

CHEMICAL RESISTANCE DATA CHART

Chemical Resistance Key:

R - Resistant N - Not Resistant V - Variable Resistance (Contact DHI) U – Unknown

Caution Key:

(P) - Plasticizer (A) - Known Stress Crack Agent

(O) - Oxidizer (B) - Suspected Stress Crack Agent

| CHEMICAL | CONCENTRATION | PLASTICS MAX TEMP (°F) | | SEAL MATERIALS MAX TEMP (°F) | | | METALS |
|----------------------------|---------------|------------------------------|---------------|---------------------------------|------------------|------------------|--------|
| | | POLYETHYLENE | POLYPROPYLENE | EPDM | NITRILE (BUNA-N) | Santoprene (TPE) | 316 SS |
| Acetaldehyde (A) | 100% | 70 | R | V | R | R | N |
| Acetic Acid (A) | 10% | R | R | R | N | R | A |
| Acetic Acid (A) | 60% | 100 | R | R | N | R | A |
| Acetic Anhydride (B) | | N | 73 | N | N | R | V |
| Aluminum Chloride | | R | R | R | V | R | N |
| Aluminum Fluoride | | R | R | V | V | R | N |
| Aluminum Sulfate | | R | R | V | V | R | |
| Alums - all types | | R | R | V | V | R | R |
| Ammonia - dry gas | 100% | R | R | R | V | R | R |
| Ammonium Carbonate | | R | R | R | V | R | V |
| Ammonium Chloride | Sat'd | R | R | R | V | R | V |
| Ammonium Fluoride | Sat'd | R | R | R | V | R | N |
| Ammonium Hydroxide | 10% | R | R | V | R | R | R |
| Ammonium Hydroxide | 28% | R | | V | N | R | R |
| Ammonium Nitrate | Sat'd | R | R | V | R | R | R |
| Ammonium Persulfate | Sat'd | R | R | V | N | R | R |
| Ammonium Sulfate | Sat'd | R | R | R | R | R | V |
| Ammonium Metaphosphate | Sat'd | R | R | V | R | R | R |
| Amyl Acetate (BP) | 100% | N | N | R | N | R | R |
| Amyl Alcohol (AP) | 100% | R | R | V | V | N | R |
| Amyl Chloride (P) | 100% | N | N | N | N | N | R |
| Aniline (AP) | 100% | N | N | V | N | N | R |
| Aqua Regia (O) | | N | N | N | N | N | V |
| Arsenic Acid | | R | R | V | V | R | R |
| Aromatic Hydrocarbons (BP) | | N | N | | | R | |
| Ascorbic acid | 10% | R | R | | | N | |

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| | | POLYETHYLENE | POLYPROPYLENE | EPDM | NITRILE (BUNA-N) | Santoprene (TPE) | 316 SS |
| Barium Carbonate | Sat'd | R | R | V | R | R | R |
| Barium Chloride | Sat'd | R | R | V | V | R | R |
| Barium Hydroxide | | R | R | V | V | R | R |
| Barium Sulfate | Sat'd | R | R | V | V | R | R |
| Barium Sulfide | Sat'd | R | R | V | V | R | R |
| Beer | | R | R | R | V | R | R |
| Benzene (BP) | | N | N | N | N | N | R |
| Benzoic acid | | R | R | N | N | R | R |
| Bismuth Carbonate | Sat'd | R | R | 70 | 70 | R | |
| Bleach Lye | 10% | R | R | | | R | |
| Borax | Sat'd | R | R | R | V | R | R |
| Boric acid | | R | R | V | V | R | R |
| Boron Trifluoride | | R | R | | | N | |
| Brine | | R | R | V | V | R | R |
| Bromine - liquid (O) | | N | N | N | N | R | N |
| Butanediol (A) | 10% | R | R | | | N | |
| Butanediol(A) | 60% | R | R | | | N | |
| Butanediol (A) | 100% | R | R | | | N | |
| Butter (B) | | R | R | | | R | |
| Butyl Acetate (BP) | 100% | N | N | N | N | N | R |
| Butyl Alcohol (A) | 100% | R | R | V | V | R | R |
| Butyric Acid - conc. (P) | Conc. | N | R | N | N | N | R |
| Cadmium Salts | | R | R | | | R | |
| Calcium Bisulfide | | R | R | R | V | N | R |
| Calcium Carbonate | Sat'd | R | R | V | V | R | R |
| Calcium Chlorate | Sat'd | R | R | V | V | R | R |
| Calcium Chloride | Sat'd | R | R | V | V | R | R |
| Calcium Hydroxide | Conc. | R | R | R | V | R | R |
| Calcium Hypochlorite - bleach soln. | | R | R | V | N | R | V |
| Calcium Nitrate | 50% | R | R | V | V | R | R |
| Calcium Oxide | Sat'd | R | R | V | V | R | R |
| Calcium Salts | | R | R | | | R | |
| Calcium Sulfate | | R | R | V | V | R | R |
| Camphor Oil (BP) | | N | 73 | N | R | R | R |
| Carbon Dioxide - all conc. | | R | R | V | R | R | R |

