

## TPU CHEMICAL RESISTANCE CHART

### Ratings Guide

**G** – Should have little or no effect on the material at the given concentration and temperature

**M**oderate – Some effect on the material at the given concentration and temperature. Caution advised.

**X** – Not recommended.

CHEMICALS	CONC.	RATING All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Acetaldehyde		X (X)
Acetamide		X (X)
Acetic acid	3%	G (G)
Acetic acid	10%	M (M)
Acetic acid	25%	X (M)
Acetic acid	100%	X (X)
Acetic anhydride	50%	X (X)
Acetone		X (X)
Acetylene		X (X)
Acrylonitrile		X (X)
Adipic acid		M (M)
Allyl alcohol		X (X)
Allyl chloride		X (X)
Alum (Potassium Aluminum Sulfate)		G (G)
Aluminum acetate		X (G)
Aluminum chloride		M (M)
Aluminum hydroxide		M (G)
Aluminum nitrate		M (G)
Aluminum phosphate		G (G)
Aluminum potassium sulfate		M (M)
Aluminum sulfate		M (G)
Ammonia, liquid	100%	X (X)
Ammonia, aqueous	25%	X (X)

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CHEMICALS	CONC.	RATING
		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Ammonium acetate		X (X)
Ammonium carbonate		X (X)
Ammonium chloride	3%	M (G)
Ammonium fluoride		X (X)
Ammonium hydroxide		X (X)
Ammonium nitrate		G (G)
Ammonium persulfate		M (G)
Ammonium phosphate		M (G)
Ammonium sulfate		G (G)
Ammonium thiocyanate		M (G)
Amyl acetate, normal		X (X)
Amyl alcohol		M (X)
Amyl chloride		X (X)
Aqua Regia		X (X)
Aniline		X (X)
Aniline hydrochloride		X (X)
Animal Fats		G (G)
Antimony chloride	50%	M (G)
Antimony chloride	100%	X (X)
Arsenic acid		X (X)
ASTM Fuel A		G (G)
ASTM Fuel B		X (M)
ASTM Fuel C		X (M)
Barium chloride		G (G)
Barium hydroxide		M (G)
Barium sulfate		G (G)
Barium sulfide		G (G)
Beer		G (G)
Benzaldehyde		X (X)
Benzene		X (X)
Benzoic acid		X (X)

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CHEMICALS	CONC.	<b>RATING</b> All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Benzyl benzoate		X (X)
Benzyl alcohol		X (X)
Benzyl chloride		X (X)
Biphenyl, polychlorinated		G (G)
Boric acid		M (G)
Brake fluid		X (X)
Brine		M (M)
Bromine		X (X)
Bromine water		X (X)
Bromobenzene		X (X)
Butadiene		G (G)
Butane		M (M)
Butyl acetate, normal		X (X)
Butyl benzoate		G (G)
Butyl alcohol, normal		X (X)
Butyl carbitol		X (X)
Butyl stearate		M (M)
Butylene glycol		M (M)
Butylphenol		X (X)
Butyric acid		X (X)
Calcium acetate		G (G)
Calcium bicarbonate		G (G)
Calcium bisulfate		M (M)
Calcium bisulfite		M (M)
Calcium carbonate		G (G)
Calcium chloride		M (G)
Calcium hydroxyde		M (G)
Calcium hypochlorite		X (X)
Calcium nitrate		G (G)
Calcium oxide		G (G)
Calcium phosphate		G (G)

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		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Calcium sulfate		M (G)
Calcium sulfide		G (G)
Camphor		X (X)
Carbitol		X (X)
Carbolineum		X (X)
Carbon bisulfide		M (G)
Carbon dioxide, damp		G (G)
Carbon dioxide, dry		G (G)
Carbon tetrachloride		X (X)
Carbonic acid		G (G)
Castor oil		G (G)
Chloral hydrate		X (X)
Chloramine		G (G)
Chlorine, Wet		X (X)
Chlorine, Dry		X (X)
Chlorine water	3%	X (M)
Chlorobromomethane		X (M)
Chloroacetic acid		X (X)
Chlorobenzene		X (X)
Chlorobiphenyl		X (X)
Chloroform		X (X)
Chlorosulfonic acid		X (X)
Chromic acid	10%	X (X)
Chromic acid	25%	X (X)
Chromic acid	50%	X (X)
Citric acid		M (G)
Coal Tar		M (M)
Coconut fatty alcohol		G (G)
Coconut oil		G (G)
Cod-liver oil		G (G)
Copper acetate		X (X)

