

TECHNICAL BULLETIN GENERAL INFORMATION



2100 Fernbrook Lane
Plymouth, MN 55447-4722
U.S.A.
Phone: 763.553.1270
Fax: 763.553.0459
Toll Free: 1.800.328.3352
www.nuaire.com

CARE & USE OF POLYPROPYLENE

NuAire products manufactured from Polypropylene materials require special consideration for the care and use to assure maximum customer satisfaction. Polypropylene materials have many favorable characteristics, such as being resistant to many chemicals, rigid, durable, and available in many thicknesses. NuAire fabricates the Polypropylene materials in many different ways to produce a variety of products for the laboratory. Understanding about the care and use of the Polypropylene material is important.

Cleaning

Regular cleaning can be done with soap and water, any commercial window glass cleaner, or Alcohol Acetone for stubborn areas. Use a soft cloth or damp paper towel. Abrasive material, such as scrubbers, will scratch the surface. The following brand name cleaners have been found to work well with polypropylene materials.

Fantastik household cleaner
Glass Plus cleaner
Formula 409 household cleaner
LPS Resolve Cleaner

If an external surface static charge develops, spraying an anti-static solution on the effected area will eliminate the problem.

Please consult the NuAire Technical Service Department if you have any additional questions.
(1-800-328-3352)

Material Compatibility

High concentrations of some acids may cause staining if in the constant contact with polypropylene. Once it has penetrated the surface of the material, only option would be to replace the surface, if at all possible.

See chemical resistance guide on following page for Polypropylene and other various types of plastics.

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.

MATERIALS KEY:
 LDPE – Low Density Polyethylene
 HDPE – High Density Polyethylene
 PP/PA – Polypropylene/Polypropylene Copolymer
 PMP – Polymethylpentene
 PC – Polycarbonate

PVC – Polyvinyl Chloride
 PSF – Polysulfone
 FEP – Teflon® FEP
 TFE – Teflon® TFE
 PFA – Teflon® PFA

RATINGS KEY: E – Excellent G – Good F – Fair N – Not Recommended
 First letter of each pair applies to conditions at 20°C; the second to those at 50°C.

▼ 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
Ammonium 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

▼ CHEMICAL	MATERIAL ►	LDPE	HDPE	PP/ PPCO	PMP	FEP/ TFE/ PFA	PC	RIGID PVC	PSF
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	EF	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

▼ CHEMICAL	MATERIAL ▶	LDPE	HDPE	PP/ PPCO	PMP	FEP/ TFE/ PFA	PC	RIGID PVC	PSF
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	FN	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

▼ CHEMICAL	MATERIAL ►	LDPE	HDPE	PP/ PPCO	PMP	FEP/ TFE/ PFA	PC	RIGID PVC	PSF
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