

FIELD GUIDE · I.C.® ESD SAFE BOTTLES

ESD BOTTLE CHEMICAL RESISTANCE GUIDE

Chemical Resistance Chart for MDPE (Medium Density Polyethylene)

The chemical resistance chart below is a general guide only.

A Resistant **B** Variable resistance **C** Unresistant, not recommended – Information not available

MDPE at 70° and 140°

REAGENT	70°	140°	REAGENT	70°	140°	REAGENT	70°	140°
Acetone	B	C	Butyric Acid#	C	C	Disodium Phosphate	A	A
Acetaldehyde*	B	C	Calcium Bisulphide	A	A	Emulsions, Photographic*	A	A
Acetic Acid*	A	A	Calcium Carbonate	A	A	Ethyl Acetate#*	B	C
Acetic Acid*	A	B	Calcium Chlorate	A	A	Ethyl Alcohol*	A	A
Acetic Anhydride*	C	C	Calcium Chloride	A	A	Ethyl Alcohol*	A	A
Air	A	A	Calcium Hydroxide	A	A	Ethyl Benzene#*	C	C
Aluminum Chloride	A	A	Calcium Hypochlorite	A	A	Ethyl Chloride#	C	C
Aluminum Fluoride	A	A	Calcium Nitrate	A	A	Ethyl Ether#	C	C
Aluminum Sulphate	A	A	Calcium Oxide	A	A	Ethylene Chloride#*	C	C
Alums	A	A	Calcium Sulphate	A	A	Ethylene Glycol*	A	A
Ammonia	A	A	Camphor Oil#*	C	C	Fatty Acids*	A	A
Ammonium Carbonate	A	A	Carbon Dioxide	A	A	Ferric Chloride	A	A
Ammonium Chloride	A	A	Carbon Disulphide	C	C	Ferric Nitrate	A	A
Ammonium Fluoride	A	A	Carbon Monoxide	A	A	Ferrous Chloride	A	A
Ammonium Hydroxide	A	A	Carbon Tetrachloride#	C	C	Ferrous Sulphate	A	A
Ammonium Hydroxide	A	A	Carbonic Acid	A	A	Fish Solubles*	A	A
Ammonium Nitrate	A	A	Castor Oil* conc	A	A	Fluoboric Acid	A	A
Ammonium Persulphate	A	A	Chlorine+	B	C	Fluosilicic Acid	A	B
Ammonium Sulphate	A	A	Chlorine Liquid+	C	C	Fluosilicic Acid	A	A
Ammonium Metaphosphate	A	A	Chlorine Water+	A	A	Formic Acid	A	A
Ammonium Sulfide	A	A	Chlorobenzene#*	C	C	Fructose	A	A
Amyl Acetate#*	C	C	Chloroform#*	C	C	Fruit Pulp*	A	A
Amyl Alcohol#*	A	A	Chlorosulphonic Acid	C	C	Furfural#	C	C
Amyl Chloride#	A	C	Chrome Alum	A	A	Furfuryl Alcohol#*	C	C
Aniline#*	A	C	Chromic Acid	–	–	Gallic Acid*	A	A
Aqua Regia+	C	C	Chromic Acid	A	B	Gasoline#*	C	C
Arsenic Acid	A	A	Chromic Acid	A	A	Glucose	A	A
Aromatic Hydrocarbons#*	C	C	Cider*	A	A	Glycerine*	A	A
Ascorbic Acid	A	A	Citric Acid*	A	A	Glycol*	A	A
Barium Carbonate	A	A	Coconut Oil Alcohols*	A	A	Glycolic Acid*	A	A
Barium Chloride	A	A	Coffee	A	A	Grape Sugar	A	A
Barium Hydroxide	A	A	Cola Concentrate*	A	A	n-Heptane#*	C	C
Barium Sulphate	A	A	Copper Chloride	A	A	Hexachlorobenzene	A	A
Barium Sulphide	A	A	Copper Cyanide	A	A	Hexanol Tertiary*	A	A
Beer	A	A	Copper Fluoride	A	A	Hydrobromic Acid	A	A
Benzene#*	C	C	Copper Nitrate	A	A	Hydrochloric Acid	A	A
Benzoic Acid	A	A	Copper Sulphate	A	A	Hydrocyanic Acid	A	A
Bismuth Carbonate	A	A	Corn Oil*	A	A	Hydrofluoric Acid*	A	A
Bleach Lye	A	A	Cottonseed Oil*	A	A	Hydrogen 100%	A	A
Borax	A	A	Cuprous Chloride	A	A	Hydrogen Chloride	A	A
Boric Acid	A	A	Detergents Synthetic*	A	A	Hydrogen Peroxide	A	A
Boron Trifluoride	A	A	Developers Photographic	A	A	Hydrogen Peroxide	A	A
Brine	A	A	Dextrin	A	A	Hydrogen Sulphide	A	A
Bromine+	C	C	Dextrose	A	A	Hydroquinone	A	A
Bromine Water#	C	C	Diazo Salts	A	A	Hypochlorous Acid	A	A
Butanediol*	A	A	Dibutylphthalate*	B	B	Inks*	A	A
Butanediol*	A	A	Dichlorobenzene#*	C	C	Iodine+	B	C
Butanediol*	A	A	Diethyl Ketone#*	B	C	Isopropyl Alcohol	A	A
Butter*	A	A	Diethylene Glycol*	A	A	Lead Acetate	A	A
n-Butyl Acetate#*	B	C	Diglycolic Acid*	A	A	Lead Nitrate	A	A
n-Butyl Alcohol*	A	A	Dimethylamine	C	C	Lactic Acid*	A	A

APPLIES TO

I.C. ESD Safe Bottles use MDPE with an antistatic additive: flux (FD) and solvent (SD) dispensers, spray trigger (SCB) and spray mister (SMB) bottles, water (WB), wash (WHB), square (SQB) and round (RSB) storage bottles, catch-all cup (CTAL) and sports bottle (SB).

