



FLOWTAINER™ POLYCARBONATE BOTTLES COMPATIBILITY CHART



This chemical compatibility chart is a general guide for **Carolina Components Group FlowTainer™** polycarbonate bottles. All findings are believed to be derived from reliable laboratory, field tests, or practical experience.



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FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Acetaldehyde	C ₁ -Fair
Acetamide	D-Severe Effect
Acetate Solvent	N/A
Acetic Acid	B ₁ -Good
Acetic Acid 20%	A ₁ -Excellent
Acetic Acid 80%	B ₁ -Good
Acetic Acid, Glacial	B ₁ -Good
Acetic Anhydride	D-Severe Effect
Acetone	D-Severe Effect
Acetyl Bromide	N/A
Acetyl Chloride (dry)	D-Severe Effect
Acetylene	D-Severe Effect
Acrylonitrile	D-Severe Effect
Adipic Acid	N/A
Alcohols: Amyl	B ₁ -Good
Alcohols: Benzyl	N/A
Alcohols: Butyl	A ₂ -Excellent
Alcohols: Diacetone	N/A
Alcohols: Ethyl	B ₂ -Good
Alcohols: Hexyl	N/A
Alcohols: Isobutyl	N/A
Alcohols: Isopropyl	A ₂ -Excellent
Alcohols: Methyl	B ₁ -Good
Alcohols: Octyl	N/A
Alcohols: Propyl	N/A
Aluminum Chloride	A ₁ -Excellent
Aluminum Chloride 20%	A ₁ -Excellent
Aluminum Fluoride	N/A
Aluminum Hydroxide	B ₁ -Good
Aluminum Nitrate	A ₁ -Excellent
Aluminum Potassium Sulfate 10%	A ₁ -Excellent
Aluminum Potassium Sulfate 100%	A ₂ -Excellent
Aluminum Sulfate	A-Excellent
Alums	N/A
Amines	D-Severe Effect
Ammonia 10%	D-Severe Effect
Ammonia Nitrate	N/A

CHEMICAL	COMPATIBILITY
Ammonia, anhydrous	D-Severe Effect
Ammonia, liquid	D-Severe Effect
Ammonium Acetate	N/A
Ammonium Bifluoride	N/A
Ammonium Carbonate	N/A
Ammonium Caseinate	N/A
Ammonium Chloride	A ₂ -Excellent
Ammonium Hydroxide	D-Severe Effect
Ammonium Nitrate	N/A
Ammonium Oxalate	A ₁ -Excellent
Ammonium Persulfate	N/A
Ammonium Phosphate, Dibasic	A ₂ -Excellent
Ammonium Phosphate, Monobasic	N/A
Ammonium Phosphate, Tribasic	N/A
Ammonium Sulfate	A ₂ -Excellent
Ammonium Sulfite	N/A
Ammonium Thiosulfate	N/A
Amyl Acetate	D-Severe Effect
Amyl Alcohol	B ₁ -Good
Amyl Chloride	N/A
Aniline	D-Severe Effect
Aniline Hydrochloride	D-Severe Effect
Antimony Trichloride	A ₂ -Excellent
Aqua Regia (80% HCl, 20% HNO ₃)	D-Severe Effect
Arochlor 1248	N/A
Aromatic Hydrocarbons	N/A
Arsenic Acid	A ₁ -Excellent
Arsenic Salts	N/A
Asphalt	D-Severe Effect
Barium Carbonate	A ₂ -Excellent
Barium Chloride	A-Excellent
Barium Cyanide	N/A
Barium Hydroxide	D-Severe Effect
Barium Nitrate	D-Severe Effect
Barium Sulfate	D-Severe Effect
Barium Sulfide	N/A
Beer	A ₂ -Excellent

FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Beet Sugar Liquids	N/A
Benzaldehyde	D-Severe Effect
Benzene	D-Severe Effect
Benzene Sulfonic Acid	D-Severe Effect
Benzoic Acid	B ₁ -Good
Benzol	D-Severe Effect
Benzonitrile	A ₁ -Excellent
Benzyl Chloride	N/A
Bleaching Liquors	N/A
Borax (Sodium Borate)	N/A
Boric Acid	N/A
Brewery Slop	N/A
Bromine	C ₁ -Fair
Butadiene	D-Severe Effect
Butane	D-Severe Effect
Butanol (Butyl Alcohol)	B ₁ -Good
Butter	N/A
Buttermilk	A ₁ -Excellent
Butyl Amine	D-Severe Effect
Butyl Ether	N/A
Butyl Phthalate	D-Severe Effect
Butylacetate	D-Severe Effect
Butylene	D-Severe Effect
Butyric Acid	D-Severe Effect
Calcium Bisulfate	D-Severe Effect
Calcium Bisulfide	N/A
Calcium Bisulfite	D-Severe Effect
Calcium Carbonate	C ₂ -Fair
Calcium Chlorate	N/A
Calcium Chloride	N/A
Calcium Hydroxide	D-Severe Effect
Calcium Hypochlorite	D-Severe Effect
Calcium Nitrate	A ₂ -Excellent
Calcium Oxide	N/A
Calcium Sulfate	A ₂ -Excellent
Calgon	N/A
Cane Juice	N/A

CHEMICAL	COMPATIBILITY
Carbolic Acid (Phenol)	D-Severe Effect
Carbon Bisulfide	N/A
Carbon Dioxide (dry)	N/A
Carbon Dioxide (wet)	N/A
Carbon Disulfide	D-Severe Effect
Carbon Monoxide	N/A
Carbon Tetrachloride	D-Severe Effect
Carbon Tetrachloride (dry)	N/A
Carbon Tetrachloride (wet)	N/A
Carbonated Water	N/A
Carbonic Acid	A ₁ -Excellent
Catsup	N/A
Chloric Acid	N/A
Chlorinated Glue	N/A
Chlorine (dry)	N/A
Chlorine Water	N/A
Chlorine, Anhydrous Liquid	C-Fair
Chloroacetic Acid	D-Severe Effect
Chlorobenzene (Mono)	D-Severe Effect
Chlorobromomethane	N/A
Chloroform	D-Severe Effect
Chlorosulfonic Acid	C ₁ -Fair
Chocolate Syrup	A-Excellent
Chromic Acid 10%	B-Good
Chromic Acid 30%	C-Fair
Chromic Acid 5%	B-Good
Chromic Acid 50%	D-Severe Effect
Chromium Salts	N/A
Cider	A-Excellent
Citric Acid	A ₁ -Excellent
Citric Oils	N/A
Clorox (Bleach)	N/A
Coffee	N/A
Copper Chloride	N/A
Copper Cyanide	D-Severe Effect
Copper Fluoborate	N/A
Copper Nitrate	D-Severe Effect

FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Copper Sulfate >5%	A ₁ -Excellent
Copper Sulfate 5%	A ₁ -Excellent
Cream	N/A
Cresols	D-Severe Effect
Cresylic Acid	D-Severe Effect
Cupric Acid	A1-Excellent
Cyanic Acid	N/A
Cyclohexane	B-Good
Cyclohexanone	D-Severe Effect
Detergents	A ₁ -Excellent
Diacetone Alcohol	D-Severe Effect
Dichlorobenzene	D-Severe Effect
Dichloroethane	D-Severe Effect
Diesel Fuel	A ₂ -Excellent
Diethyl Ether	D-Severe Effect
Diethylamine	D-Severe Effect
Diethylene Glycol	B ₁ -Good
Dimethyl Aniline	D-Severe Effect
Dimethyl Formamide	D-Severe Effect
Diphenyl	N/A
Diphenyl Oxide	N/A
Dyes	N/A
Epsom Salts (Magnesium Sulfate)	A ₁ -Excellent
Ethane	N/A
Ethanol	B ₂ -Good
Ethanolamine	N/A
Ether	N/A
Ethyl Acetate	D-Severe Effect
Ethyl Benzoate	D-Severe Effect
Ethyl Chloride	D-Severe Effect
Ethyl Ether	N/A
Ethyl Sulfate	N/A
Ethylene Bromide	D-Severe Effect
Ethylene Chloride	D-Severe Effect
Ethylene Chlorohydrin	D-Severe Effect
Ethylene Diamine	A ₂ -Excellent
Ethylene Dichloride	D-Severe Effect

