



**HDPE (High-Density-Poly-Ethylene) Chemical Resistance Chart\***

Chemical	Resistance		
	20°C	60°C	100°C
Acetaldehyde	R	R	NR
Acetic acid (10%)	R	R	NR
Acetic acid (glac./anh.)	R	R	NR
Acetic anhydride	R	R	NR
Aceto-acetic ester	ND	ND	ND
Acetone	R	R	NR
Other ketones	R	R	ND
Acetonitrile	R	R	NR
Acetylene	R	R	ND
Acetyl salicylic acid	ND	ND	ND
Acid fumes	R	R	NR
Alcohols	R	R	NR
Aliphatic esters	R	R	NR
Alkyl chlorides	R	R	NR
Alum	R	R	NR
Aluminium chloride	R	R	NR
Aluminium sulphate	R	R	NR
Ammonia, anhydrous	R	R	NR
Ammonia, aqueous	R	R	NR
Ammonium chloride	R	R	NR
Amyl acetate	R	R	NR
Aniline	R	R	NR
Antimony trichloride	R	R	NR
Aqua regia	NR	NR	NR
Aromatic solvents	R	NR	NR
Ascorbic acid	R	R	R
Beer	R	R	NR
Benzaldehyde	R	ND	ND
Benzene	NR	NR	NR
Benzoic acid	R	R	NR
Benzoyl peroxide	ND	ND	ND
Boric acid	R	R	NR
Brines, saturated	R	R	NR
Bromide (K) solution	R	R	NR
Bromine	NR	NR	NR
Bromine liquid, tech.	NR	NR	NR
Bromine water, saturated aqueous	NR	NR	NR
Butyl acetate	R	LR	NR
Calcium chloride	R	R	NR
Carbon disulphide	R	NR	NR
Carbonic acid	R	R	NR



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## pH / ORP / ISE Measurement Product Lines

Carbon tetrachloride	NR	NR	NR
Caustic soda & potash	R	R	NR
Cellulose paint	R	R	NR
Chlorates of Na, K, Ba	R	R	NR
Chlorine, dry	LR	NR	NR
Chlorine, wet	LR	NR	NR
Chlorides of Na, K, Ba	R	R	NR
Chloroacetic acid	R	R	NR
Chlorobenzene	NR	NR	NR
Chloroform	NR	NR	NR
Chlorosulphonic acid	NR	NR	NR
Chromic acid (80%)	R	NR	NR
Citric acid	R	R	NR
Copper salts (most)	R	R	NR
Cresylic acids (50%)	R	R	NR
Cyclohexane	NR	NR	NR
Detergents, synthetic	R	R	NR
Emulsifiers, concentrated	R	R	NR
Esters	ND	ND	ND
Ether	R	R	NR
Fatty acids (>C <sub>6</sub> )	R	R	NR
Ferric chloride	R	R	NR
Ferrous sulphate	R	R	NR
Fluorinated refrigerants	R	NR	NR
Fluorine, dry	NR	NR	NR
Fluorine, wet	NR	NR	NR
Fluorosilic acid	R	R	NR
Formaldehyde (40%)	R	R	NR
Formic acid	R	R	NR
Fruit juices	R	R	NR
Gelatine	R	R	NR
Glycerine	R	R	NR
Glycols	R	R	NR
Glycol, ethylene	R	R	ND
Glycolic acid	R	R	R
Hexamethylene diamine	R	R	ND
Hexamine	R	R	NR
Hydrazine	R	R	NR
Hydrobromic acid (50%)	R	R	NR
Hydrochloric acid (10%)	R	R	NR
Hydrochloric acid (conc.)	R	R	NR
Hydrocyanic acid	R	R	NR
Hydrofluoric acid (40%)	R	R	NR
Hydrofluoric acid (75%)	R	R	NR
Hydrogen peroxide (30%)	R	R	NR
Hydrogen peroxide (30 - 90%)	R	NR	NR



