CHEMICAL RESISTANCE DATA

Glass reinforced plastic (GRP) has been used for various types of equipment in the chemical processing industry since the early 1950's. Its use has continued to grow in pulp and paper, power, waste treatment, semi-conductor, metals refining, petrochemical, pharmaceutical, engineering, food and drink processors and many other industries. Process vessels of all shapes and sizes, scrubbers, floor coatings, gratings and tank linings are just a few examples of products made from GRP.

The chief reason for the popularity of these materials is their excellent resistance to corrosion. When choosing the best material for construction, GRP is often chosen due to its:

- Corrosion resistance to a wide range of acids, chlorides and solvents
- Heat resistance
- Electrical and thermal insulation
- High strength to weight ratio
- Low maintenance, rust free equipment
- Ease of installation and repair

The chemicals used in the manufacture of fibreglass grating are constantly evaluated for peak performance. Fibreglass grating from The Grating Co. Ltd. is made to strict ISO 9002 standards. All materials used in its manufacture are sourced from ISO9002 registered companies.

When requesting recommendations for corrosion resistant fibreglass grating, users or specifiers should be prepared to supply the following data:

- All chemicals to which the grating will be exposed
- Normal operating temperature, maximum and minimum
- Normal operating concentrations of chemicals including trace amounts
- pH range of the system
- Duration of normal and maximum operating temperatures

Liquid polyester resins are actually polymers dissolved in styrene monomer. The fabricator cures these resins to a solid state by reacting the polymer with the styrene in the presence of glass reinforcements to produce a glass reinforced rigid structure. The standards for these structures are defined by organizations such as ASTM and ASME.

The development and manufacture of resins has been a continuing process since 1954. They have been used to fabricate thousands of different types of corrosion resistant GRP equipment. Many different versions of resin have been developed for ease of handling during hand lay-up, filament winding, pultrusions, moulding and most other methods of commercial fabrication.

Isophthalic polyester resins are a broad class of products of raw isophthalic acid, glycols and maleic anhydride. The specific raw materials are selected to impart desired properties and corrosion resistance. The resins we use in our fibreglass grating will offer good corrosion resistance over a wide pH range.

The temperatures shown are not necessarily the maximum service temperature. It is the upper temperature at which the resin has been tested. It is possible a higher temperature could be obtained but additional testing would be required to establish such performance.

All temperatures shown are in degrees Fahrenheit. To convert Fahrenheit to Celsius, take away 32 then multiply by 0.556. For example 140 degrees Fahrenheit would be 140 – 32 = 108. Multiply by 0.556 = 60 degrees Celsius.

Legend:

NR Not recommended

LS Limited service life

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Acetaldhide	100	NR
Acetic acid	1	160
Acetic acid	10	160
Acetic acid	15	160
Acetic acid	25	160
Acetic acid	50	150
Acetic acid, glacial	100	NR
Acetic anhydride	100	NR
Acetone	100	NR
Acetonitrile	100	NR
Acetophenone	100	NR
Acrylic Acid	10	100
Acrylic Acid	100	NR
Acrylonitrile (Latex Dispersion)	100	NR
Adogen 442	100	120
Adogen 448	100	120
Algaecide (phenate Based)	100	125
Allum, Potassium	100	180
Aluminum Chloride	100	170
Aluminum Chlorohydroxide	50	170
Aluminum Fluoride	100	90
Aluminum Hydroxide	20	150
Aluminum Potassium Sulfate	100	180
Aluminum Sulfate	100	180
Amerex 201	100	LS 125
Amerex 209	100	125
Amine Salts, Organotin (blended)	100	LS 125
Aminoethoxy Ethanol	100	NR
Aminoethyl Piperazine	100	NR
Ammonium Bicarbinate	15	130
Ammonium Bicarbinate	20	120
Ammonium Carbinate	10	NR
Ammonium Carbinate	30	NR
Ammonium Fluoride	100	90
Ammonium Hydroxide	1	LS 90
Ammonium Hydroxide	5	NR
Ammonium Hydroxide	10	NR
Ammonium Hydroxide	20	NR
Ammonium Hydroxide	28	NR