CHEMICAL	COMPATIBILITY
Ethylene Glycol	B ₁ -Good
Ethylene Oxide	C ₁ -Fair
Fatty Acids	B ₁ -Good
Ferric Chloride	A ₂ -Excellent
Ferric Nitrate	A ₁ -Excellent
Ferric Sulfate	A ₁ -Excellent
Ferrous Chloride	D-Severe Effect
Ferrous Sulfate	A ₁ -Excellent
Fluoboric Acid	N/A
Fluorine	C-Fair
Fluosilicic Acid	A ₁ -Excellent
Formaldehyde 100%	A ₂ -Excellent
Formaldehyde 40%	A ₁ -Excellent
Formic Acid	A ₁ -Excellent
Freon 113	B ₁ -Good
Freon 12	N/A
Freon 22	N/A
Freon TF	N/A
Freonr 11	N/A
Fruit Juice	N/A
Fuel Oils	B ₁ -Good
Furan Resin	N/A
Furfural	D-Severe Effect
Gallic Acid	N/A
Gasoline (high-aromatic)	A-Excellent
Gasoline, leaded, ref.	A ₂ -Excellent
Gasoline, unleaded	A ₂ -Excellent
Gelatin	N/A
Glucose	A ₁ -Excellent
Glue, P.V.A.	N/A
Glycerin	A ₂ -Excellent
Glycolic Acid	N/A
Gold Monocyanide	N/A
Grape Juice	N/A
Grease	N/A
Heptane	B-Good
Hexane	D-Severe Effect

FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Honey	A ₁ -Excellent
Hydraulic Oil (Petro)	N/A
Hydraulic Oil (Synthetic)	N/A
Hydrazine	D-Severe Effect
Hydrobromic Acid 100%	N/A
Hydrobromic Acid 20%	N/A
Hydrochloric Acid 100%	D-Severe Effect
Hydrochloric Acid 20%	B ₁ -Good
Hydrochloric Acid 37%	D-Severe Effect
Hydrochloric Acid, Dry Gas	N/A
Hydrocyanic Acid	N/A
Hydrocyanic Acid (Gas 10%)	B ₁ -Good
Hydrofluoric Acid 100%	D-Severe Effect
Hydrofluoric Acid 20%	D-Severe Effect
Hydrofluoric Acid 50%	D-Severe Effect
Hydrofluoric Acid 75%	D-Severe Effect
Hydrofluosilicic Acid 100%	N/A
Hydrofluosilicic Acid 20%	N/A
Hydrogen Gas	A ₂ -Excellent
Hydrogen Peroxide 10%	A ₂ -Excellent
Hydrogen Peroxide 100%	A-Excellent
Hydrogen Peroxide 30%	A ₂ -Excellent
Hydrogen Peroxide 50%	A ₂ -Excellent
Hydrogen Sulfide (aqua)	A-Excellent
Hydrogen Sulfide (dry)	N/A
Hydroquinone	N/A
Hydroxyacetic Acid 70%	N/A
Ink	N/A
Iodine	N/A
Iodine (in alcohol)	N/A
Iodoform	N/A
Isooctane	B ₁ -Good
Isopropyl Acetate	D-Severe Effect
Isopropyl Ether	D-Severe Effect
Isotane	N/A
Jet Fuel (JP3, JP4, JP5)	A ₁ -Excellent
Kerosene	D-Severe Effect

