetate  
Ethylhexyl tallate  
Fish oil  
Glycol diacetate  
Methyl acetate  
Methyl amyl acetate  
Neatsfoot oil  
Olive oil  
Peanut oil  
Propyl acetates (n, iso)  
Resin oil  
Soya bean oil  
Sperm oil  
Tallow  
Tanner's oil  
Vegetable oil  
Wax, carnauba

**Group 14: Monomers and Polymerizable esters**

Acrylic acid (inhibited)  
Acrylonitrile  
Butadiene (inhibited)  
Butyl acrylate (n, iso)  
Ethyl acrylate (inhibited)  
2-Ethylhexyl acrylate (inhibited)  
Isodecyl acrylate (inhibited)  
Isoprene (inhibited)  
Methyl acrylate (inhibited)  
Methyl methacrylate (inhibited)  
o-Propiolactone  
Styrene (inhibited)  
Vinyl acetate (inhibited)  
Vinyl chloride (inhibited)  
Vinyldene chloride (inhibited)  
Vinyl toluene

**Group 15: Phenols**

Carbolic oil  
Creosote, coal tar  
Cresols  
Nonylphenol  
Phenol

**Group 16: Alkylene Oxides**

Ethylene Oxide  
Propylene Oxide

**Group 17: Cyanohydrins**

Acetone cyanohydrin  
Ethylene cyanohydrin

**Group 18: Nitriles**

Acetonitrile  
Adiponitrile

**Group 19: Ammonia**

Ammonium hydroxide

**Group 20: Halogens**

Bromine  
Chlorine

**Group 21: Ethers**

Diethyl ether (ethyl ether)  
1, 4, Dioxane  
Isopropyl ether  
Ethers (cont)  
Tetrahydrofuran

**Group 22: Phosphorus, elemental****Group 23: Sulfur, molten****Group 24: Acid Anhydride**

Acetic anhydride  
Propionic anhydride