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| Carbon Disulphide | | N | N | N | N | N | R |
| Carbon Monoxide | | R | R | V | R | R | R |
| Carbon Tetrachloride (P) | | N | N | N | N | N | R |
| Carbonic Acid | | R | R | V | 70 | R | R |
| Castor Oil - conc. (A) | | R | R | | R | R | R |
| Chlorine - dry gas (O) | 100% | N | N | N | N | N | R |
| Chlorine Liquid (O) | | N | N | N | N | N | N |
| Chlorobenzene (BP) | | R | 73 | N | N | N | R |
| Chloroform (BP) | | N | N | N | N | N | R |
| Chlorosulfonic Acid | 100% | N | N | N | N | N | N |
| Chromic Acid | 10% | R | R | 70 | N | R | 70 |
| Chromic Acid | 50% | R | 73 | N | N | R | V |
| Cider (A) | | R | R | | | R | |
| Citric Acid - (A) | Sat'd | R | R | | | R | R |
| Coconut Oil Alcohols (A) | | R | 73 | N | R | R | R |
| Coffee | | R | R | V | R | R | R |
| Cola Concentrates (A) | | R | R | | | R | |
| Copper Chloride | Sat'd | R | R | V | R | R | R |
| Copper Cyanide | Sat'd | R | R | V | | R | R |
| Copper Fluoride | 2% | R | 73 | V | 80 | R | |
| Copper Nitrate | Sat'd | R | R | V | V | R | R |
| Copper Sulfate | Sat'd | R | R | V | V | R | R |
| Corn Oil (A) | | R | 73 | N | R | N | R |
| Cottonseed Oil (A) | | R | R | V | R | R | R |
| Cresol | 100% | N | 73 | | N | R | R |
| Cuprous Chloride | Sat'd | R | R | | | R | |
| Detergents, synthetic (A) | | V | V | | | R | R |
| Developers. photographic | | R | R | V | V | R | R |
| Dextrin | Sat'd | R | R | R | V | R | R |
| Dextrose | Sat'd | R | R | R | R | R | R |
| Diazo Salts | | R | R | | | N | |
| Dibutyl Phthalate (B) | | R | 73 | V | N | R | R |
| Dichlorobenzene (BP) | | R | N | N | N | N | R |
| Diethyl Ketone (BP) | | N | 73 | N | N | R | |
| Diethylene Glycol (A) | | R | R | | | R | |