CHEMICAL	COMPATIBILITY
Ketones	D-Severe Effect
Lacquer Thinners	B-Good
Lacquers	D-Severe Effect
Lactic Acid	B-Good
Lard	A ₁ -Excellent
Latex	N/A
Lead Acetate	N/A
Lead Nitrate	N/A
Lead Sulfamate	A ₁ -Excellent
Ligroin	N/A
Lime	N/A
Linoleic Acid	N/A
Lithium Chloride	B ₁ -Good
Lithium Hydroxide	D-Severe Effect
Lubricants	A ₁ -Excellent
Lye: Ca(OH) ₂ Calcium Hydroxide	D-Severe Effect
Lye: KOH Potassium Hydroxide	D-Severe Effect
Lye: NaOH Sodium Hydroxide	D-Severe Effect
Magnesium Bisulfate	A ₁ -Excellent
Magnesium Carbonate	A ₁ -Excellent
Magnesium Chloride	A ₂ -Excellent
Magnesium Hydroxide	A ₁ -Excellent
Magnesium Nitrate	A ₁ -Excellent
Magnesium Oxide	N/A
Magnesium Sulfate (Epsom Salts)	A ₁ -Excellent
Maleic Acid	N/A
Maleic Anhydride	N/A
Malic Acid	N/A
Manganese Sulfate	A ₁ -Excellent
Mash	N/A
Mayonnaise	N/A
Melamine	N/A
Mercuric Chloride (dilute)	A-Excellent
Mercuric Cyanide	N/A
Mercurous Nitrate	A ₂ -Excellent
Mercury	D-Severe Effect
Methane	N/A

FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Methanol (Methyl Alcohol)	B ₁ -Good
Methyl Acetate	D-Severe Effect
Methyl Acetone	N/A
Methyl Acrylate	N/A
Methyl Alcohol 10%	B ₁ -Good
Methyl Bromide	N/A
Methyl Butyl Ketone	D-Severe Effect
Methyl Cellosolve	D-Severe Effect
Methyl Chloride	D-Severe Effect
Methyl Dichloride	N/A
Methyl Ethyl Ketone	D-Severe Effect
Methyl Ethyl Ketone Peroxide	N/A
Methyl Isobutyl Ketone	D-Severe Effect
Methyl Isopropyl Ketone	D-Severe Effect
Methyl Methacrylate	N/A
Methylamine	N/A
Methylene Chloride	D-Severe Effect
Milk	A-Excellent
Mineral Spirits	C-Fair
Molasses	N/A
Monochloroacetic acid	D-Severe Effect
Monoethanolamine	N/A
Morpholine	D-Severe Effect
Motor oil	A-Excellent
Mustard	A-Excellent
Naphtha	B-Good
Naphthalene	N/A
Natural Gas	N/A
Nickel Chloride	A ₂ -Excellent
Nickel Nitrate	D-Severe Effect
Nickel Sulfate	A-Excellent
Nitrating Acid (<15% HNO ₃)	N/A
Nitrating Acid (>15% H ₂ SO ₄)	N/A
Nitrating Acid (S1% Acid)	N/A
Nitrating Acid (S15% H ₂ SO ₄)	N/A
Nitric Acid (20%)	B ₁ -Good
Nitric Acid (50%)	B-Good

CHEMICAL	COMPATIBILITY
Nitric Acid (5-10%)	A-Excellent
Nitric Acid (Concentrated)	C ₁ -Fair
Nitrobenzene	D-Severe Effect
Nitrogen Fertilizer	N/A
Nitromethane	D-Severe Effect
Nitrous Acid	N/A
Nitrous Oxide	N/A
Oils: Aniline	N/A
Oils: Anise	N/A
Oils: Bay	N/A
Oils: Bone	N/A
Oils: Castor	N/A
Oils: Cinnamon	D-Severe Effect
Oils: Citric	A-Excellent
Oils: Clove	N/A
Oils: Coconut	N/A
Oils: Cod Liver	N/A
Oils: Corn	N/A
Oils: Cottonseed	N/A
Oils: Creosote	N/A
Oils: Diesel Fuel Oil (20, 30, 40, 50)	N/A
Oils: Fuel Oil (1, 2, 3, 5A, 5B, 6)	B-Good
Oils: Ginger	N/A
Oils: Hydraulic Oil (Petro)	N/A
Oils: Hydraulic Oil (Synthetic)	N/A
Oils: Lemon	N/A
Oils: Linseed	N/A
Oils: Mineral	B-Good
Oils: Olive	A ₂ -Excellent
Oils: Orange	C ₁ -Fair
Oils: Palm	N/A
Oils: Peanut	N/A
Oils: Peppermint	N/A
Oils: Pine	A-Excellent
Oils: Rapeseed	N/A
Oils: Rosin	N/A
Oils: Sesame Seed	N/A

FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Oils: Silicone	N/A
Oils: Soybean	N/A
Oils: Sperm (whale)	N/A
Oils: Tanning	N/A
Oils: Transformer	N/A
Oils: Turbine	N/A
Oleic Acid	N/A
Oleum 100%	N/A
Oleum 25%	N/A
Oxalic Acid (cold)	N/A
Ozone	A ₁ -Excellent
Paraffin	A ₁ -Excellent
Pentane	A-Excellent
Perchloric Acid	N/A
Perchloroethylene	D-Severe Effect
Petrolatum	N/A
Petroleum	N/A
Phenol (10%)	B ₁ -Good
Phenol (Carbolic Acid)	D-Severe Effect
Phosphoric Acid (>40%)	A-Excellent
Phosphoric Acid (crude)	A-Excellent
Phosphoric Acid (molten)	N/A
Phosphoric Acid (S40%)	A-Excellent
Phosphoric Acid Anhydride	D-Severe Effect
Phosphorus	N/A
Phosphorus Trichloride	C-Fair
Photographic Developer	A ₂ -Excellent
Photographic Solutions	A ₁ -Excellent
Phthalic Acid	N/A
Phthalic Anhydride	A ₁ -Excellent
Picric Acid	D-Severe Effect
Potash (Potassium Carbonate)	N/A
Potassium Bicarbonate	N/A
Potassium Bromide	A ₁ -Excellent
Potassium Chlorate	A ₁ -Excellent

CHEMICAL	COMPATIBILITY
Potassium Chloride	A-Excellent
Potassium Chromate	N/A
Potassium Cyanide Solutions	N/A
Potassium Dichromate	A ₁ -Excellent
Potassium Ferricyanide	N/A
Potassium Ferrocyanide	N/A
Potassium Hydroxide (Caustic Potash)	D-Severe Effect
Potassium Hypochlorite	N/A
Potassium Iodide	N/A
Potassium Nitrate	A ₁ -Excellent
Potassium Oxalate	N/A
Potassium Permanganate	A ₂ -Excellent
Potassium Sulfate	A ₁ -Excellent
Potassium Sulfide	N/A
Propane (liquefied)	C ₁ -Fair
Propylene	N/A
Propylene Glycol	B ₁ -Good
Pyridine	D-Severe Effect
Pyrogallic Acid	N/A
Resorcinol	B ₁ -Good
Rosins	N/A
Rosins	N/A
Rum	N/A
Rust Inhibitors	N/A
Salad Dressings	N/A
Salicylic Acid	A ₁ -Excellent
Salt Brine (NaCl saturated)	A-Excellent
Sea Water	A ₂ -Excellent
Shellac (Bleached)	N/A
Shellac (Orange)	N/A
Silicone	A ₂ -Excellent
Silver Bromide	N/A
Silver Nitrate	A ₂ -Excellent
Soap Solutions	A ₁ -Excellent
Soda Ash (see Sodium Carbonate)	A-Excellent

FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Sodium Acetate	A ₁ -Excellent
Sodium Aluminate	N/A
Sodium Benzoate	A ₂ -Excellent
Sodium Bicarbonate	A ₂ -Excellent
Sodium Bisulfate	A ₁ -Excellent
Sodium Bisulfite	A ₁ -Excellent
Sodium Chloride	A ₂ -Excellent
Sodium Chromate	A ₂ -Excellent
Sodium Cyanide	N/A
Sodium Ferrocyanide	N/A
Sodium Fluoride	N/A
Sodium Hydrosulfite	N/A
Sodium Hydroxide (20%)	A ₂ -Excellent
Sodium Hydroxide (50%)	D-Severe Effect
Sodium Hydroxide (80%)	D-Severe Effect
Sodium Hypochlorite (<20%)	C-Fair
Sodium Hypochlorite (100%)	N/A
Sodium Hyposulfate	N/A
Sodium Metaphosphate	N/A
Sodium Metasilicate	N/A
Sodium Nitrate	N/A
Sodium Perborate	N/A
Sodium Peroxide	A ₂ -Excellent
Sodium Polyphosphate	N/A
Sodium Silicate	N/A
Sodium Sulfate	A ₂ -Excellent
Sodium Sulfide	D-Severe Effect
Sodium Sulfite	N/A
Sodium Tetraborate	N/A
Sodium Thiosulfate (hypo)	D-Severe Effect
Sorghum	N/A
Soy Sauce	N/A
Stannic Chloride	A ₁ -Excellent
Stannic Fluoborate	N/A
Stannous Chloride	N/A

