Chemical Resistance Guide

PLEASE NOTE: This guide is intended as general information only. Since each pair of ratings listed is for ideal conditions, consider all factors when evaluating chemical resistance. The first letter of each pair applies to conditions at 20˚C; the second to those at 50˚C.

MATERIALS KEY:
LDPE - Low Density Polyethylene
HDPE - High Density Polyethylene
PP/PA - Polypropylene/ Polypropylene Copolymer
PMP - Polymethylpentene
FEP - Teflon® FEP
TFE - Teflon® TFE
PFA - Teflon® PFA
PC - Polycarbonate
PVC - Polyvinyl Chloride
PSF - Polysulfone

RATINGS KEY:
E - Excellent
G - Good
F - Fair
N - Not Recommended

CHEMICAL ▼ / MATERIAL ►	LDPE	HDPE	PP/ PPCO	PMP	FEP/ TFE/ PFA	PC	RIGID PVC	PSF
Acetaldehyde	GN	GF	GN	GN	EE	FN	GN	NN
Acetamide (saturated)	EE	EE	EE	EE	EE	NN	NN	NN
Acetic Acid (5%)	EE	EE	EE	EE	EE	EG	EE	EE
Acetic Acid (50%)	EE	EE	EE	EE	EE	EG	EG	GG
Acetone	NN	NN	EE	EE	EE	NN	NN	NN
Acetonitrile	EE	EE	FN	FN	EE	NN	NN	NN
Acrylonitrile	EE	EE	FN	FN	EE	NN	NN	NN
Adipic Acid	EG	EE	EE	EE	EE	EE	EG	GG
Alanine	EE	EE	EE	EE	EE	NN	NN	NN
Allyl Alcohol	EE	EE	EE	EG	EE	GF	GF	GF
Aluminum Hydroxide	EG	EE	EG	EG	EE	FN	EG	GG
Aluminum Salts	EE	EE	EE	EE	EE	EG	EE	EE
Amino Acids	EE	EE	EE	EE	EE	EE	EE	EE
Ammonia	EE	EE	EE	EE	EE	NN	EG	GF
Ammonium Acetate (saturated)	EE	EE	EE	EE	EE	EE	EE	EE
Ammonium Glycolate	EG	EE	EG	EG	EE	GF	EE	GG
Ammonium Hydroxide (5%)	EE	EE	EE	EE	EE	FN	EE	GG
Ammonuim Hydroxide (30%)	EG	EE	EG	EG	EE	NN	EG	GG
Ammonium Oxalate	EG	EE	EG	EG	EE	EE	EE	EE
Ammonium Salts	EE	EE	EE	EE	EE	EG	EG	EE
n-Amyl Acetate	GF	EG	GF	GF	EE	NN	NN	NN
Amyl Chloride	NN	FN	NN	NN	EE	NN	NN	NN
Aniline	EG	EG	GF	GF	EE	FN	NN	NN
Benzaldehyde	EG	EE	EG	EG	EE	FN	NN	FF
Benzene	NN	NN	NN	GF	EE	NN	NN	NN
Benzoic Acid (saturated)	EE	EE	EG	EG	EE	EG	EG	FF
Benzyl Acetate	EG	EE	EG	EG	EE	FN	NN	NN
Benzyl Alcohol	NN	FN	NN	NN	EE	NN	GF	NN
Bromine	NN	FN	NN	NN	EE	FN	GN	NN
Bromobenzene	NN	FN	NN	NN	EE	NN	NN	NN
Bromoform	NN	NN	NN	NN	EE	NN	NN	NN