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Ammonium Hydroxide	30	NR
Ammonium Lauryl Sulfate	100	130
Ammonium Phosphate (monobasic)	65	170
Ammonium Sulfate: Diammonium Phosphate	10 : 10	90
Ammonium Sulfate: Manganese Sulfates (ph 5, concentration in g/l)	158 : 13	125
Ammonium Sulfate: Manganese Sulfate: Sulfuric Acid (ph 2, concentration in g/l)	135:13:40	125
Ammonium Thiocyanate	20	170
Ammonium Thiosulfate: water (2.3% ammonium sulfate)	4:5.5:88	130
Ammonium Thiosulfate	60	NR
Thiocyanate, water (2.3% ammonium sulfate)	5.5:4:88	130
Amsco Bkoh, Solvent	100	100
Amyl Acetate	100	NR
Amyl Alcohol	100	100
Amyl Chloride	100	NR
Aniline	100	NR
Anionic Polyectrolytes, blend	100	LS 125
Anthracene Oil	6	90
Anthraquinone Disulfonic Acid	1	150
Antimony Pentachloride	100	90
Aqueous Isopropanol: Dihydrogenated-Tallow Dimethyl Ammonium Chloride	25:75	120
Aqueuos Isopropanol: Dimethyl Distearyl Ammonium Chloride	25:72	120
Aqueous Isopropanol: Quaternary Ammonium (dialkyl demethyl type)	25:72	120
Aromatic: Tuolene: Aliphatic (3% Xylene)	5: 86 : 6	90
Bactericide Phenate Based	100	125
Barium Carbinate	100	LS 180
Barium Chloride	100	180
Barium Hydroxide	10	LS 90
Barium Sulfate	100	170
Beer	100	90
Benzal Chloride	100	NR
Benzaldehyde	100	NR
Benzene	1	LS 90

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Benzene	100	LS 90
Benzene Sulfonic Acid	30	150
Benzene Sulfonic Acid: Sulfuric Acid: Water	88:7:5	140
Benzene: Dimethylformamide: Water (5% Tetrahydrofuran)	40:5:50	NR
Benzoflex 9.88	100	120
Benzotrichloride	100	NR
Benzoyl Chloride	100	NR
Benzyl Alcohol	100	NR
Benzyl Chloride	100	NR
Biocide 207	100	125
Biocide 285	100	125
Biocide; Chlorophenol, Methylene. Thiocyanate (blend)	100	125
Biocide; Chlorphenate (organic sulfur type blend)	100	125
Bromine, Dry Gas	100	NR
Bromine, Wet Gas	100	NR
Butyl Acetate	100	LS 90
Butyl Alcohol (includes normal, secondary, & tertiary)	100	80
Butyl Cellosolve	100	90
Butyl Cellosolve: Monoethanolamine (alkaline film stripper)	57: 30	NR
Butyl Ether	100	80
Butylene Glycol	100	160
Butyric Acid	1	120
Butyric Acid	25	120
Butyric Acid	50	120
Butyric Acid	70	120
Butyric Acid	100	NR
Calcium Carbinate, 90% Magnesium Hydroxide, 10% (traces of nickel & iron hydroxides)	25	LS 120
Calcium Hydroxide	1	180
Calcium Hydroxide	15	180
Calcium Hydroxide	25	160
Carbon Dioxide (wet Acidic)	100	200
Carbon Disulfide	100	NR
Carbon Monoxide Gas	100	200
Carbon Tetrachloride	100	LS 90
Carbon Tetrachloride, Vapor	100	90
Chlorine Dioxide, Fumes	5	90

