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# BELZONA® PRODUCT DATA Q503

## CHEMICAL RESISTANCE OF BELZONA® 4111 (Magma-Quartz)

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### INORGANIC ACIDS

	<u>RATING</u>
Carbonic acid	Ex
Chromic acid 10%	F
Chromic acid 40%	P
Fluorosilicic acid 10%	G
Fluorosilicic acid 30%	F
Folic acid	Ex
Hydrobromic acid 10%	Ex
Hydrobromic acid 40%	G
Hydrochloric acid 10%	Ex
Hydrochloric acid 36%	Ex
Hydrofluoric acid 52%	F
Nitric acid 10%	G
Nitric acid 30%	P
Sulfurous acid 6%	Ex

### ORGANIC ACIDS

	<u>RATING</u>
Acetic acid 0-10%	G
Acetic acid 10-20%	F
Acetic acid 20-50%	P
Acrylic acid	P
Chlorosulphonic acid	F
Citric acid	Ex
Cresylic acid	P
Formic acid 20%	P

### ALCOHOLS

	<u>RATING</u>
Butanol	Ex
Cellosolve	G
Ethanol	F
Ethylene glycol	Ex
Glycerol	Ex
Hexanol	Ex

### RATING

Nitric acid 65%
Nitrous acid 20%
Oleum 20-65% SO <sub>3</sub>
Perchloric acid 60%
Phosphoric acid 10%
Phosphoric acid 30%
Phosphoric acid 85%
Sulfuric acid 10%
Sulfuric acid 20%
Sulfuric acid 50%
Sulfuric acid 98%
Sulfuric acid 100%

### RATING

P
Ex
P
P
G
G
P
Ex
Ex
G
P
P

### RATING

Lactic acid 0-10%
Lactic acid 10-85%
Maleic acid
Phenol 80%
Salicylic acid
Stearic acid (solid)
Tannic acid
Tartaric acid

G
P
Ex
P
Ex
Ex
Ex
Ex

### RATING

Isobutanol
Methanol
2-Methoxy ethanol
Methyl "cellosolve"
Propylene glycol

Ex
F
F
G
Ex

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**ALKALIS**

Ammonia solution 0-10%  
 Ammonia solution 10-30%  
 Calcium hydroxide  
 Lime

**RATING**

Ex  
 G  
 Ex  
 Ex

Potassium hydroxide 10%  
 Potassium hydroxide 20%  
 Sodium hydroxide 10%  
 Sodium hydroxide 40%

**RATING**

Ex  
 Ex  
 Ex  
 Ex

**AMINES & AMIDES**

Aniline  
 Dibutylamine  
 Diethanolamine  
 Dimethylamine  
 Diethylenetriame  
 Dimethylformanide

**RATING**

F  
 P  
 Ex  
 F  
 P  
 P

Hydrazine  
 Methylamine 40% aqueous  
 Methylamine gas  
 Pyridine  
 Triethanolamine  
 Triethylenetetramine

**RATING**

P  
 G  
 Ex  
 P  
 Ex  
 P

**BEVERAGES & FOODSTUFFS**

Apple juice  
 Beer  
 Beet sugar  
 Butter  
 Buttermilk  
 Cider  
 Citric juice  
 Fermentation liquor  
 Glucose  
 Ketchup  
 Margarine

**RATING**

Ex  
 Ex  
 Ex  
 Ex  
 Ex  
 Ex  
 Ex  
 G  
 Ex  
 Ex  
 Ex

Mayonnaise  
 Milk  
 Molasses  
 Mustard  
 Salad oil  
 Sugar liquids  
 Tomato juice  
 Vinegar  
 Whiskey and wine  
 Yeast

**RATING**

Ex  
 Ex  
 Ex  
 Ex  
 Ex  
 Ex  
 Ex  
 G  
 Ex  
 Ex

**ESTERS & ETHERS**

Amyl acetate  
 Butyl acetate  
 Butyl ether  
 Dibutyl phthalate  
 Dibutyl sebacate  
 Diethylether  
 Dioctyl adipate

**RATING**

F  
 F  
 Ex  
 Ex  
 Ex  
 Ex  
 Ex

Dioctyl phthalate  
 Dioctyl sebacate  
 Ethyl acetate  
 Methyl acetate  
 Propylene glycol monomethyl ether acetate  
 Tributyl phosphate

**RATING**

Ex  
 Ex  
 F  
 F  
 G  
 Ex

**GASES**

Butane  
 Carbon dioxide  
 Carbon monoxide  
 Chlorine gas  
 Hydrogen gas  
 Hydrogen sulfide

**RATING**

Ex  
 Ex  
 Ex  
 G  
 Ex  
 Ex

Methane  
 Natural gas  
 Nitrous oxide  
 Ozone (aqueous solution)  
 Sulfur dioxide  
 Sulphur trioxide

**RATING**

Ex  
 Ex  
 Ex  
 P  
 Ex  
 Ex

**HALOCARBONS**

Carbon tetrachloride	F
Chlorobenzene	P
Chloroform	P
Ethylene dichloride	P
Methylene chloride	P

Methylene chloride	F
Perchloroethylene	Ex
1, 1, 1, - Trichloroethane	F
Trichlorotrifluoroethane	G

**HYDROCARBONS**

Benzene	P
Cyclohexane	Ex
Ethane	Ex
Gasoline	Ex
Heptane	Ex
Hexane	Ex
Iso-octane	Ex
Kerosene	Ex
Mineral spirits	Ex

