

This chart is only meant to be used as a guide for chemical resistance. Polypropylene is generally high in chemical resistance but should not be used in contact with halogenated and aromatic hydrocarbons or strong oxidizing acids. Varying conditions such as temperature, pressure and exposure time can affect reactivity. Long term exposure is not recommended and some discoloration of the product may occur. Testing of CELLTREAT products with the chemicals and your specific application should be performed prior to use. CELLTREAT does not warrant that the information in this chart is accurate or complete.

### Resistant:

|                            |                                             |                         |
|----------------------------|---------------------------------------------|-------------------------|
| 1,2-ethanediol             | Ammonium Bifluoride                         | Butylacetate            |
| 1,2-propanediol            | Ammonium Bromide                            | Butyric Acid            |
| 1,3-Benzenediol            | Ammonium Carbonate                          | Calcium Bisulfate       |
| 1-Hexadecanol              | Ammonium Chloride                           | Calcium Bisulfide       |
| 1-Propanol                 | Ammonium Flouride                           | Calcium Bisulfite       |
| 1-Propyl Alcohol           | Ammonium Glycolate                          | Calcium Carbonate       |
| 2,(2-Ethoxyethoxy)ethanol  | Ammonium Hydroxide                          | Calcium Chloride        |
| 2-Butanol                  | Ammonium Nitrate                            | Calcium Hydroxide       |
| 2-Butyl Alcohol            | Ammonium Oxalate                            | Calcium Hypochlorite    |
| 2-Propanol                 | Ammonium Persulfate                         | Calcium Nitrate         |
| 2-Propyl Alcohol           | Ammonium Phosphate                          | Calcium Oxide           |
| 3-Pentanone                | Ammonium Phosphate, Dibasic                 | Calcium Salts           |
| Acetaldehyde, 10%          | Ammonium Phosphate, Monobasic               | Calcium Sulfate         |
| Acetamide                  | Ammonium Phosphate, Tribasic                | Calgon                  |
| Acetate Solvent            | Ammonium Salts                              | Carbazole               |
| Acrylamide                 | Ammonium Sulfate                            | Carbitol                |
| Acrylonitrile              | Ammonium Sulfide                            | Carbolic Acid (Phenol)  |
| Adipic Acid                | Ammonium Sulfite                            | Carbon Dioxide          |
| Alanine                    | Amyl Alcohol                                | Carbon Monoxide         |
| Alcohols:Amyl              | Antimony Trichloride                        | Carbonated Water        |
| Alcohols:Benzyl            | Aqua Regia (80% HCl, 20% HNO <sub>3</sub> ) | Carbonic Acid           |
| Alcohols:Diacetone         | Arsenic Acid                                | Caustic Potash          |
| Alcohols:Ethyl             | Asphalt                                     | Caustic Soda            |
| Alcohols:Isobutyl          | Barium Carbonate                            | Cesium Acetate          |
| Alcohols:Isopropyl         | Barium Chloride                             | Cesium Bromide          |
| Alcohols:Methyl            | Barium Hydroxide                            | Cesium Chloride         |
| Alcohols:Propyl            | Barium Nitrate                              | Cesium Formate          |
| Alconox detergent          | Barium Salts                                | Cesium Iodide           |
| Alkaline Sucrose           | Barium Sulfate                              | Cesium Sulfate          |
| Allyl Alcohol              | Barium Sulfide                              | Cesium Trichloroacetate |
| Alum                       | Beer                                        | Cesium Trifluoroacetate |
| Aluminum Chloride          | Beet Sugar Liquids                          | Cetyl Alcohol           |
| Aluminum Fluoride          | Benzenesulfonic Acid                        | Chloroacetic Acid       |
| Aluminum Hydroxide         | Benzoic Acid                                | Chlorobromomethane      |
| Aluminum Nitrate           | Benzol                                      | Chromic Acid, 10%-30%   |
| Aluminum Potassium Sulfate | Benzyl Acetate                              | Citric Acid             |
| Aluminum Salts             | Benzyl Alcohol                              | Citric Oils             |
| Aluminum Sulfate           | Bis(2-ethylhexyl) Phthalate                 | Copper Chloride         |
| Amines                     | Borax (Sodium Borate)                       | Copper Cyanide          |
| Amino Acids                | Boric Acid                                  | Copper Nitrate          |
| Ammonia                    | Brine                                       | Copper Salts            |
| Ammonia Nitrate            | Butyl Amine                                 | Copper Sulfate          |
| Ammonium Acetate           | Butyl Phthalate                             | Cottonseed Oil          |

