
BELZONA® PRODUCT DATA Q508

CHEMICAL RESISTANCE OF BELZONA® 4301

(Magma CR1 Hi-Build)

INORGANIC ACIDS

Carbonic acid
Chromic acid 10%
Chromic acid 40%
Fluosilicic acid 10%
Hydrobromic acid 10%
Hydrobromic acid 40%
Hydrochloric acid 10%
Hydrochloric acid 36%
Hydrofluoric acid 52%
Hydrofluorosilicic acid 30%
Nitric acid 10%
Nitric acid 30%
Nitric acid 65%

RATING

Ex
Ex
F
Ex
Ex
Ex
Ex
Ex
Ex
Ex
Ex
F
P

RATING

Nitrous acid 20%
Oleum 20-65% SO₃
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%
Sulfurous acid 6%

Ex
P
Ex
Ex
Ex
G*
Ex
Ex
Ex*
Ex
P
Ex

ORGANIC ACIDS

Acetic acid 0-10%
Acetic acid 10-20%
Acetic acid 20-50%
Acrylic acid
Chlorosulphonic acid
Citric acid
Cresylic acid
Folic acid
Formic acid 20%

RATING

Ex
F
P
F
G
Ex
G
Ex
Ex

RATING

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

Ex
G*
Ex
F*
Ex
Ex
Ex
Ex

ALCOHOLS

Butanol
Cellosolve
Ethanol
Ethylene glycol
Glycerol
Hexanol

RATING

Ex
Ex
Ex
Ex
Ex
Ex

RATING

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

Ex
G
Ex
Ex
Ex

* Post curing essential

Q508 - 1 (Issue 8)

All descriptions are based on the results of long term tests carried out in our laboratories and are believed to be true and accurate. No condition or warranty is given covering the results from the use of our products in any particular case, whether the purpose is disclosed or not and we cannot accept liability if the desired results are not obtained.

Copyright © 2001 by Belzona International Limited. All rights reserved. Certain portions of this work copyright © 1985, 1989, 1994, 1995, 1997, 1998 by Belzona International Limited. No part of this work covered by the copyrights hereon may be reproduced or used in any form or by any means - graphic, electronic or mechanical including photocopying, recording, taping or information storage and retrieval systems - without written permission of the publisher.



ALKALIS

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

RATING

Ex
 Ex
 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
 Diethylenetriamine
 Dimethylformamide

RATING

Ex
 G
 Ex
 F
 F
 P

Hydrazine
 Methylamine 40% aqueous
 Methylamine gas
 Pyridine
 Triethanolamine
 Triethylenetetramine

RATING

Ex*
 Ex*
 Ex
 F*
 Ex*
 G*

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
 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
 Ex
 Ex
 Ex

ESTERS & ETHERS

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

RATING

Ex
 Ex
 Ex
 Ex
 Ex
 Ex
 Ex

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

RATING

Ex
 Ex
 Ex
 Ex
 Ex
 Ex
 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
 G
 Ex
 Ex

*** Post curing essential**

<u>HALOCARBONS</u>	<u>RATING</u>		<u>RATING</u>
Carbon tetrachloride	Ex	Perchloroethylene	Ex
Chlorobenzene	Ex	1, 1, 1, - Trichloroethane	Ex
Chloroform	F*	Trichlorotrifluoroethane	Ex
Ethylene dichloride	Ex*		
Methylene chloride	F*		
<u>HYDROCARBONS</u>	<u>RATING</u>		<u>RATING</u>
Benzene	Ex	Naphtha	Ex
Cyclohexane	Ex	Paraffin	Ex
Ethane	Ex	Petroleum naphtha	Ex
Gasoline	Ex	Stoddard solvent	Ex
Heptane	Ex	Styrene	Ex
Hexane	Ex	Toluene	Ex
Iso-octane	Ex	Turpentine	Ex
Kerosene	Ex	White spirit	Ex
Mineral spirits	Ex	Xylene	Ex
<u>KETONES</u>	<u>RATING</u>		<u>RATING</u>
Acetone	F	Methyl amyl ketone	Ex
Formaldehyde 37%	Ex	Methyl ethyl ketone	F
<u>MISCELLANEOUS</u>	<u>RATING</u>		<u>RATING</u>
Bleach	G	Napthalene	Ex
Brake Fluid	Ex	Pyrrole	F
Bromine water (saturated)	Ex	Resins & rosins (natural)	Ex
Carbon disulfide	G	Roof pitch	Ex
Chlorine water (saturated)	Ex	Rubber latex emulsions	Ex
Dimethylsulfoxide	NT	Sewage	Ex
Emulsion paint	Ex	Skydrol	Ex
Ethylethoxypropionate	Ex	Starch	Ex
Fertilizer solutions	Ex	Tar	Ex
Grease	Ex	Tetraethyllead	Ex
Hydrogen peroxide 35%	Ex	Tetrahydrofuran	G*
Ink (water based)	Ex	Urea	Ex
Isothiazolinone	Ex	Water, fresh	Ex
Mesitylene	Ex	Water, sea	Ex
N-Methyl pyrrolidone	F	Water, distilled	Ex
<u>OILS - MINERAL</u>	<u>RATING</u>		<u>RATING</u>
Castor oil	Ex	Oil, petroleum	Ex
Coconut oil	Ex	Oil/water mixtures	Ex
Cod liver oil	Ex	Silicone oil	Ex
Corn oil	Ex	Soybean oil	Ex
Diesel oil	Ex	Transfer oil	Ex
Hydraulic oil	Ex	Tung oil	Ex
Lubricating oil	Ex		

*** Post curing essential**

<u>SALTS</u>	<u>RATING</u>		<u>RATING</u>
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	F
Bromine chloride	Ex	Silver nitrate	Ex
Calcium cabonate	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
Ferrice nitrate	Ex	Sodium fluoride	Ex
Ferric sulfate	Ex	Sodium fluorosilicate	Ex
Ferrous chloride	Ex	Sodium hypochlorite 15%	G
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.

Post Curing** - ***Allow Belzona® 4301 to solidify for 12 hours at 68°F (20°C) then force cure at 180°F (80°C) for 4 hours.

BELZONA® PRODUCT DATA Q508

Belzona Polymerics Ltd., Harrogate, HG1 4AY, England. Tel: +44 (0) 1423 567641. Fax: +44 (0) 1423 505967.
Belzona Inc., Miami, Florida 33172, U.S.A. Tel: +1 (305) 594 4994. Fax: +1 (305) 599 1140.