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		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Copper chloride		M (G)
Coper cyanide		M (G)
Copper fluoride		X (X)
Copper nitrate		X (M)
Copper sulfate		M (M)
Cotton oil		G (G)
Creosote		X (G)
Cresol (-mixtures)		X (X)
Crotonaldehyde		M (M)
Crude oil		G (G)
Cumene		X(X)
Cupric hydroxide		G (G)
Cyclohexalimine		X (X)
Cyclohexanol		G (G)
Cyclohexanone		X (X)
Decahydronaphthalene		M (X)
Densodrin W		G (G)
Dibutyl phthalate, n-		X (X)
Dibutyl sebacate		X (X)
Dichlorobenzene		X (X)
Dichloroethylene		X (X)
Diesel oil		G (G)
Diethyl ethyl		G (G)
Diethylamine		X (M)
Diethylbenzene		X (X)
Diethylene glycol		M (M)
Diglycolic acid		X (X)
Dimethyl ether		G (G)
Dimethyl formamide (DMF)		X (M)
Dimethyl phthalate (DMP)		M (M)
Diethyl phthalate (DOP)		G (G)

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		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Dioxane		X (X)
Ethyl acetate		X (X)
Ethyl acrylate		X (X)
Ethyl alcohol		X(X)
Ethyl benzene		X (X)
Ethyl ether		G (M)
Ethyl chloride		X (X)
Ethylene dichloride		X (X)
Ethylene glycol		M (M)
Ethylene glycol monoethyl ether (Carbitol)		X (X)
Ethylene oxide		X (X)
Ethylene trichloride		X (X)
Fatty acids, C>7		G (G)
Fatty Acids, C<7		X (X)
Ferric chloride		G (G)
Ferric nitrate		G (G)
Ferric nitrate		G (G)
Ferric sulfate		G (G)
Fluorine		X (X)
Fluorosilic acid		X (X)
Formaldehyde solution		X (X)
Formamide		X (X)
Formic acid	3%	G (G)
Formic acid	10%	M (G)
Formic acid	100%	X (X)
Freon F-11		X (X)
Freon F-12		G (G)
Freon F-22		X (X)
Freon F-113		G (G)
Fruit pulp		M (G)
Furfural		X (X)

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		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Furfuryl alcohol		X (X)
Gallic acid		M (M)
Gasoline		G (G)
Gelatin		M (G)
Glucose		G (G)
Glue (bone glue)		G (G)
Glycerol		G (G)
Glycine		X (X)
Glycolic acid	30%	X (X)
Heptane		G (G)
Hexane		G (G)
Hexaldehyde		G (M)
Hexyl alcohol		M (X)
Hydrazine		X (X)
Hydrazine hydrate		X (X)
Hydrofluosilicic acid		X (X)
Hydrobromic acid		X (X)
Hydrogen bromide		X (M)
Hydrogen chloride	15%	X (X)
Hydrogen chloride (Conc.)	38%	X (X)
Hydrogen chloride (gas)		X (X)
Hydrogen fluoride	10%	X (G)
Hydrogen fluoride	30%	X (G)
Hydrogen fluoride	73%	X (M)
Hydrogen peroxide	3%	G (G)
Hydrogen peroxide	10%	X (X)
Hydrogen peroxide	30%	X (X)
Hydrogen sulfide (wet and dry)		X (X)
Hydroquinone		X (X)
Hydroxylamine disulfate		X (X)
Iodine, tincture of		X (X)

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Isobutanol		M (X)
Isobutyl acetate		X (X)
Isopropyl acetate		M (M)
Isopropyl alcohol		G (M)
Isopropyl ether		G (G)
Jet A		G (G)
JP-8, JP-5		G (G)
Kerosene		G (G)
Ketones		X (X)
Lactic acid		X (G)
Lanolin		G (G)
Lard		G (G)
Lauryl alcohol		X (X)
Lead acetate		M (M)
Lead nitrate		G (G)
Lead sulfate		G (G)
Linseed oil		G (G)
Lubricating oils		G (G)
Magnesium chloride		M (G)
Magnesium hydroxide		M (M)
Magnesium sulfate		G (G)
Magnesium sulfite		M (G)
Maleic acid		X (X)
Mercuric chloride		G (G)
Mercury		G (G)
Methane, gas		G (M)
Methyl acetate		X (X)
Methyl alcohol		X(X)
Methyl amine		X (X)
Methyl bromide		X (X)
Methyl chloride		X (X)

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CHEMICALS	CONC.	RATING
		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Methyl ethyl ketone		X (X)
Methyle isobutyl ketone		X (X)
Milk		G/(G)
Mineral oil		G (G)
Molasses		G (G)
Monochloroethane		X (X)
Morpholine		X (X)
Mustard		G (G)
Naphtha		G (G)
Naphthalene		G (G)
Nickel acetate		M (G)
Nickel dichloride		M (G)
Nickel sulfate		G (G)
Nitric acid	10%	X (X)
Nitric acid	25%	X (X)
Nitric acid	50%	X (X)
Nitric acid	60%	X (X)
Nitrobenzene		X (X)
Octane		G (G)
Oils and fats, vegetable		G (G)
Oleic acid		G (G)
Oleum		X (X)
Oleum steams		X (X)
Olive oil		G (G)
Ozone		G (G)
Palm oil		G (G)
Palmitic acid		G (G)
Paraffins		G (G)
Pectin		G (G)
Pentachlorophenol		X (X)
Pentanol		M (M)