|                                   |                                            |                                   |
|-----------------------------------|--------------------------------------------|-----------------------------------|
| Cresylic Acid                     | Formamide                                  | Magnesium Sulfate (Epsom Salts)   |
| Culture Media                     | Formic Acid                                | Maleic Acid                       |
| Cupric Acid                       | Freon 11                                   | Malic Acid                        |
| Deionized Water                   | Freon 12                                   | MEK                               |
| DEPC(Diethylpyrocarbonate)        | Freon 22                                   | Melamine                          |
| Dextran Sulfate                   | Gallic Acid                                | Mercuric Chloride                 |
| Diacetone Alcohol                 | Gelatin                                    | Mercuric Cyanide                  |
| Dibasic Potassium Phosphate       | Glacial Acetic Acid                        | Mercurous Nitrate                 |
| Dibasic Sodium Phosphate          | Glucose                                    | Mercury                           |
| Dibenzopyrrole                    | Glutaraldehyde                             | Mercury Salts                     |
| Dichlorodifluoromethane           | Glutaraldehyde Disinfectant                | Methane                           |
| Diesel Fuel                       | Glycerine                                  | Methanol                          |
| Diethanolamine                    | Glycerol                                   | Methoxyethyl Oleate               |
| Diethyl Ether                     | Glycolic Acid                              | Methyl Alcohol (Methanol)         |
| Diethyl Malonate                  | Guanidine Hydrochloride                    | Methyl Ethyl Ketone               |
| Diethylamine                      | Guanidine Isothiocyanate                   | Methylamine                       |
| Diethylene Glycol                 | Guanidine Thiocyanate                      | Metrizamide                       |
| Diethylene Glycol Monoethyl Ether | Helium                                     | Mineral Spirits                   |
| Diethylpyrocarbonate              | Hexane                                     | Monobasic Potassium Phosphate     |
| Dimethyl Acetamide                | Hydrobromic Acid 20%                       | Monobasic Sodium Phosphate        |
| Dimethyl Formamide                | Hydrochloric Acid 100%                     | Monoethanolamine                  |
| Dimethyl Phthalate                | Hydrocyanic Acid                           | Morpholine                        |
| Dimethylacetamide                 | Hydrofluoric Acid 10%-40%                  | Motor oil                         |
| Dimethylformamide                 | Hydrofluosilicic Acid                      | Muriatic Acid                     |
| Dimethylsulfoxide (DMSO)          | Hydrogen Gas                               | n-Amyl Alcohol                    |
| Diethyl Phthalate                 | Hydrogen Peroxide (10%)                    | n-Butanol                         |
| Diphenylenimine                   | Hydrogen Sulfide                           | n-Butyl Alcohol                   |
| Dipotassium Hydrogen Phosphate    | Hydroquinone                               | n-Octane                          |
| Dipropylene Glycol                | Iodine Crystals                            | n-Propanol                        |
| Disodium Hydrogen Phosphate       | Iodine Solution                            | n-Propyl Alcohol                  |
| Distilled Water                   | IPA                                        | Naphtha                           |
| DMAC                              | Isobutanol                                 | Naphthalene                       |
| DMF                               | Isobutyl Alcohol                           | Natural Gas                       |
| DMSO                              | Isopropanol                                | Nickel Chloride                   |
| EDTA                              | Isopropyl Acetate                          | Nickel Nitrate                    |
| Epsom Salts (Magnesium Sulfate)   | Isopropyl Alcohol                          | Nickel Salts                      |
| Ethanol                           | Isopropyl Ether                            | Nickel Sulfate                    |
| Ethyl Alcohol                     | Lactic Acid                                | Nitric Acid 5%-50%                |
| Ethyl Cyanoacetate                | Lard                                       | Nitrous Acid                      |
| Ethyl Digol                       | Latex                                      | Nycodenz                          |
| Ethyl Lactate                     | Lead Acetate                               | Oils:Aniline                      |
| Ethylene                          | Lead Nitrate                               | Oils:Bone                         |
| Ethylene Diamine Tetraacetic Acid | Lead Sulfamate                             | Oils:Castor                       |
| Ethylene Glycol                   | Ligroin                                    | Oils:Citric                       |
| Fatty Acids                       | Linoleic Acid                              | Oils:Coconut                      |
| Ferric Chloride                   | Linseed Oil                                | Oils:Cod Liver                    |
| Ferric Nitrate                    | Lithium Chloride                           | Oils:Corn                         |
| Ferric Sulfate                    | Lubricants                                 | Oils:Cottonseed                   |
| Ferrous Chloride                  | Lye: Ca(OH) <sub>2</sub> Calcium Hydroxide | Oils:Diesel Fuel (20, 30, 40, 50) |
| Ferrous Sulfate                   | Lye: KOH Potassium Hydroxide               | Oils:Fuel (1, 2, 3, 5A, 5B, 6)    |
| Ficoll-Hypaque                    | Lye: NaOH Sodium Hydroxide                 | Oils:Olive                        |
| Fluoboric Acid                    | Magnesium Bisulfate                        | Oils:Orange                       |
| Fluorides                         | Magnesium Carbonate                        | Oils:Pine                         |
| Fluosilicic Acid                  | Magnesium Chloride                         | Oils:Rosin                        |
| Formaldehyde                      | Magnesium Hydroxide                        | Oils:Sesame Seed                  |
| Formalin                          | Magnesium Nitrate                          | Oils:Silicone                     |