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Chloroacetic Acid	1	90
Chloroacetic Acid	25	90
Chlorobenzene	1	NR
Chlorobenzene	100	NR
Chloroform, Liquid (trichloromethhene)	100	NR
Chloroform, Vapor	100	NR
Chlorophenol, Biocide: Methylene Thiocyanate (blend)	100	125
Chlorosulfonic Acid	100	NR
Chlorphenate, Biocide (organic sulfur type blend)	100	125
Chromate (zinc blend inhibitor, stabilized)	100	125
Chromic Acid	1	120
Chromic Acid	5	120
Chromic Acid	10	120
Chromic Acid	20	120
Chromic Acid	30	NR
Chromic Acid	40	NR
Chromic Acid	50	NR
Chromic Acid, Intermittent	20	NR
Chromic Acid: Sulfuric Acid	12.5:16	NR
Chromic Acid: Sulfuric Acid	20: 20	NR
Chromic Acid: Sulfuric Acid	20: 32	NR
Chromic Acid: Sulfuric Acid (concentration in oz/gal)	33: 0. 33	NR
Chromic Acid: Sulfuric Acid (concentration in oz/gal)	40: 0.40	NR
Chromic Acid: Sulfuric Acid (concentration in oz/gal)	53: 0. 53	NR
Chromic Acid, Vapor	20	120
Cocamidopropyl Betaine	100	120
Cocamidopropyl Dimethylamine	100	120
Cod Liver Oil	100	90
Copper Oxychloride	20	NR
Copper Sulfate: Sulfuric Acid	5: 18	120
Corn Oil	100	120
Corn Sugar	100	120
Corn Syrup (crude acidic, decolorizing)	100	120
Cottonseed Oil	100	100
Cresol, Fumes	100	NR
Cresols, Mixture	100	NR

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Cresylic Acid, Fumes	100	NR
CWT 102	100	125
Cyclohexane	1	120
Cyclohexane	100	120
Cyclohanone	100	NR
Decanol	100	160
Diallylphthalate	100	160
Diammonium Phosphate: Ammonium Sulfate	10: 10	90
Dibasic Acids	80	NR
Dibutyl Ether	100	80
Dibutyl Phthalate	100	90
Dichloro- (2,6)-Aniline- (4)-Hydrochloride Acid	32	LS 170
Dichlorobenzene	1	NR
Dichlorobenzene	100	NR
Dichlorobenzene (-0-)	100	NR
Dichloroethane (1, 2 -)	100	NR
Dichlorophenol	1	NR
Dichlorophenol	100	NR
Dichloropropane (propylene dichloride)	100	NR
Dichloropropene	100	NR
Dicoco Dimethyl Quartinary	75	120
Diesel Fuel	100	175
Diethanolamine	30	90
Diethyl Benzene	100	NR
Diethyl Ketone	100	NR
Diethylene Glycol	100	180
Diglycolamine	100	NR
Dihydrogenated- Tallow Diemethyl Ammonium Chloride: Aqueous Isopropanol	75: 25	120
Dimethyl Distearyl Ammonium Chloride: Aqueous Isopropanol	75: 25	120
Dimethyl Formahide	30	NR
Dimethyl Formahide	100	NR
Dimethyl Morpholine	100	NR
Dimethyl Phthalate	100	NR
Dimethylformahide: Benzene: Water (5% Tetrahydrofuran)	5:40:50	NR
Dioctyl Phthalate	100	NR
Diphenyl Ether	100	NR

