

Chemical, Oil & Solvent Resistance of Adiprene®/Vibrathane® Elastomers

Urethane
Prepolymers

CHEMICAL, OIL AND SOLVENT RESISTANCE OF ADIPRENE®/VIBRATHANE® ELASTOMERS

Samples of both PTMG-Ether and polyester-based elastomers were immersed for seven days at 75°F in various chemicals. Samples were then removed, dried and measured for volume swell. Ratings were given based on the following key:

1 = Excellent	(0 – 3%)
2 = Good	(4 – 15%)
3 = Fair	(16 – 35%)
4 = Poor	(36% up)

Chemical	Ether	Ester
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 Sulfate	2	2
Aluminum Sulfide	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 Thiocyanate	2	2
Amyl Acetate	4	4
Amyl Alcohol	3	3-4

Chemical, Oil & Solvent Resistance of Adiprene[®]/Vibrathane[®] Elastomers

Chemical	Ether	Ester
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
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

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Chemical	Ether	Ester
Cupric Chloride	1	2
Cupric Nitrate	2	2
Cupric Sulfate	2	2
Cyclohexanone	4	4
Cyclohexane	2	2
Dibutyl 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 (heave, 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	2-3
Glycerine (Glycerol)	1	2
Glycolic 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

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Chemical	Ether	Ester
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 Artic 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

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Chemical	Ether	Ester
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

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Chemical	Ether	Ester
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