|                                    |                             |                                 |
|------------------------------------|-----------------------------|---------------------------------|
| Oils:Silicone                      | Pyrogallic Acid             | Sodium Sulfide                  |
| Oils:Soybean                       | Resorcinal                  | Sodium Sulfite                  |
| Oils:Transformer                   | Rosins                      | Sodium Tetraborate              |
| Oils:Turbine                       | Rubidium Bromide            | Sodium Thiosulfate              |
| Oils:Vegetable                     | Rubidium Chloride           | Stannic Chloride                |
| Oleic Acid                         | Rust Inhibitors             | Stannous Chloride               |
| Oxalic Acid                        | Sal Ammoniac                | Starch                          |
| Ozone                              | Salicylaldehyde             | Stearic Acid                    |
| p-Chloroacetophenone               | Salicylic Acid              | Styrene                         |
| Palmitic Acid                      | SDS                         | Sucrose                         |
| Peracetic Acid, 0.2%               | Sea Water                   | Sugar                           |
| Percoll                            | sec-Butanol                 | Sulfate                         |
| Petroleum                          | sec-Butyl Alcohol           | Sulfur Dioxide                  |
| Phosphoric Acid                    | Sera                        | Sulfuric Acid (>1%-50%)         |
| Phosphoric Acid Anhydride          | Shellac                     | Sulfurous Acid                  |
| Phosphorus                         | Silicone                    | Sulphurous Acid                 |
| Photographic Developer             | Silicone Oil                | Tallow                          |
| Photographic Hypo                  | Silver Acetate              | Tannic Acid                     |
| Photographic Solutions             | Silver Cyanide              | Tartaric Acid                   |
| Phthalic Acid                      | Silver Nitrate              | TCA, 10%-50%                    |
| Potash (Potassium Carbonate)       | Skydrol LD4                 | tert-Butanol                    |
| Potassium Acetate                  | Soap Solutions              | tert-Butyl Alcohol              |
| Potassium Bicarbonate              | Soda Ash                    | TFA                             |
| Potassium Bromide                  | Sodium Acetate              | Tin Salts                       |
| Potassium Carbonate                | Sodium Benzoate             | Tincture of Iodine              |
| Potassium Chlorate                 | Sodium Bicarbonate          | Tribasic Potassium Phosphate    |
| Potassium Chloride                 | Sodium Bisulfate            | Trichloroacetic Acid            |
| Potassium Chromate                 | Sodium Bisulfite            | Trichlorotrifluoroethane        |
| Potassium Cyanide                  | Sodium Borate (Borax)       | Tricresyl Phosphate             |
| Potassium Cyanide Solutions        | Sodium Bromide              | Tricresylphosphate              |
| Potassium Dichromate               | Sodium Carbonate            | Triethylene Glycol              |
| Potassium Dihydrogen Phosphate     | Sodium Chlorate             | Trifluoroacetic Acid            |
| Potassium Ferricyanide             | Sodium Chloride             | Tripotassium Phosphate          |
| Potassium Ferrocyanide             | Sodium Cyanide              | Tripropylene Glycol             |
| Potassium Hydroxide (Caustic Pot-) | Sodium Dichromate           | Tris Buffer Solution (TBE, TAE) |
| Potassium Iodide                   | Sodium Dihydrogen Phosphate | Trisodium Phosphate             |
| Potassium Nitrate                  | Sodium Dodecyl Sulfate      | Triton X-100                    |
| Potassium Permanganate             | Sodium Ferrocyanide         | TSP                             |
| Potassium Phosphate Dibasic        | Sodium Fluoride             | Undecyl Alcohol                 |
| Potassium Phosphate Monobasic      | Sodium Hydroxide            | Urea                            |
| Potassium Phosphate Tribasic       | Sodium Iodide               | Urine                           |
| Potassium Sulfate                  | Sodium Lauryl Sulfate       | Varnish                         |
| Potassium Sulfide                  | Sodium Metaphosphate        | Vinegar                         |
| Propane (liquefied)                | Sodium Metasilicate         | Vinyl Acetate                   |
| Propanol                           | Sodium Nitrate              | Water                           |
| Propionic Acid                     | Sodium Phosphate            | Zephiran Chloride               |
| Propyl Alcohol                     | Sodium Phosphate Dibasic    | Zinc Chloride                   |
| Propylene                          | Sodium Phosphate Monobasic  | Zinc Stearate                   |
| Propylene Glycol                   | Sodium Polyphosphate        | Zinc Sulfate                    |
| Propylene Oxide                    | Sodium Silicate             |                                 |
| Prussic Acid                       | Sodium Sulfate              |                                 |

