

## CAST POLYURETHANE CHEMICAL, OIL, and SOLVENT RESISTANCE GUIDE

Samples were immersed for seven days at 75 degrees F. The rating was based on the volume change according to the following key:

Rating	Percent Change
1 = Excellent	0 to 3%
2 = Good	4 to 15%
3 = Fair	16 to 35%
4 = Poor	36% & up

<u>Chemical</u>	<u>Polyether</u>	<u>Polyester</u>
Acetaldehyde	4	4
Acetic Acid	4-3	4-3
Acetic Anhydride	4	4
Acetone	4	4
Acetyl Bromide	3-4	4
Acetyl Chloride	3-4	4
Acetylene	2-3	3
Adipic Acid	1	2
Aluminum Chloride	2	2
Aluminum Sulphate	2	2
Aluminum Sulphide	2	2
Ammonia	2	2-3
Ammonium Acetate	3-4	3-4
Ammonium Carbonate	2	2
Ammonium Hydroxide	1-2	2
Ammonium Nitrate	2	2-3
Ammonium Persulfate	2	2
Ammonium Sulfate	2	2
Ammonium Sulfide	2	2
Ammonium Thiocyanide	2	2
Amyl Acetate	4	4
Amyl Alcohol	3	3-4
Amyl Chloride	3	3
Aniline	4	4
Aniline Hydrochloride	4	4
Animal Fats & Oils	2-3	2-3

Antimony Salts	2	2
Aqua Regia	4	4
Arsenic Salts	2-1	2
ASTM Oil #1	1-2	1
ASTM Oil #2	2	1
ASTM Oil #3	2	1
ASTM Reference Fuel A	1	1-2
ASTM Reference Fuel B	2	2
Atlantic Oil	1	1-2
Barium Carbonate	2	2
Barium Hydroxide	1	2
Benzaldehyde	3-2	4
Benzene	4	4
Benzene (Gasoline) (Aromatic)	2-3	3
Benzoic Acid	2-3	3-4
Boric Acid	1	2
Bromine	2-3	2-3
Bunker Oil	1-2	2
Butane	1	2-3
Butyl Acetate	4	4
Butyl Alcohol	2	3
Calcium Carbonate	2	2
Calcium Chloride	1	2
Calcium Hydroxide	1	2
Calcium Nitrate	2	2
Calcium Sulfate	2	2
Carbon Dioxide	1	1
Carbon Disulfide	2-3	2-3
Carbon Monoxide	1	1
Carbon Tetrachloride	3	4
Castor Oil	1-2	2
Chlorine	2-3	2-3
Chloroacetic Acid	3-4	4
Chloroform	4	4
Chromic Acid	3-4	4
Chromium Potassium Sulfate	2	2
Citric Acid	2	2
Cottonseed Oil	1	2
Cresol (meta)	4	4
Cupric Chloride	1	2

Cupric Nitrate	2	2
Cupric Sulphate	2	2
Cyclohexanone	4	4
Cyclohexane	2	2
Dubutyl Phthalate	3-4	4
Dibutyl Ether	2	2
Dichlorobenzene (Ortho)	3	3
Dodecyl Mercaptan	2-3	2
Diester Oil	2	2
Dimethyl Acetamide	4	4
Dimethyl Formamide	4	4
DTE Oil (heavy, medium)	2	2-3
Ether	2-3	2-3
Ethyl Acetate	4	4
Ethyl Alcohol (Ethanol)	3	2-3
Ethyl Bromide	3	3-4
Ethyl Chloride	3	3-4
Ethylene Glycol	2	2-3
Esso #90 Lub. Oil	1	2
Ferric Chloride	2	2
Ferric Nitrate	2	2
Ferrous Chloride	2	2
Ferrous Sulfate	2	2
Formaldehyde	3	2
Formic Acid	3-4	4
Freon, 12 or 113	1	2
Fuel Oil	2	2
Gasoline	2	2
Glycerine (Glycerol)	1	2
Gylcolic Acid	2	2-3
Greases	1-2	2
Heptane	1	2
Hexane	1	2
Hydrazine	4	4
Hydrobromic Acid	2	2
Hydrocarbon Oil	1	2
Hydrochloric Acid, 20%	2	2-3
Hydrofluoric Acid	2-3	3