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| | | POLYETHYLENE | POLYPROPYLENE | EPDM | NITRILE (BUNA-N) | Santoprene (TPE) | 316 SS |
| Diglycolic Acid (A) | | R | R | V | V | R | |
| Dimethylamine | | N | 73 | V | N | R | R |
| Disodium Phosphate | | R | R | V | 70 | R | R |
| Emulsions, photographic (A) | | R | R | V | V | R | R |
| Epsom Salts - Magnesium Sulfate | | R | R | R | V | R | R |
| Ethyl Acetate (BP) | 100% | R | N | N | N | N | R |
| Ethyl Alcohol (A) | 100% | R | R | R | V | N | R |
| Ethyl Alcohol (A) | 35% | R | R | R | V | N | R |
| Ethyl Benzene (BP) | | N | N | N | N | N | R |
| Ethyl Chloride (P) | | N | N | R | R | N | R |
| Ethyl Ether (P) | | N | N | V | N | N | R |
| Ethylene Chloride (BP) | | N | N | N | N | N | R |
| Ethylene Glycol (A) | | R | R | R | R | R | R |
| Fatty Acids (A) | | R | R | N | V | R | R |
| Ferric Chloride | Sat'd | R | R | V | V | R | N |
| Ferric Nitrate | Sat'd | R | R | V | V | R | R |
| Ferrous Chloride | Sat'd | R | R | R | V | R | N |
| Ferrous Sulfate | | R | R | V | V | R | R |
| Fish Solubles (A) | | R | R | N | R | R | R |
| Fluoboric Acid | | R | R | 70 | N | R | R |
| Fluosilicic Acid - conc. | | R | 73 | | N | R | R |
| Fluosilicic Acid | 32% | R | R | | N | R | R |
| Formic Acid - all conc. | | R | R | R | N | R | R |
| Fructose | Sat'd | R | R | | | R | R |
| Fruit Pulp (B) | | R | R | | | R | |
| Furfural (P) | 100% | N | N | V | N | R | R |
| Furfuryl Alcohol (BP) | | N | N | | | R | |
| Gallic Acid (A) | Sat'd | R | R | N | N | R | R |
| Gasoline (PB) | | N | N | N | R | N | R |
| Glucose | | R | R | V | R | R | R |
| Glycerine (A) | | R | R | V | R | R | R |
| Glycol (A) | | R | R | | | R | R |
| Glycolic Acid (A) | 30% | R | 73 | R | V | N | R |
| Grape Sugar- ag | Sat'd | R | R | | | R | |
| Heptane (PB) | | N | N | N | R | R | R |

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| Hexachlorobenzenes | | R | R | | | | |
| Hexanol, Tertiary (A) | | R | R | N | R | R | R |
| Hydrobromic Acid | 50% | R | R | R | N | R | N |
| Hydrochloric Acid - all conc. | | R | R | V | V | R | V |
| Hydrocyanic Acid | Sat'd | R | 73 | V | V | R | R |
| Hydrofluoric Acid (A) | 30% | R | R | V | N | N | N |
| Hydrofluoric Acid (A) | 50% | R | 73 | V | N | N | N |
| Hydrogen | 100% | R | R | R | V | R | R |
| Hydrogen Chloride - dry gas | | R | R | | | R | |
| Hydrogen Peroxide | 30% | R | 73 | V | N | R | R |
| Hydrogen Sulfide | | R | R | R | N | R | R |
| Hypochlorous Acid - conc | | R | 73 | 104 | N | R | |
| Inks (A) | | R | R | V | V | R | R |
| Iodine in Potassium Sol'n (O) | | 73 | 73 | V | 80 | R | N |
| Lead Acetate | Sat'd | R | R | R | V | R | R |
| Lead Nitrate | | R | R | V | V | N | |
| Lime | | R | 73 | V | V | R | V |
| Magnesium Carbonate | Sat'd | R | R | V | R | R | R |
| Magnesium Chloride | Sat'd | R | R | R | R | R | N |
| Magnesium Hydroxide | Sat'd | R | R | | | R | |
| Magnesium Nitrate | Sat'd | R | R | | | R | |
| Magnesium Sulfate | Sat'd | R | R | R | V | R | R |
| Mercuric Chloride | Sat'd | R | R | V | V | R | N |
| Mercuric Cyanide | Sat'd | R | R | V | V | R | A |
| Methyl Alcohol (A) | 100% | R | R | V | V | R | R |
| Methylene Chloride (PB) | 100% | N | N | N | N | N | R |
| Milk | | R | R | R | R | R | R |
| Mineral Oils (P) | | 70 | N | N | R | N | R |
| Molasses | | R | R | V | R | R | R |
| Naphtha (PA) | | N | 73 | N | V | N | R |
| Naphthalene (PB) | | N | 73 | N | N | N | R |
| Nickel Chloride - conc. | | R | R | R | R | R | R |
| Nickel Nitrate | Sat'd | R | R | R | V | R | A |
| Nickel Sulfate - conc. | | R | R | R | R | R | |
| Nicotine - dilute (A) | | R | R | | N | N | R |