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Diphenyl Methane Diisocyanate	100	120
Diphenyl Oxide	100	NR
Dipropylene Glycol	100	160
Dipropylene Glycol Dibenzoate	100	120
Dispersant, Anionic (blend)	100	125
Dispersant, Nonionic (blend)	100	LS 125
Dispersing Agents	100	125
Divinyl Benzene	100	NR
Dodecene	100	NR
Dodecene (trace of hydrochloride acid)	100	NR
Drewsperse 732 (also734 & 780)	100	125
Drewsperse 738 (also741 & 735)	100	LS 125
EP 52-A65	100	90
Esters, Fatty Acid	100	180
Ethanolamine	100	NR
Ethyl Acetate	1	NR
Ethyl Acetate	100	NR
Ethyl Acetate: Methylene Chloride: Caustic 50%	16:83:1	NR
Ethyl Alcohol	50	90
Ethyl Alcohol	100	NR
Ethyl Benzene	1	NR
Ethyl Benzene	100	NR
Ethyl Bromide	100	NR
Ethyl Chloride	100	NR
Ethyl Ether	100	NR
Ethylene Chloride (also called Ethylene Dichloride)	100	NR
Ethylene Chlorohydrin	100	NR
Ethylene Dibromide	100	NR
Ethylene Glycol	100	180
Ethylene Glycol Monobutyl Ether	100	90
Fluorine Gas	100	NR
Fluorolubes (oil & Greases)	100	90
Fluosilicic Acid	1	100
Fluosilicic Acid	10	100
Fluosilicic Acid	25	90
Fluosilicic Acid	35	NR
Formaldehyde	25	150
Formaldehyde	37	90
Formaldehyde	44	90

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Formamide	100	100
Formic Acid	1	150
Formic Acid	10	150
Formic Acid	25	120
Formic Acid	50	NR
Fuel Oil, #1 and#2	100	170
Fungicide, Phenate Based	100	125
Furfural	100	NR
Furnace Oil	100	90
Gluconic Acid	50	125
Glucose	100	180
Glycerine	100	180
Glycolic Acid	35	140
Glycolic Acid	70	100
Glyoxylic Acid	25	NR
Gold Pickling (with sulfuric acid)	25	150
Halso 99	100	NR
Heating Oil	100	90
Heptane, Normal	100	200
Herbicide, Liquid	10	80
Hexachlorocyclopentadiene	100	NR
Hexane	100	160
Hydraulic Fluid (Skydrol 500)	100	130
Hydrazine	70	NR
Hydriodic Acid	58	NR
Hydrobromic Acid	1	160
Hydrobromic Acid	18	160
Hydrobromic Acid	25	160
Hydrobromic Acid	48	150
Hydrochloric Acid (muriatic acid)	1	160
Hydrochloric Acid	5	160
Hydrochloric Acid	10	160
Hydrochloric Acid	15	160
Hydrochloric Acid	20	LS 150
Hydrochloric Acid	25	LS 150
Hydrochloric Acid	32	125
Hydrochloric Acid	36	100
Hydrochloric Acid	37	LS 90
Hydrochloric Acid (trace of 2,6-Dichloro-4-Nitroaniline)	32	NR

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Hydrochloric Acid (trace of 2,6-Dichloro-4-Aniline)	32	LS 170
Hydrochloric Acid (trace of organics)	36	80
Hydrochloric Acid (traces of Cresylic Acid & Phenol)	32	LS 175
Hydrochloric Acid: 2,6-Dichloro-4-Aniline	32	LS 170
Hydrochloric Acid: Nitric Acid	10: 10	NR
Hydrochloric Acid: Phosphorus Acid: Hydrofluoric Acid (concentration in ppm)	1:85:500	NR
Hydrochloric Acid: Phosphorus Acid	2:70	120
Hydrofluoric Acid	1	100
Hydrofluoric Acid	10	LS 80
Hydrofluoric Acid	15	NR
Hydrofluoric Acid: Phosphoric Acid: Hydrochloric Acid (concentration in ppm)	500:85:1	NR
Hydrofluosilicic Acid	10	100
Hydrofluosilicic Acid	35	NR
Hydrogen Bromide, Dry	100	90
Hydrogen Bromide, Wet	100	90
Hydrogen Chloride Gas, Dry Fumes	100	120
Hydrogen Chloride Gas, Wet	100	120
Hydrogen Chloride, Absorber	36	NR
Hydrogen Chloride, Anhydrous	100	90
Hydrogen Fluoride, Wet	100	90
Hydrogen Peroxide	5	150
Hydrogen Peroxide	50	NR
Hydrogen Sulfide	100	140
Hydroxyacetic Acid	35	140
Hydroxyacetic Acid	70	120
Hypochlorous Acid	10	105
Hypochlorous Acid	20	90
Iso-Decanol	100	160
Isocure 306	100	90
Isocure 308	100	90
Isopropyl Alcohol	10	130
Isopropyl Alcohol	100	80
Isopropyl Palmitate	100	180