Butadiene	NN	FN	NN	NN	EE	NN	FN	NN
n-Butyl Acetate	GF	EG	GF	GF	EE	NN	NN	NN
n-Butyl Alcohol	EE	EE	EE	EG	EE	GF	GF	GF
sec-Butyl Alcohol	EG	EE	EG	EG	EE	GF	GG	GF
tert-Butyl Alcohol	EG	EE	EG	EG	EE	GF	EG	GF
Butyric Acid	NN	FN	NN	NN	EE	FN	GN	GG
Calcium Hydroxide (concentrated)	EE	EE	EE	EE	EE	NN	EE	GG
Calcium Hypochlorite (saturated)	EE	EE	EE	EG	EE	FN	GF	EE
Carbazole	EE	EE	EE	EE	EE	NN	NN	NN
Carbon Disulfide	NN	NN	NN	NN	EE	NN	NN	NN
Carbon Tetrachloride	FN	GF	GF	NN	EE	NN	GF	NN
Cedarwood Oil	NN	FN	NN	NN	EE	GF	FN	FF
Cellosolve Acetate	EG	EE	EG	EG	EE	FN	FN	NN
Chlorine (10% in air)	GN	EF	GN	GN	EE	EG	EE	NN
Chlorine (10% (moist))	GN	GF	FN	GN	EE	GF	EG	NN
Chloroacetic Acid	EE	EE	EG	EG	EE	FN	FN	NN
p-Chloroacetophenone	EE	EE	EE	EE	EE	NN	NN	NN
Chloroform	FN	NN	NN	NN	EE	NN	NN	NN
Chromic Acid (10%)	EE	EE	EE	EE	EE	GF	EG	NN
Chromic Acid (50%)	EE	EE	GF	GF	EE	FN	EF	NN
Cinnamon Oil	NN	FN	NN	NN	EE	GF	NN	FF
Citric Acid (10%)	EE	EE	EE	EE	EE	EG	GG	EE
Cresol	NN	FN	GF	NN	EE	NN	NN	NN
Cyclohexane	FN	FN	FN	NN	EE	EG	GF	NN
Decalin	GF	EG	GF	FN	EE	NN	EG	NN
o-Dichlorobenzene	FN	FF	FN	FN	EE	NN	NN	NN
p-Dichlorobenzene	FN	GF	GF	GF	EE	NN	NN	NN
Diethyl Benzene	NN	FN	NN	NN	EE	FN	NN	NN
Diethyl Ether	NN	FN	NN	NN	EE	NN	FN	NN
Diethyl Ketone	NN	NN	GG	GF	EE	NN	NN	NN
Diethyl Malonate	EE	EE	EE	EG	EE	FN	GN	FF
Diethylene Glycol	EE	EE	EE	EE	EE	GF	FN	GG
Diethylene Glycol Ethyl Ether	EE	EE	EE	EE	EE	FN	FN	FF
Dimethylformamide	EE	EE	EE	EE	EE	NN	FN	NN
Dimethyl Sulfoxide	EE	EE	EE	EE	EE	NN	NN	NN
1, 4-Dioxane	GF	GG	GF	GF	EE	GF	FN	GF
Dipropylene Glycol	EE	EE	EE	EE	EE	GF	GF	GG
Ether	NN	FN	NN	NN	EE	NN	FN	NN
Ethyl Acetate	EE	EE	EE	FN	EE	NN	NN	NN
Ethyl Alcohol (Absolute)	EG	EE	EG	EG	EE	EG	EG	EG
Ethyl Alcohol (40%)	EG	EE	EG	EG	EE	EG	EE	EG
Ethyl Benzene	NN	NN	NN	NN	EE	NN	NN	NN
Ethyl Benzoate	FF	GG	GF	GF	EE	NN	NN	NN
Ethyl Butyrate	GN	GF	GN	FN	EE	NN	NN	NN
Ethyl Chloride (liquid)	FN	FF	FN	FN	EE	NN	NN	NN
Ethyl Cyanoacetate	EE	EE	EE	EE	EE	FN	FN	FF
Ethyl Lactate	EE	EE	EE	EE	EE	FN	FN	FF