## Marginal Resistance:

|                         |                         |                     |
|-------------------------|-------------------------|---------------------|
| Acetone                 | Butyl Alcohol           | Oils:Mineral        |
| Acetonitrile            | Chromic Acid, 40%-100%  | Paraffin            |
| Alcohols:Butyl          | Hydrogen Peroxide (30%) | Pyridine            |
| Aniline                 | Kerosene                | Sodium Hypochlorite |
| Benzaldehyde            | Manganese Salts         | Sodium Perborate    |
| Butane                  | Methyl Isobutyl Ketone  | Sodium Peroxide     |
| Butanol (Butyl Alcohol) | Oils:Linseed            |                     |

## Poor Resistance:

|                                |                                    |                                  |
|--------------------------------|------------------------------------|----------------------------------|
| 1,2,4-Trichlorobenzene         | Chloroacetic Acid                  | Ethylene Glycol Monomethyl Ether |
| 1,2,4-Trimethylbenzene         | Chlorobenzene                      | Ethylene Glycol Monomethyl Ether |
| 1,2-Dichloroethane             | Chloroethane                       | Ethylene Oxide, 100%             |
| 1,3,5-Trimethylbenzene         | Chloroform                         | Fluorine                         |
| 1,4-Dioxane                    | Chloromethyl Benzene               | Freon 113                        |
| 1-Chlorobutane                 | Chlorosulfonic Acid                | Freon TF                         |
| 2,2,4-Trimethylpentane         | Chlorosulphonic Acid               | Furan Resin                      |
| 2,4-Dichlorophenol             | Chlorotoluene                      | Furfural                         |
| 2-Ethoxyethanol                | Chromic:Surfuric Acid Mixture, 96% | Furfuraldehyde                   |
| 2-Ethoxyethanol Acetate        | Cresol Mixture                     | Gasoline                         |
| 2-Methoxyethanol               | Cresols                            | Heptane                          |
| 2-Methoxyethanol Acetate       | Cumene                             | Hydraulic Oil                    |
| 4-Hydroxy-4-methyl-2-pentanone | Cyclohexane                        | Hydrazine                        |
| Acetaldehyde, 100%             | Cyclohexanol                       | Hydrobromic Acid 100%            |
| Acetaldehyde, 40%              | Cyclohexanone                      | Iodine                           |
| Acetic Acid 5% to 60%          | Decahydronaphthalene               | Isopropyl Benzene                |
| Acetic Anhydride               | Decalin                            | Isotane                          |
| Acetophenone                   | Decane                             | Jet Fuel                         |
| Acetyl Chloride                | Diacetone                          | Ketones                          |
| Amyl Acetate                   | Dibutyl Phthalate                  | Lacquer Thinner                  |
| Amyl Chloride                  | Dichlorobenzene                    | Lacquers                         |
| Aniline Hydrochloride          | Dichloroethane                     | Maleic Anhydride                 |
| Antifreeze                     | Dichloroethylene                   | Mechanical Oil                   |
| Aqua Regia 100%                | Dichloromethane                    | Mesitylene                       |