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| | | POLYETHYLENE | POLYPROPYLENE | EPDM | NITRILE (BUNA-N) | Santoprene (TPE) | 316 SS |
| Nitric Acid (O) | 30% | R | R | | N | R | R |
| Nitric Acid (O) | 50% | 70 | N | N | N | R | R |
| Nitric Acid (O) | 70% | 70 | N | N | N | R | R |
| Nitric Acid (O) | 98% | N | N | N | N | R | R |
| Nitrobenzene (PB) | 100% | N | N | N | N | N | R |
| Nonyl phenol ethoxylate (B) | | N | N | | | R | |
| Octane | | R | R | | | N | |
| Oxalic Acid (A) | Sat'd | R | R | | | R | |
| Perchloroethylene (P) | | N | N | N | N | N | R |
| Phosphorous Pentoxide | | 73 | 73 | | | R | R |
| Photographic Solutions | | R | R | V | V | R | R |
| Plating Solutions | | | | | | | |
| Brass (A) | | R | R | 70 | V | R | |
| Cadmium (A) | | R | R | R | V | R | |
| Gold (A) | | R | R | V | V | R | |
| Nickel (A) | | R | R | V | V | R | R |
| Silver (A) | | R | R | V | V | R | |
| Tin (A) | | R | R | R | V | R | |
| Zinc (A) | | R | R | V | V | R | |
| Potassium Acetate | | R | R | | | R | |
| Potassium Bicarbonate | Sat'd | R | R | R | R | R | R |
| Potassium Bromate | 10% | R | R | R | V | R | R |
| Potassium Bromide | Sat'd | R | R | R | R | R | R |
| Potassium Carbonate | | R | R | V | R | R | R |
| Potassium Chlorate | Sat'd | R | R | V | 70 | R | R |
| Potassium Chloride | Sat'd | R | R | V | R | R | V |
| Potassium Chromate | 40% | R | R | R | V | R | R |
| Potassium Cyanide | Sat'd | R | R | V | R | R | R |
| Potassium Dichromate | 40% | R | R | R | R | R | R |
| Potassium Ferri/Ferro Cyanide | Sat'd | R | R | 70 | N | N | R |
| Potassium Fluoride | | R | R | R | V | R | R |
| Potassium Hydroxide | 20% | R | R | R | V | R | R |
| Potassium Hydroxide - conc. | | R | R | | | R | |
| Potassium Nitrate | Sat'd | R | R | V | V | R | R |
| Potassium Perchlorate | 10% | R | R | R | N | R | |

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| Potassium Permanganate | 20% | R | 73 | R | N | R | R |
| Potassium Persulfate | Sat'd | R | R | R | N | N | |
| Potassium Sulfate - conc | | R | R | R | V | N | R |
| Potassium Sulfide - conc. | | R | R | 70 | | N | V |
| Potassium Sulfite - conc. | | R | R | R | V | N | R |
| Propargyl Alcohol (A) | | R | R | R | 70 | R | |
| Propyl Alcohol (A) | | R | R | V | R | R | R |
| Propylene Dichloride (PB) | 100% | N | N | | | N | |
| Propylene Glycol (A) | | R | R | R | R | R | R |
| Pyridine (B) | | N | N | N | N | R | V |
| Rayon Coagulating Bath (B) | | R | R | | | | |
| Resorcinol | Sat'd | R | R | | | | |
| Salicylic Acid | Sat'd | R | R | R | N | R | R |
| Selenic acid | | R | R | 70 | N | | |
| Shortening (A) | | R | R | | | | |
| Silver Nitrate Solution | | R | R | R | N | R | R |
| Soap Solution - any conc. (A) | | V | R | | | R | R |
| Sodium Acetate | Sat'd | R | R | R | N | R | R |
| Sodium Benzoate | 35% | R | R | R | V | R | |
| Sodium Bicarbonate | Sat'd | R | R | R | V | R | R |
| Sodium Bisulfate | Sat'd | R | R | V | V | R | R |
| Sodium Bisulfite | Sat'd | R | R | R | R | R | R |
| Sodium Bromide | Dilute | R | R | R | N | R | R |
| Sodium Carbonate - conc | | R | R | R | V | R | R |
| Sodium Chlorate | Sat'd | R | R | V | V | R | R |
| Sodium Chloride | Sat'd | R | R | V | R | R | V |
| Sodium Chlorite | 30% | R | 73 | 70 | N | R | |
| Sodium Cyanide | | R | R | R | V | R | R |
| Sodium Dichromate | Sat'd | R | R | R | R | R | R |
| Sodium Ferri/Ferro Cyanide | Sat'd | R | R | R | 70 | R | R |
| Sodium Fluoride | Sat'd | R | R | R | 100 | R | R |
| Sodium Hydroxide - conc. | | R | R | V | V | R | R |
| Sodium Hydroxide | 35% | R | R | V | R | R | R |
| Sodium Hydroxide | 50% | R | R | V | R | R | R |
| Sodium Hypochlorite | 12% | R | 73 | N | N | R | N |