A Resistant **B** Variable resistance **C** Unresistant, not recommended – Information not available MDPE at 70° and 140°

REAGENT	70°	140°	REAGENT	70°	140°	REAGENT	70°	140°
Linseed Oil*	B	C	Potassium Carbonate	A	A	Sodium Sulphate	A	A
Magnesium Carbonate	A	A	Potassium Chlorate	A	A	Sodium Sulphide	A	A
Magnesium Chloride	A	A	Potassium Chloride	A	A	Sodium Sulphite	A	A
Magnesium Hydroxide	A	A	Potassium Chromate	A	A	Stannic Chloride	A	A
Magnesium Nitrate	A	A	Potassium Cyanide	A	A	Stannous Chloride	A	A
Magnesium Sulphate	A	A	Potassium Dichromate	A	A	Starch Solution*	A	A
Mercuric Chloride	A	A	Potassium Ferri/Ferro Cyanide	A	A	Stearic Acid*	A	A
Mercuric Cyanide	A	A	Potassium Fluoride	A	A	Sulphuric Acid	A	A
Mercury	A	A	Potassium Hydroxide	A	A	Sulphuric Acid+	A	B
Methyl Alcohol*	A	A	Potassium Nitrate	A	A	Sulphuric Acid+	A	C
Methylethyl Ketone**	B	C	Potassium Perborate	A	A	Sulphuric Acid+	B	C
Methylene Chloride**	C	C	Potassium Perchlorate	A	A	Sulphuric Acid+	B	C
Milk	A	A	Potassium Permanganate	A	A	Sulphuric Acid+	C	C
Mineral Oils#	B	C	Potassium Persulphate	A	A	Sulphurous Acid	A	A
Molasses	A	A	Potassium Sulphate	A	A	Tallow#	A	B
Naphtha**	B	C	Potassium Sulphide	A	A	Tannic Acid*	A	A
Naphthalene**	C	C	Potassium Sulphite	A	A	Tartaric Acid	A	A
Nickel Chloride	A	A	Propargyl Alcohol*	A	A	Tetrahydrofuran**	C	C
Nickel Nitrate	A	A	n-Propyl Alcohol*	A	A	Titanium Tetrachloride	C	C
Nickel Sulphate	A	A	Propylene Dichloride**	C	C	Toluene**	C	C
Nicotine* dilute	A	A	Propylene Glycol*	A	A	Trichloroethylene**	C	C
Nitric Acid	A	A	Pyridine*	A	–	Triethylene Glycol*	A	A
Nitric Acid+	A	B	Resorcinol	A	A	Trisodium Phosphate	A	A
Nitric Acid+	A	B	Salicylic Acid	A	A	Turpentine#	C	C
Nitric Acid+	C	C	Sea Water	A	A	Urea	A	A
Nitrobenzene**	C	C	Selenic Acid	A	A	Urine	A	A
n-Octane	A	A	Shortening*	A	A	Vanilla Extract*	A	A
Oleic Acid	B	C	Silver Nitrate Sol'n	A	A	Vinegar	A	A
Oxalic Acid*	A	A	Soap Solutions*	A	A	Water	A	A
Perchloroethylene#	C	C	Sodium Acetate	A	A	Wetting Agents*	A	A
Phosphoric Acid	A	B	Sodium Benzoate	A	A	Whiskey*	A	A
Photographic Solutions	A	A	Sodium Bicarbonate	A	A	Wines*	A	A
Plating Solutions*			Sodium Bisulphate	A	A	Xylene#	C	C
Brass	A	A	Sodium Bisulphite	A	A	Yeast	A	A
Cadmium	A	A	Sodium Borate	A	A	Zinc Bromide	A	A
Chromium	A	A	Sodium Bromide dilute	A	A	Zinc Carbonate	A	A
Copper	A	A	Sodium Carbonate	A	A	Zinc Chloride	A	A
Gold	A	A	Sodium Chlorate	A	A	Zinc Oxide	A	A
Indium	A	A	Sodium Chloride	A	A	Zinc Stearate	A	A
Lead	A	A	Sodium Cyanide	A	A	Zinc Sulphate	A	A
Nickel	A	A	Sodium Dichromate	A	A			
Rhodium	A	A	Sodium Ferri/Ferro Cyanide	A	A			
Silver	A	A	Sodium Fluoride	A	A			
Tin	A	A	Sodium Hydroxide	A	A			
Zinc	A	A	Sodium Hypochlorite	A	A			
Potassium Bicarbonate	A	A	Sodium Nitrate	A	A			
Potassium Bromide	A	A						
Potassium Bromate	A	A						

CODES

- A** Resistant no indication that serviceability would be impaired.
 - B** Variable resistance, depending on conditions of use.
 - C** Unresistant, not recommended for service applications under any conditions.
 - Information not available.
- The chemical resistance chart is a general guide only. The marks *, # and + after a reagent name are carried over as printed on the original chart.



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