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Hydrogen sulphide	R	R	NR
Hypochlorites	R	R	NR
Hypochlorites (Na 12-14%)	R	R	ND
Iso-butyl-acetate	ND	ND	ND
Lactic acid (90%)	R	R	NR
Lead acetate	R	R	NR
Lead perchlorate	ND	ND	ND
Lime (CaO)	R	R	NR
Maleic acid	R	R	NR
Manganate, potassium (K)	R	R	ND
Meat juices	R	R	NR
Mercuric chloride	R	R	NR
Mercury	R	R	NR
Methanol	R	NR	NR
Methylene chloride	LR	NR	NR
Milk products	R	R	NR
Moist air	R	R	NR
Molasses	R	R	NR
Monoethanolamine	ND	ND	NR
Naptha	NR	NR	NR
Napthalene	R	ND	NR
Nickel salts	R	R	NR
Nitrates of Na, K and NH <sub>3</sub>	R	R	NR
Nitric acid (<25%)	R	R	NR
Nitric acid (50%)	R	NR	NR
Nitric acid (90%)	NR	NR	NR
Nitric acid (fuming)	NR	NR	NR
Nitrite (Na)	R	R	ND
Nitrobenzene	NR	NR	NR
Oils, diesel	R	NR	NR
Oils, essential	R	NR	NR
Oils, lubricating + aromatic additives	R	R	ND
Oils, mineral	R	R	NR
Oils, vegetable and animal	R	NR	NR
Oxalic acid	R	R	NR
Ozone	R	LR	NR
Paraffin wax	R	R	NR
Perchloric acid	R	R	NR
Petroleum spirits	R	R	ND
Phenol	R	R	NR
Phosphoric acid (20%)	R	R	NR
Phosphoric acid (50%)	R	R	NR
Phosphoric acid (95%)	R	R	NR
Phosphorous chlorides	NR	NR	NR
Phosphorous pentoxide	R	R	NR
Phthalic acid	R	R	NR



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## pH / ORP / ISE Measurement Product Lines

Picric acid	R	R	NR
Pyridine	R	R	NR
Salicyl aldehyde	R	R	R
Sea water	R	R	NR
Silicic acid	R	R	NR
Silicone fluids	R	R	NR
Silver nitrate	R	R	NR
Sodium carbonate	R	R	NR
Sodium peroxide	R	ND	NR
Sodium silicate	R	R	NR
Sodium sulphide	R	R	NR
Stannic chloride	R	R	NR
Starch	R	R	NR
Sugar, syrups & jams	R	R	NR
Sulphamic acid	ND	ND	ND
Sulphates (Na, K, Mg, Ca)	R	R	NR
Sulphites	R	R	NR
Sulphonic acids	ND	ND	NR
Sulphur	R	NR	NR
Sulphur dioxide, dry	R	R	NR
Sulphur dioxide, wet	R	R	ND
Sulphur dioxide (96%)	R	R	ND
Sulphur trioxide	NR	NR	NR
Sulphuric acid (<50%)	R	R	NR
Sulphuric acid (70%)	R	R	NR
Sulphuric acid (95%)	R	R	NR
Sulphuric acid, fuming	R	NR	NR
Sulphur chlorides	ND	ND	ND
Tallow	R	ND	ND
Tannic acid (10%)	R	R	NR
Tartaric acid	R	R	NR
Trichlorethylene	R	NR	NR
Urea (30%)	R	R	NR
Vinegar	R	R	NR
Water, distilled.	R	R	NR
Water, soft	R	R	NR
Water, hard	R	R	NR
Wetting agents (<5%)	R	R	NR
Yeast	R	R	NR
Zinc chloride	R	R	NR

### Chart Codes

**R = Resistant**

**LR = Limited Resistance**

**NR = Not Recommended**

**ND = No Data**

\* Information Provided by Zeus Industrial Plastics, Inc.