| Arochlor 1248                  | Diethyl Benzene                    | Methyl Acetate                   |
| Aromatic Hydrocarbons          | Diethyl Ketone                     | Methyl Acrylate                  |
| Asymmetrical Trimethylbenzene  | Diethylene Dioxide                 | Methyl Benzene                   |
| Barium Cyanide                 | Dimethyl Aniline                   | Methyl Bromide                   |
| Benzene                        | Dimethylamine                      | Methyl Butyl Ketone              |
| Benzene Sulfonic Acid          | Dioxane                            | Methyl Cellosolve                |
| Benzyl Chloride                | Diphenyl                           | Methyl Cellosolve Acetate        |
| Bleach                         | Diphenyl Oxide                     | Methyl Chloride                  |
| Bromine                        | Ethane                             | Methyl Dichloride                |
| Bromobenzene                   | Ethenylbenzene                     | Methyl Methacrylate              |
| Bromoform                      | Ether                              | Methyl Propyl Ketone             |
| Butadiene                      | Ethyl Benzene                      | Methyl-t-Butyl Ether             |
| Butyl Acetate                  | Ethyl Benzoate                     | Methylene Chloride               |
| Butyl Chloride                 | Ethyl Butyrate                     | Methylisobutylketone (MIBK)      |
| Butyl Ether                    | Ethyl Chloride                     | Mineral Oil                      |
| Carbon Bisulfide               | Ethyl Ether                        | Monochlorobenzene                |
| Carbon Disulfide               | Ethylene Bromide                   | Monochloroethane                 |
| Carbon Tetrachloride           | Ethylene Chloride                  | MTBE                             |
| Chlorine                       | Ethylene Chlorohydrin              | n-Amyl Acetate                   |
| Chlorine Dioxide               | Ethylene Dichloride                | n-Butyl Acetate                  |
| Chlorine Water                 | Ethylene Glycol Monoethyl Ether    | n-Butyl Phthalate                |

n-Decane  
n-Heptane  
n-Hexane  
n-Propane  
Nitrating Acid  
Nitric Acid Concentrated  
Nitrobenzene  
Nitrogen Dioxide  
Nitromethane  
Nitrous Oxide  
o-Dichlorobenzene  
Oils:Cedarwood  
Oils:Cinnamon  
Oils:Creosote  
Oils:Hydraulic Oil (Petro)  
Oils:Hydraulic Oil (Synthetic)  
Oils:Paraffin  
Oils:Peanut  
Oils:Petroleum  
Oils:Rapeseed  
Oleum  
p-Dichlorobenzene  
Pentane  
Perc

Perchloric Acid  
Perchloroethylene  
Petrolatum  
Petroleum Ether  
Petroleum Oil  
Phenol  
Phenyl ethylene, pure -  
Phosphorus Chloride  
Phosphorus Oxychloride  
Phosphorus Trichloride  
Phosphoryl Chloride  
Phthalic Anhydride  
Picric Acid  
Propane (gaseous)  
Propyl Acetate  
Pseudocumene  
Stoddard Solvent  
Sulfur Chloride  
Sulfur Salts  
Sulfur Trioxide  
Sulfuric Acid (>50%-100%)  
Sulfuryl Chloride  
sym-Trimethylbenzene  
TCA, 50%-100%

Tetrachloroethane  
Tetrachloroethylene  
Tetrahydrofuran  
Tetrahydronaphthalene  
Tetralin  
Tetrahydrofuran (THF)  
Thionyl Chloride  
Toluene  
Toluene (Toluol)  
Tributyl Citrate  
Tributyl Phosphate  
Trichlorobenzene  
Trichloroethane  
Trichloroethylene  
Triethanolamine  
Triethyl Phosphate  
Trimethylamine  
Turpentine  
Vinyl benzene  
Vinylidene Chloride  
White Paraffin  
Xylene  
Xylol