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Jet Fuel A (recommendations same for Jet Fuel PFB)	100	90
Jet Fuel, JP-4	100	120
Kerosene	100	175
Lactic Acid	100	160
Lauryl Alcohol (n-dodecanol)	100	120
Lead Acetate	100	160
Linoleic Acid	100	160
Linseed Oil	100	160
Liquid Cleaner (all purpose, biodegradable)	100	100
Magnifloc 509-C and 573-C	100	90
Magnifloc E343	100	90
Maleic Anhydride	100	150
Manganese Sulfate: Ammonium Sulfates:Sulfuric Acid (concentration in g/l, ph-5)	13:135:4	125
Manganese Sulfates: Ammonium Sulfate (concentration in g/l, ph-5)	13:158	125
Mercaptan, Aromatic	100	NR
Mercaptopropionic, Crude Acid	100	NR
Mercury	100	180
Methanamide	100	100
Methyl Alcohol	100	90
Methyl Alcohol: Water	80:20	90
Methylene Chloride: Tuolene	50:50	NR
Methyl Ethyl Ketone	100	NR
Methyl Ethyl Ketone: Sulfuric Acid, 50%	10:90	80
Methyl Isobutyl Ketone	100	NR
Methyl Styrene	100	NR
Methyl Tertiary Butyl Ether	100	80
Methylene Chloride	100	NR
Methylene Thiocyanata: Biocide: Chlorophenol (blend)	100	125
Milk & Milk Products	100	180
Mineral Oils	100	180
Mineral Spirits	100	180
Monochlorobenzene	100	NR
Monoethanolamine (also called Ethanolamine)	100	NR
Monoethanolamine (desulfurizing, Sulfur Dioxide & Hydrogen Sulfate	100	NR

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Monoethanolamine, Butyl Cellosolve (alkaline film Stripper)	30: 57	NR
Naphtha	100	180
Naphthalene	100	150
Nitric Acid	5	160
Nitric Acid	10	90
Nitric Acid	20	NR
Nitric Acid: Hydrochloric Acid	10: 10	NR
Nitric Acid: Sulfuric Acid	5:20	NR
Nitric Acid, Vapor	24	NR
Nitrobenzene	100	NR
Nitrogen	100	180
Nitrophenol	100	NR
Nitrous Acid	10	120
Nitrous Acid	100	120
Nonyl Phenol (monoakyl phenol)	100	110
Nut Oil, Ground	100	90
Oil, Crude (sweet & Sour)	100	180
Oil, Crude, B	100	90
Oil, Furnace	100	90
Oil, Heating	100	90
Oil, Low Sulfur Crude	100	120
Oil, Medium Sulfur Crude	100	90
Oil, Mid-Content Sweet	100	90
Oil, Transformer	100	90
Oils (animal, mineral or vegetable)	100	120
Oleic Acid	100	180
Oligomeric Dispersant	100	130
Olive Oil	100	180
Organic Contaminates: Acid: water	1.5:2:96	150
Organotin: Quaternary Ammonium Salts: Amine Salts (blended)	100	LS 125
Oxalic Acid	100	180
Peanut Oil	100	175
Peel Oil	100	120
Pet Set 1505 and 2590	100	90
Perchloric Acid	5	NR
Perchlorethylene	100	NR