Ethylene Chloride	GN	GF	FN	NN	EE	NN	NN	NN
Ethylene Glycol	EE	EE	EE	EE	EE	GF	EE	EE
Ethylene Glycol Methyl Ether	EE	EE	EE	EE	EE	FN	FN	FF
Ethylene Oxide	FF	GF	FF	FN	EE	FN	FN	EE
Fluorides	EE	EE	EE	EE	EE	EE	EE	EE
Fluorine	FN	GN	FN	FN	EG	GF	EG	NN
Formaldehyde (10%)	EE	EE	EE	EG	EE	EG	GF	GF
Formaldehyde (40%)	EG	EE	EG	EG	EE	EG	GF	GF
Formic Acid (3%)	EG	EE	EG	EG	EE	EG	GF	GG
Formic Acid (50%)	EG	EE	EG	EG	EE	EG	GF	GG
Formic Acid (98-100%)	EG	EE	EG	EF	EE	EF	FN	FF
Fuel Oil	FN	GF	EG	GF	EE	EG	EE	EG
Gasoline	FN	GG	GF	GF	EE	FF	GN	FF
Glacial Acetic Acid	EG	EE	EG	EG	EE	NN	EG	FN
Glycerin	EE	EE	EE	EE	EE	EE	EE	EE
n-Heptane	FN	GF	FF	FF	EE	EG	GF	EG
Hexane	NN	GF	GF	FN	EE	FN	GN	EG
Hydrochloric Acid (1-5%)	EE	EE	EE	EG	EE	EE	EE	EE
Hydrochloric Acid (20%)	EE	EE	EE	EG	EE	GF	EG	EE
Hydrochloric Acid (35%)	EE	EE	EG	EG	EE	NN	GF	EE
Hydrofluoric Acid (4%)	EG	EE	EG	EG	EE	GF	GF	GF
Hydrofluoric Acid (48%)	EE	EE	EE	EE	EE	NN	GF	FN
Hydrogen Peroxide (3%)	EE	EE	EE	EE	EE	EE	EE	EE
Hydrogen Peroxide (30%)	EG	EE	EG	EG	EE	EE	EE	EE
Hydrogen Peroxide (90%)	EG	EE	EG	EG	EE	EE	EG	EE
Isobutyl Alcohol	EE	EE	EE	EG	EE	EG	EG	EG
Isopropyl Acetate	GF	EG	GF	GF	EE	NN	NN	NN
Isopropyl Alcohol	EE	EE	EE	EE	EE	EE	EG	EE
Isopropyl Benzene	FN	GF	FN	NN	EE	NN	NN	NN
Kerosene	FN	GG	GF	GF	EE	EE	EE	GF
Lactic Acid (3%)	EG	EE	EG	EG	EE	EG	GF	EE
Lactic Acid (85%)	EE	EE	EG	EG	EE	EG	GF	EE
Methoxyethyl Oleate	EG	EE	EG	EG	EE	FN	NN	NN
Methyl Alcohol	EE	EE	EE	EE	EE	GF	EF	GF
Methyl Ethyl Ketone	NN	NN	EG	NN	EE	NN	NN	NN
Methyl Isobutyl Ketone	NN	NN	GF	FF	EE	NN	NN	NN
Methyl Propyl Ketone	GF	EG	GF	FF	EE	NN	NN	NN
Methylene Chloride	FN	FN	FN	FN	EE	NN	NN	NN
Mineral Oil	GN	EE	EE	E&	EE	EG	EG	EE
Nitric Acid (1-10%)	EE	EE	EE	EE	EE	EG	EG	EF
Nitric Acid (50%)	GN	GN	FN	GN	EE	GF	GF	GF
Nitric Acid (70%)	FN	GN	NN	GF	EE	NN	FN	NN
Nitrobenzene	NN	FN	NN	NN	EE	NN	NN	NN
n-Octane	EE	EE	EE	EE	EE	GF	FN	GF
Orange Oil	FN	GF	GF	FF	EE	FF	FN	FF
Ozone	EG	EE	EG	EE	EE	EG	EG	EE
Perchloric Acid	GN	GN	GN	GN	GF	NN	GN	NN