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		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X Ether = (X)
Perchloric acid		X (X)
Phenol		X (X)
Phenyl ether		X (X)
Phenylbenzene		X (X)
Phosphoric acid	3%	G (G)
Phosphoric acid	50%	M (G)
Phosphoric acid	85%	X (X)
Phosphorus oxychloride		X (X)
Phthalic acid ester		X (M)
Picric acid		G (G)
Polychlorinated biphenyls (PCB)		G (G)
Potassium acetate		X (X)
Potassium borate		M (G)
Potassium bromate	10%	X (X)
Potassium bromide		M (M)
Potassium carbonate (Potash)		M (G)
Potassium chlorate		M (G)
Potassium chloride		G (G)
Potassium chromate	40%	X (X)
Potassium cyanide		M (G)
Potassium dichromate		M (G)
Potassium hydroxide	10%	G (G)
Potassium hydroxide	50%	X (M)
Potassium hydroxide	100%	X (X)
Potassium hypochlorite		M (G)
Potassium iodide		M (M)
Potassium nitrate		G (G)
Potassium perchlorate		X (X)
Potassium permanganate	10%	M (G)
Potassium persulfate		X (X)
Potassium sulfate		G (G)

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CHEMICALS	CONC.	RATING
		All values are @ 20°C. Values are given for both Ester and Ether based TPU: Ester = X [Fuel] Ether = (X) [Water]
Propane, gas		<b>G (M)</b>
Propane, liquid		<b>G (M)</b>
Propargyl alcohol	7%	<b>X (X)</b>
Propionic acid		<b>X (X)</b>
Propyl alcohol		<b>M (X)</b>
Propyl amine		<b>X (X)</b>
Propylene glycol		<b>X (X)</b>
Propylene oxide		<b>X (X)</b>
Pyridine		<b>X (X)</b>
Salicylic acid		<b>G (G)</b>
Sea water		<b>X (G)</b>
Silicic acid		<b>G (G)</b>
Silicone oil		<b>G (G)</b>
Silver nitrate		<b>G (G)</b>
Soapy solution		<b>M (M)</b>
Sodium acetate		<b>X (M)</b>
Sodium bicarbonate		<b>X (G)</b>
Sodium bisulfate		<b>X (X)</b>
Sodium bisulfite		<b>X (X)</b>
Sodium borate		<b>G (G)</b>
Sodium chlorate		<b>M (G)</b>
Sodium chloride		<b>M (G)</b>
Sodium cyanide		<b>M (M)</b>
Sodium dichromate		<b>M (M)</b>
Sodium fluoride		<b>M (G)</b>
Sodium hydroxide	25%	<b>X (M)</b>
Sodium hydroxide	100%	<b>X (X)</b>
Sodium hypochlorite	10%	<b>M (G)</b>
Sodium hypochlorite	30%	<b>X (M)</b>
Sodium hypochlorite	100%	<b>X (X)</b>
Sodium nitrate		<b>G (G)</b>

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Sodium oxalate		X (X)
Sodium silicate		X (M)
Sodium sulfate		M (G)
Sodium sulfide		G (G)
Sodium thiosulfate		M (M)
Spruce oil		G (G)
Starch solution		G (G)
Starch syrup		G (G)
Stearic acid		M (G)
Styrene		X (M)
Sulfur trioxide		M (G)
Sulfonic acid		X (X)
Sulfuric acid	10%	M (M)
Sulfuric acid	50%	X (M)
Sulfuric acid	75%	X (X)
Sulfuric acid	90%	X (X)
Sulfurous acid	10%	M (M)
Sulfurous acid	75%	X (X)
Tallow		G (G)
Tannic acid		M (M)
Tartaric acid		M (M)
Tetrachloroethane		X (X)
Tetrachloroethylene		M (M)
Tetrahydrofuran (THF)		M (M)
Toluene		X (X)
Transformer oil		G (G)
Tributyl phosphate (TBP)		X (X)
Trichloroacetic acid (TCA)		X (X)
Trichloroethane		X (X)
Trichloroethylene (TRI)		X (X)
Tricresyl phosphate (TCF)		X (X)

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Triethylene glycol		<b>G (G)</b>
Trioctyl phosphate		<b>G (G)</b>
Trisodium phosphate		<b>M (M)</b>
Urea		<b>M (G)</b>
Vegetable oils		<b>G (G)</b>
Vinegar		<b>X (M)</b>
Vinyl acetate		<b>X (M)</b>
Vinyl chloride		<b>X (M)</b>
Water		<b>M (G)</b>
Water, distilled		<b>M (G)</b>
Whiskey		<b>G (G)</b>
White Spirit		<b>G (G)</b>
Wines		<b>M (G)</b>
Xylene		<b>X (X)</b>
Zinc acetate		<b>X (X)</b>
Zinc chloride		<b>M (M)</b>
Zinc sulfate		<b>M (M)</b>

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