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Phenol (carbolic acid)	2	180
Phosphate Salts	25	90
Phosphoric Acid	85	160
Phosphoric Acid	100	90
Phosphoric Acid (super-phosphoric acid)	105	90
Phosphoric Acid, 85%: Sulfuric Acid, 93%	50: 50	NR
Hydrofluoric Acid (concentration in ppm)	85:1:500	NR
Phosphorus Acid: Hydrochloric Acid	70:2	120
Phosphorus Oxychloride	100	80
Phosphorus Trichloride	100	90
Picric Acid (alcoholic)	10	NR
Polyacrylamide Emulsion	100	90
Polychlorophenate Organosulfur (blend)	100	125
Polychlorophenate (alcohol & amines blended)	100	125
Polyelectrolytes, Anionic	100	130
Polymethylene Polyphenyl Isocyanate	100	120
Polyvinyl Alcohol	10	120
Polyvinyl Alcohol	100	80
Polyvinylidiene Chloride Latex	100	80
Polywet ND-2	100	130
Potassium Bicarbinate	10	160
Potassium Carbinate	10	90
Potassium Carbinate	25	90
Potassium Chloride	100	180
Potassium Dichromate	100	180
Potassium Hydroxide	10	NR
Potassium Nitrate	100	180
Potassium Permanganate	100	125
Potassium Persulfate	100	90
Potassium Sulfate	100	180
Propionic Acid	1	80
Propylene Glycol	100	170
Quaternary Ammonium Salt: Amine Salts: Organotin (blended)	100	LS 125
Quaternary Ammonium: Aqueous Isopropanol (dialkyl dimethyl type)	75: 25	120
RJ-4 Fuel	100	80

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Sea Water	100	180
Sequestering Agents	100	125
Silver Nitrate	100	180
Slimicide (Polychlorophenate-organosulfur, blend)	100	125
Slimicide (Thiocyanate-poly-chlorophenol, blend)	100	125
Sodium Acetate	100	150
Sodium Bicarbinate	10	180
Sodium Bisulfate	100	180
Sodium Bisulfide: Sodium Hydroxide	15: 15	NR
Sodium Bromide	100	180
Sodium Carbonate	2	150
Sodium Carbonate	10	LS 160
Sodium Carbonate	25	90
Sodium Carbonate	32	90
Sodium Chlorate	90	130
Sodium Cyanide	10	120
Sodium Hydrosulfide: Sodium Hydroxide	15:15	NR
Sodium Hydroxide	0.5	100
Sodium Hydroxide	1	LS 90
Sodium Hydroxide	5	NR
Sodium Hydroxide (scrubbing chlorine blow gas	20	NR
Sodium Hydroxide (scrubbing chlorine & chlorine dioxide)	5	NR
Sodium Hydroxide: Sodium Bisulfate	15:15	NR
Sodium Hydroxide: Sodium Hydrosulfide	15:15	NR
Sodium Sulfide	30:2:2	NR
Sodium Hypochlorite (stable)	2	120
Sodium Hypochlorite (stable)	5:25	120
Sodium Hypochlorite (stable)	10	100
Sodium Hypochlorite (stable)	15	NR
Sodium Hypochlorite Bleach Reactor	6	NR
Sodium Sulfate	100	175
Sodium Sulfhydrate	45	NR
Sodium Sulfide	10	80
Sodium Hydroxide	2:2:30	NR
Sodium Sulfite	100	90
Sodium Thiosulfate	100	90