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| Sodium Hypochlorite | 16.5% | R | 73 | N | N | R | N |
| Sodium Hypochlorite | >16.5% | R | 73 | N | N | R | N |
| Sodium Nitrate | | N | R | R | V | R | R |
| Sodium Sulfate | | R | R | V | R | R | R |
| Sodium Sulfide | Sat'd | R | R | R | V | R | R |
| Sodium Sulfite | Sat'd | R | R | R | V | R | R |
| Sodium thiosulphate pentahydrate | | R | R | R | | N | R |
| Stannic Chloride | Sat'd | R | R | R | R | R | N |
| Stannous Chloride | Sat'd | R | R | V | V | R | R |
| Starch Solution (A) | Sat'd | R | R | R | V | R | R |
| Stearic Acid (A) | 100% | R | 73 | N | V | R | R |
| Sulfuric Acid | 50% | R | R | R | N | R | R |
| Sulfuric Acid (O) | 70% | R | 73 | R | N | R | V |
| Sulfuric Acid (O) | 80% | R | 73 | 70 | N | R | N |
| Sulfuric Acid (O) | 96% | 70 | N | 70 | N | R | N |
| Sulfuric Acid (O) | 98% | N | N | 70 | N | R | N |
| Sulfuric Acid - fuming (O) | | N | N | N | N | R | N |
| Sulfurous Acid | | R | R | N | N | N | R |
| Tallow (P) | | R | R | N | R | R | R |
| Tannic Acid (A) | Sat'd | R | 73 | R | R | R | R |
| Tartaric Acid | 10% | R | R | N | R | R | R |
| Tetrahydrofuran | | N | N | N | N | R | |
| Titanium Tetrachloride (B) | Sat'd | N | R | N | N | N | V |
| Toluene (PB) | | N | N | N | N | N | R |
| Transformer Oil | | R | 73 | N | V | N | R |
| Trichloroethylene (PB) | | N | N | | | N | |
| Triethylene Glycol (B) | | R | R | | | N | |
| Trisodium Phosphate | Sat'd | R | R | | | R | R |
| Turpentine (P) | | N | N | | | N | |
| Urea | 30% | R | R | | | R | |
| Urine | | R | R | | | R | |
| Vanilla Extract (A) | | R | R | | | R | |
| Varnish | | R | R | | | N | |
| Vinegar | | R | R | | | R | |
| Water (Potable) | | R | R | R | R | R | R |

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| Water (Salt) | | R | R | V | V | R | R |
| Water (Sea) | | R | R | V | V | R | V |
| Water (Swimming Pool) | | V | 100 | 73 | 73 | R | |
| Wetting Agents (A) | | V | V | | | R | |
| Whiskey (A) | | R | R | R | R | R | R |
| Wines (B) | | R | R | R | R | R | R |
| Xylene (P) | | N | N | N | N | N | R |
| Yeast | | R | R | | | R | |
| Zinc Bromide | Sat'd | R | R | | | R | |
| Zinc Carbonate | Sat'd | R | R | 70 | 70 | R | V |
| Zinc Chloride | Sat'd | R | R | R | V | R | V |
| Zinc Oxide | Sat'd | R | R | | | R | |
| Zinc Stearate | | R | R | | | R | |
| Zinc Sulfate | Sat'd | R | R | V | V | R | R |

The information contained within this chart is based upon data supplied by resin manufacturers and is intended to be a general guide. Note that this data does not encompass all applications or service temperatures. For this reason, Den Hartog Industries, Inc. makes no claim as to the accuracy of this data and recommends that in all cases the final determination of suitability between the chemical(s) to be contained and the polyethylene tank material be verified with the chemical manufacturer(s).