

CHEMICAL RESISTANCE OF BELZONA® 1981, 1982 & 1983

FN10168, FN10169 & FN10170



| | Chemical name | Chemical formula (CAS number) | Concentration | 20 °C 68 °F | | | 90°C 194°F |
|------------------------------------|---|---|---------------|-----------------|-----------------|-----------------|-----------------|
| | | | | Belzona 1981 | Belzona 1982 | Belzona 1983 | Belzona 1983 |
| Inorganic Acids | Hydrochloric acid | HCl (7647-01-0) | 37% | Ex | G* | Ex* | M* |
| | | | 20% | Ex | Ex | Ex* | M* |
| | | | 10% | Ex | Ex | Ex* | G* |
| | Nitric acid | HNO ₃ (7697-37-2) | 50% | P | P* | M* | P* |
| | | | 20% | M | G* | Ex* | P* |
| | | | 10% | Ex | Ex | Ex* | P* |
| | Phosphoric acid (orthophosphoric acid) | H ₃ PO ₄ (7664-38-2) | 30% | Ex | G* | Ex* | P* |
| | | | 20% | Ex | Ex* | Ex* | P* |
| | | | 10% | Ex | Ex* | M* | M* |
| | | | 5% | Ex | Ex* | Ex* | M* |
| | | | 2% | Ex | M | Ex* | M* |
| | Sulphuric acid | H ₂ SO ₄ (7664-93-9) | 90% | G | G* | Ex* | P* |
| | | | 70% | Ex | Ex | Ex* | P* |
| | | | 40% | Ex | Ex | Ex* | M* |
| | | | 20% | Ex | Ex | Ex* | G* |
| 10% | | | Ex | Ex | Ex* | P* | |
| Organic Acids | Acetic acid (ethanoic acid) | CH ₃ COOH (64-19-7) | 50% | P | P* | M* | P* |
| | | | 10% | P | M* | G* | P* |
| | | | 5% | G | M | Ex* | M* |
| | | | 2% | G | M | Ex* | G* |
| | | | 1% | G | G | Ex* | G |
| | | | 0.1% | Ex | Ex | Ex* | G |
| Alcohols, Aldehydes and Ketones | Acetone (propanone) | (CH ₃) ₂ CO (67-64-1) | - | G | Ex | Ex* | - |
| | n-Butanol (butyl alcohol) | C ₄ H ₉ OH (71-36-3) | - | Ex | Ex | Ex* | Ex* |
| | Ethanol (ethyl alcohol) | CH ₃ CH ₂ OH (64-17-5) | - | Ex | Ex | Ex* | - |