CHEMICAL	COMPATIBILITY
Starch	N/A
Stearic Acid	A ₁ -Excellent
Stoddard Solvent	A ₂ -Excellent
Styrene	D-Severe Effect
Sugar (Liquids)	N/A
Sulfate (Liquors)	N/A
Sulfur Chloride	N/A
Sulfur Dioxide	N/A
Sulfur Dioxide (dry)	A ₁ -Excellent
Sulfur Hexafluoride	N/A
Sulfur Trioxide	N/A
Sulfur Trioxide (dry)	N/A
Sulfuric Acid (<10%)	A ₁ -Excellent
Sulfuric Acid (10-75%)	B ₁ -Good
Sulfuric Acid (75-100%)	D-Severe Effect
Sulfuric Acid (cold concentrated)	N/A
Sulfuric Acid (hot concentrated)	D-Severe Effect
Sulfurous Acid	N/A
Sulfuryl Chloride	N/A
Tallow	N/A
Tannic Acid	C-Fair
Tanning Liquors	N/A
Tartaric Acid	N/A
Tetrachloroethane	N/A
Tetrachloroethylene	D-Severe Effect
Tetrahydrofuran	D-Severe Effect
Tin Salts	N/A
Toluene (Toluol)	D-Severe Effect
Tomato Juice	A ₁ -Excellent
Trichloroacetic Acid	D-Severe Effect
Trichloroethane	D-Severe Effect
Trichloroethylene	N/A
Trichloropropane	N/A
Tricresylphosphate	N/A
Triethylamine	N/A

FLOWTAINER™ POLYCARBONATE BOTTLES

CHEMICAL	COMPATIBILITY
Trisodium Phosphate	N/A
Turpentine	D-Severe Effect
Tween 80 (10%)	A ₁ -Excellent
Tween 80 (30%)	A ₁ -Excellent
Tween 80 (100%)	A ₁ -Excellent
Urea	D-Severe Effect
Uric Acid	N/A
Urine	N/A
Varnish	N/A
Vegetable Juice	N/A
Vinegar	A ₂ -Excellent

CHEMICAL	COMPATIBILITY
Vinyl Acetate	N/A
Vinyl Chloride	N/A
Water, Acid, Mine	B ₂ -Good
Water, Deionized	N/A
Water, Distilled	A ₂ -Excellent
Water, Fresh	A ₂ -Excellent
Water, Salt	A ₂ -Excellent
Xylene	D-Severe Effect
Zinc Chloride	A ₂ -Excellent
Zinc Hydrosulfite	N/A
Zinc Sulfate	A ₂ -Excellent

This chemical compatibility chart is a general guide for **Carolina Components Group FlowTainer™** polycarbonate bottles. All findings are believed to be derived from reliable laboratory, field tests, or practical experience. It is the user's responsibility to test **FlowTainer™** polycarbonate bottles to ensure suitability and safety using their own process conditions for all intended purposes. Chemical resistance may be affected by variables such as temperature, pressure and concentration which can impact material flexibility, strength, and other critical form/fit/function attributes. Information provided by **Carolina Components Group** on **FlowTainer™** polycarbonate bottles is offered as a useful reference and is believed to be dependable; however, no statements herein should be construed as a guarantee, endorsement, or warranty for any specific use. Users are advised to consider all guidance at their own risk.

RATINGS OF CHEMICAL EFFECT

A = Excellent Compatibility, no swelling

B = Good Compatibility, slight swelling

C = Fair Compatibility, moderate swelling

D = Poor Compatibility, severe swelling, not recommended for ANY use

N/A = Information not available

EXPLANATION OF FOOTNOTES

1. Satisfactory to 72°F (22°C)

2. Satisfactory to 120°F (48°C)