Perchloroethylene	NN	NN	NN	NN	EE	NN	NN	NN
Phenol, Crystals	GN	GF	GN	FG	EE	EN	FN	FF
Phosphoric Acid (1-5%)	EE	EE	EE	EE	EE	EE	EE	EE
Phosphoric Acid (85%)	EE	EE	EG	EG	EE	EG	EG	EE
Pine Oil	GN	EG	EG	GF	EE	GF	FN	FF
Potassium Hydroxide (1%)	EE	EE	EE	EE	EE	FN	EE	EE
Potassium Hydroxide (conc.)	EE	EE	EE	EE	EE	NN	EG	EE
Propane Gas	NN	FN	NN	NN	EE	FN	EG	FF
Propylene Glycol	EE	EE	EE	EE	EE	GF	FN	GG
Propylene Oxide	EG	EE	EG	EG	EE	GF	FN	GG
Resorcinol (saturated)	EE	EE	EE	EE	EE	GF	FN	NN
Resorcinol (5%)	EE	EE	EE	EE	EE	GF	GN	NN
Salicylaldehyde	EG	EE	EG	EG	EE	GF	FN	FF
Salicylic Acid (powder)	EE	EE	EE	EG	EE	EG	GF	EE
Salicylic Acid (saturated)	EE	EE	EE	EE	EE	EG	GF	EE
Salt Solutions (metallic)	EE	EE	EE	EE	EE	EE	EE	EE
Silver Acetate	EE	EE	EE	EE	EE	EG	GG	EE
Silver Nitrate	EG	EE	EG	EE	EE	EE	EG	EE
Sodium Acetate (saturated)	EE	EE	EE	EE	EE	EG	GF	EE
Sodium Hydroxide (1%)	EE	GF	EE	EE	EE	FN	EE	EE
Sodium Hydroxide (50% to sat.)	GG	GF	EE	EE	EE	NN	NN	EG
Sodium Hypochlorite (15%)	EE	EE	GF	EE	EE	GF	EE	EE
Stearic Acid, Crystals	EE	EE	EE	EE	EE	EG	EG	GG
Sulfuric Acid (1-6%)	EE	EE	EE	EE	EE	EE	EG	EE
Sulfuric Acid (20%)	EE	EE	EG	EG	EE	EG	EG	EE
Sulfuric Acid (60%)	EG	EE	EG	EG	EE	GF	EG	EE
Sulfuric Acid (98%)	GG	GG	FN	GG	EE	NN	GN	NN
Sulfur Dioxide, Liquid, 46 psi	NN	FN	NN	NN	EE	GN	FN	GG
Sulfur Dioxide (wet or dry)	EE	EE	EE	EE	EE	EG	EG	GG
Sulfur Salts	FN	GF	FN	FN	EE	FN	NN	GG
Tartaric Acid	EE	EE	EE	EE	EE	EG	EG	EE
Tetrahydrofuran	FN	GF	GF	FF	EE	NN	NN	NN
Thionyl Chloride	NN	NN	NN	NN	EE	NN	NN	NN
Toluene	FN	GG	GF	FF	FF	FN	NN	NN
Tributyl Citrate	GF	EG	GF	GF	EE	NN	FN	FF
Trichloroethane	NN	FN	NN	NN	EG	NN	NN	NN
Trichloroethylene	NN	FN	NN	NN	EE	NN	NN	NN
Triethylene Glycol	EE	EE	EE	EE	EE	EG	GF	EE
Tripropylene Glycol	EE	EE	EE	EE	EE	EG	GF	EE
Turpentine	FN	GG	GF	FF	EE	FN	GF	NN
Undecyl Alcohol	EF	EG	EG	EG	EE	GF	EF	FF
Urea	EE	EE	EE	EG	EE	NN	GN	FF
Vinylidene Chloride	NN	FN	NN	NN	EE	NN	NN	NN
Xylene	GN	GF	FN	FN	EE	NN	NN	NN
Zinc Stearate	EE	EE	EE	EE	EE	EE	EG	EE