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Sodium Sulfide	2:30:2	NR
Sodium Xylene Sulfonate	40	90
Soya Oil	100	180
Stannic Chloride	100	180
Stannous Chloride	100	180
Steam: Sulfuric Acid (cyanuric acid tank, calcined urea)	16	210
Stearic Acid	100	180
Styrene	100	NR
Sugar Solution	60	90
Sulfonyl Chloride, Aromatic	100	NR
Sulfophthalic Acid	50:1:6	LS 90
Sulfur Chloride	100	NR
Sulfur Dichloride	100	NR
Sulfur Dioxide (desulfurizing, hydrogen sulfide with monoethanolamine	100	NR
Sulfur Dioxide (wet or dry)	100	180
Sulfur Trioxide, Dry	100	NR
Sulfur Trioxide, Wet	100	NR
Sulfur, Molten	100	NR
Sulfur, Molten (trace hydrogen sulfide, sulfur dioxide & Water	100	NR
Sulfuric Acid	1	180
Sulfuric Acid	5	180
Sulfuric Acid	25	150
Sulfuric Acid	50	120
Sulfuric Acid	70	NR
Sulfuric Acid (gold pickling)	25	150
Sulfuric Acid (trace dichlorides)	76	NR
Sulfuric Acid (with lime, used for treating waste oil, gear, cutting, ect)	93	NR
Sulfuric Acid (Xylene derivative, t-amine metal salt)	20	100
Sulfuric Acid, Vapor	10	180
Sulfuric Acid, Vapor	20	180
Sulfuric Acid, Vapor	50	120
Sulfuric Acid, 50%: Methyl Ethyl Ketone	90:10	80
Sulfuric Acid, 93%: Phosphoric Acid, 85%	50:50	NR
Sulfuric Acid: Benzene Sulfonic Acid: Water	7:88:5	140

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Sulfuric Acid: Chromic Acid	16:12.5	NR
Sulfuric Acid: Copper Sulfate	18:5	120
Sulfuric Acid: Manganese Sulfate: Ammonium Sulfate (concentration in g/l, ph 5)	40:13:13	125
Sulfuric Acid: Nitric Acid	20:5	NR
Sulfuric Acid: Steam (cyanuric acid tank, calcined urea)	16	210
Sulfuric Acid: 4-Sulphthalic Acid	1.6:50	LS 90
Sulfuric Evaporation (concentration upto 70%)	70	NR
Sulfurous Acid	10	NR
Tetrapotassium Pyrophosphate	60	90
Tetrasodium Pyrophosphate	5	125
Thionyl Chloride, Vapor	100	NR
Tinofix QF	50	90
Toluene	100	NR
Toluene, Aromatic, Aliphatic (3% Xylene)	86:5:6	90
Transmission Fluid, Automatic	100	90
Tributyl Phosphate	100	150
Trichloroacetic Acid	50	90
Trichlorobenzene	100	NR
Trichloroethane	100	NR
Triethanol Ammonium Lauryl Sulfate	100	NR
Trimethylamine Hydrochloride (ph 3-4)	100	130
Triphenyl phosphate	100	90
Tuna Oil	100	160
Turpentine, Pure Gum	100	90
Vanasol	1	80
Varsol	100	200
Vinegar	100	180
Vinyl Toluene	100	NR
Water: Acetic Acid (trace sulfuric acid, Methylene chloride, octyl alcohol, sodium chloride, Chlorobenzene)	48:1.3	150
Water: Ammonium Thiosulfate: Ammonium Thiocyanate (2.3% ammonium sulfate)	88:5.5:4	130
Water: Benzene Sulfonic Acid: Sulfuric Acid	5:88:7	140

CHEMICAL ENVIRONMENT	CONCENTRATION %	TEMPERATURE
Water: Benzene: Dimethylformamide (5% Tetrahydrofuran)	50:40:5	NR
Water, City (10-60 psi)	100	160
Water, Deionized	100	150
Water, Deionized (high purity, 1.5 umho/cm)	100	90
Water, Demineralized	100	180
Water, Distilled	100	160
Water, Light (FC203, trademark)	100	120
Water, Light (FC206A, trademark)	100	120
Water, Methyl Alcohol	20:80	90
Water, Organic:Acid Contaminated	96.5:1.5	150
Water, Steam Condensate	100	160
Xylene	100	90
Zinc Sulfate	100	180