Naphtha	Ex
Paraffin	Ex
Petroleum naphtha	Ex
Stoddard solvent	Ex
Styrene	F
Toluene	P
Turpentine	Ex
White spirit	Ex
Xylene	Ex

**KETONES**

Acetone	P
Formaldehyde 37%	Ex

Methyl amyl ketone	F
Methyl ethyl ketone	P

**MISCELLANEOUS**

Bleach	F
Brake Fluid	Ex
Bromine water (saturated)	Ex
Carbon disulfide	P
Chlorine water (saturated)	Ex
Dimethylsulfoxide	P
Emulsion paint	Ex
Ethylethoxypropionate	F
Fertilizer solutions	Ex
Grease	Ex
Hydrogen peroxide 35%	F
Ink (water based)	Ex
Isothiazolinone	Ex
Mesitylene	G
N-Methyl pyrrolidone	P

Napthalene	Ex
Pyrrrole	P
Resins & rosins (natural)	Ex
Roof pitch	Ex
Rubber latex emulsions	Ex
Sewage	Ex
Skydrol	G
Starch	Ex
Tar	Ex
Tetraethyllead	Ex
Tetrahydrofuran	P
Urea	Ex
Water, fresh	Ex
Water, sea	Ex
Water, distilled	Ex

**OILS - MINERAL**

Castor oil	Ex
Coconut oil	Ex
Cod liver oil	Ex
Corn oil	Ex
Diesel oil	Ex
Hydraulic oil	Ex
Lubricating oil	Ex

Oil, petroleum	Ex
Oil/water mixtures	Ex
Silicone oil	Ex
Soybean oil	Ex
Transfer oil	Ex
Tung oil	Ex

<b><u>SALTS</u></b>	<b><u>RATING</u></b>		<b><u>RATING</u></b>
Alum	Ex	Potassium chloride	Ex
Aluminium chloride	Ex	Potassium cyanide	Ex
Aluminium sulphate	Ex	Potassium dichromate	Ex
Ammonium bicarbonate	Ex	Potassium diphosphate	Ex
Ammonium fluosilicate	Ex	Potassium ferricyanide	Ex
Ammonium nitrate	Ex	Potassium ferrocyanide	Ex
Ammonium phosphate	Ex	Potassium iodide	Ex
Ammonium sulfate	Ex	Potassium nitrate	Ex
Barium carbonate	Ex	Potassium permanganate	Ex
Barium chloride	Ex	Potassium sulfate	Ex
Barium sulphate	Ex	Potassium sulfide	Ex
Barium sulfide	Ex	Potassium sulfite	Ex
Brines	Ex	Quaternary ammonium salts	Ex
Bromine chloride	Ex	Silver nitrate	Ex
Calcium carbonate	Ex	Sodium acetate	Ex
Calcium chloride	Ex	Sodium aluminate	Ex
Calcium fluoride	Ex	Sodium bicarbonate	Ex
Calcium hypochlorite	Ex	Sodium bisulfate	Ex
Calcium sulfate	Ex	Sodium bisulfite	Ex
Chromium potassium sulfate	Ex	Sodium borate	Ex
Copper acetate	Ex	Sodium bromide	Ex
Copper chloride	Ex	Sodium carbonate	Ex
Copper nitrate	Ex	Sodium chlorate	Ex
Copper sulfate	Ex	Sodium chloride	Ex
Epsom salts	Ex	Sodium chromate	Ex
Ferric chloride	Ex	Sodium cyanide	Ex
Ferric nitrate	Ex	Sodium fluoride	Ex
Ferric sulfate	Ex	Sodium fluorosilicate	Ex
Ferrous chloride	Ex	Sodium hypochlorite 15%	F
Ferrous sulfate	Ex	Sodium metaphosphate	Ex
Magnesium bisulfate	Ex	Sodium metasilicate	Ex
Magnesium carbonate	Ex	Sodium nitrate	Ex
Magnesium chloride	Ex	Sodium phosphate (dibasic)	Ex
Magnesium sulfate	Ex	Sodium phosphate (tribasic)	Ex
Mercuric chloride	Ex	Sodium silicate	Ex
Mercuric cyanide	Ex	Sodium sulfate	Ex
Nickel ammonium sulfate	Ex	Sodium sulfide	Ex
Nickel chloride	Ex	Stannic chloride	Ex
Nickel nitrate	Ex	Stannous chloride	Ex
Nickel sulfate	Ex	Zinc chloride	Ex
Potassium bisulfite	Ex	Zinc hydrosulfite	Ex
Potassium bromide	Ex	Zinc sulfate	Ex
Potassium carbonate	Ex		
Potassium chlorate	Ex		

These tables are based upon immersion tests carried out under static conditions at 68°F (20°C).

They should only be considered as a guide to the performance which might be expected under practical conditions.

In these tables, the following nomenclature has been used:-

- (Ex) Excellent - Suitable for all reasonable applications including immersion
- (G) Good - Suitable for applications involving immersion for short periods, splashing and contact with fumes.
- (F) Fair - Suitable for use in environments contaminated by the chemical or in situations where accidental splashing can be removed either by cleaning or, in the case of volatile solvents, by evaporation.
- (P) Poor - Not suitable for any applications involving contact with the chemical itself or fumes evolved from it.

## **BELZONA® PRODUCT DATA Q503**

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