Hydrogen	1-2	2
Hydrogen Peroxide	2	2
Hydrogen Sulfide	3-4	4
Hydroiodic Acid	2	2
Iodine Solution	1	2
Isooctane	2	2
Isopropyl Alcohol (Isopropanol)	2-3	3
Isopropyl Ether	2	2-3
JP-4 Oil	2-3	3
JP-5 & 6	4	4
Kerosene	2	2-3
Lactic Acid	2	2
Lead Acetate	2	2
Linseed Oil	2	2-3
Lubricating Oil	2	2-3
Magnesium Hydroxide	1	1-2
Magnesium Salts	2	2
Malaic Acid	3-4	4
Mercury	1-2	2
Methyl Alcohol (methanol)	4	3
Methyl Ethyl Ketone	4	4
Methylene Chloride	4	4
MIL-D-5606 Oil	3	3-4
MIL-L-7808	1-2	2-3
Mineral Oil	1	1
Mobil Arctic Oil	1	2
Naphthalene	2	2-3
Natural Gas	2	2
Nickel Salts	3	3-4
Nitric Acid	4	4
Nitrobenzene	4	4
Nitrogen	1	1
Oleic Acid	1-2	2
Oxalic Acid (5%)	1	1-2
Oxygen	1	1

Ozone	1	1
Palmitic Acid	1	2
Paints	1-2	2
Perchloric Acid	4	4
Perchloroethylene	3-4	4
Petroleum	1-2	2
Phenol (carbolic acid)	4	4
Phosphoric Acid (dil.)	2-3	3
Phosphoric Acid (conc.)	3	4
Potassium Cyanide	1	2
Potassium Salts	2	2
Propane	2	2
Propyl Alcohol	2-3	3
Propylene Glycol	2	2
Pydraul Oil	4	4
SAE #10 Oil	1	1
Seawater	1-2	2
Silicic Acid	2-1	2
Skydrol Oil (500)	4	3
Silver Nitrate	2	2
Soap	2-3	2-3
Sodium Acetate	1-2	2
Sodium Bicarbonate	2	2
Sodium Bisulfate	2	2
Sodium Borate	2	2
Sodium Carbonate	2	2
Sodium Chlorate	2	2
Sodium Chloride	2	2
Sodium Cyanide	2	2
Sodium Dichromate	2	2
Sodium Ferrocyanide	2	2
Sodium Fluoride	2	2-3
Sodium Hydrosulfite	2	2
Sodium Hydroxide, 45%	2	2
Sodium Nitrate	2	2
Sodium Silicate	1-2	2
Sodium Sulfate	2	2
Sodium Sulfide	2	2
Sodium Hypochlorite 5%	4	4
Sperry Oil	2	2-3
Steam	4	4

Stoddard Solvent	1	2
Styrene	2	2
Sulfur Dioxide	2	2-3
Sulfuric Acid, 10 - 50%	3-4	4
Tannic Acid, 10%	1	2
Tartaric Acid	1	2-3
Tin Salts	2	2
Titanium Salts	2	2
Toluene	4	4
Transformer Oil	2-3	3
Trichloroacetic Acid	4	4
Trichloroethylene	4	4
Tricresyl Phosphate	3-4	4
Triethanol Amine	2	2
Trisodium Phosphate	2	2
Turpentine	3	2
Urea	2	2
Varnish	2	2-3
Vegetable	1	2
Water	2	2
Xylene	3	3-4
Xylol	3-4	4
Zinc Chloride	2	2
Zinc Sulfate	2	2

Solvent resistance data is based on standard laboratory tests and conditions and, therefore, does not necessarily duplicate real-world conditions. Data is not intended to and does not create any warranties, either expressed or implied. Potential users should perform independent testing to determine the suitability of materials for their intended application.