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| Excellent | Ex | no significant deterioration / barrier properties retained for greater than 52 weeks <i>suitable for all applications including long term immersion</i> |
| Good | G | no significant deterioration / barrier properties retained for 12 - 52 weeks <i>suitable for short-term immersion and general chemical contact</i> |
| Moderate | M | no significant deterioration / barrier properties retained for 1 - 12 weeks <i>suitable for applications involving short term chemical contact e.g. spillage, splashing or secondary containment</i> |
| Poor | P | significant deterioration / loss of barrier properties after 1 week or less <i>not suitable for any application</i> |
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| | | | | Belzona 1981 | Belzona 1982 | Belzona 1983 | Belzona 1983 |
| Alcohols, Aldehydes and Ketones continued | Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG) | (CH ₂ OH) ₂ (107-21-1) | - | Ex | Ex | Ex* | Ex* |
| | Glycerol (glycerine, propane-1,2,3-triol) | HOCH ₂ CH(OH)CH ₂ OH (56-81-5) | - | Ex | Ex | Ex* | Ex* |
| | n-Hexanol (hexyl alcohol) | C ₆ H ₁₃ OH (111-27-3) | - | Ex | Ex | Ex* | Ex* |
| | Isopropyl alcohol (IPA) (isopropanol, propan-2-ol) | CH ₃ CH(OH)CH ₃ (67-63-0) | - | Ex | Ex | Ex* | - |
| | Isobutyl alcohol (IBA) (isobutanol, 2-methylpropan-1-ol) | (CH ₃) ₂ CHCH ₂ OH (78-83-1) | - | Ex | Ex | Ex* | Ex* |
| | Methanol (methyl alcohol) | CH ₃ OH (67-56-1) | - | G | G | Ex* | - |
| | Methanol solution (aqueous) | CH ₃ OH _(aq) (67-56-1) | 55% | G | G | Ex* | Ex* |
| | Methyl ethyl ketone (MEK) (2-butanone, methyl acetone) | CH ₃ C(O)CH ₂ CH ₃ (78-93-3) | - | Ex | Ex | Ex* | - |
| | Propan-1-ol (Propyl alcohol) | CH ₃ CH ₂ CH ₂ OH (71-23-8) | - | Ex | Ex | Ex* | Ex* |
| | Propylene glycol (1,2-Propanediol) | CH ₃ CH(OH)CH ₂ OH (57-55-6) | - | Ex | Ex | Ex* | Ex* |
| | Triethylene glycol (triglycol) | HOCH ₂ CH ₂ OCH ₂ CH ₂ OCH ₂ CH ₂ OH (112-27-6) | - | Ex | Ex | Ex* | Ex* |
| | Tetraethylene glycol (tetraglycol) | HOCH ₂ CH ₂ OCH ₂ CH ₂ OCH ₂ CH ₂ OCH ₂ CH ₂ OH (112-60-7) | - | Ex | Ex | Ex* | Ex* |
| Alkalis / Bases | Barium hydroxide | Ba(OH) ₂ (17194-00-2) | - | Ex | Ex | Ex* | Ex* |
| | Calcium hydroxide (lime water) | Ca(OH) ₂ (1305-62-0) | - | Ex | Ex | Ex* | Ex* |

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| | | | | Belzona 1981 | Belzona 1982 | Belzona 1983 | Belzona 1983 |
| Alkalis / Bases continued | Magnesium hydroxide (milk of magnesia) | Mg(OH) ₂ (1309-42-8) | - | Ex | Ex | Ex* | Ex* |
| | Potassium hydroxide (caustic potash) | KOH (1310-58-3) | 40% | Ex | Ex | Ex* | Ex* |
| | Sodium hydroxide (caustic soda) | NaOH (1310-73-2) | 50% | Ex | Ex | Ex* | Ex* |
| | | | 40% | Ex | Ex | Ex* | Ex* |
| 20% | | | Ex | Ex | Ex* | Ex* | |
| | | | 10% | Ex | Ex | Ex* | Ex* |
| Amines & Amides | Diethanolamine (DEA) (2,2'-iminodiethanol) | HN(CH ₂ CH ₂ OH) ₂ (111-42-2) | - | Ex | Ex | Ex* | Ex* |
| | Diethylamine (1-ethylaminoethane) | CH ₃ CH ₂ NHCH ₂ CH ₃ (109-89-7) | | P | M* | M* | P* |
| | Diethylene glycolamine (DGA) (2-(2-aminoethoxy) ethanol) | H ₂ NCH ₂ CH ₂ OCH ₂ CH ₂ OH (929-06-6) | - | Ex | Ex | Ex* | M* |
| | N-Methyl diethanolamine (MDEA) | CH ₃ N(CH ₂ CH ₂ OH) ₂ (105-59-9) | - | Ex | Ex | Ex* | Ex* |
| | N-Methylethanolamine (2-methylaminoethanol) | CH ₃ NHCH ₂ CH ₂ OH (109-83-1) | - | Ex | Ex | Ex* | Ex* |
| | Monoethanolamine (MEA) (2-aminoethanol) | H ₂ NCH ₂ CH ₂ OH (141-43-5) | - | Ex | Ex | Ex* | M* |
| | Sulfinol solution (50% diisopropanolamine, 25% tetramethylene sulphone, 25% water) | N/A | - | Ex | Ex | Ex* | Ex* |
| | Triethanolamine (TEA) (2,2',2''-nitrilotriethanol) | N(CH ₂ CH ₂ OH) ₃ (102-71-6) | - | Ex | Ex | Ex* | Ex* |
| Esters and Ethers | Butyl acetate (butyl ethanoate) | CH ₃ C(O)OCH ₂ CH ₂ CH ₂ CH ₃ (123-86-4) | - | Ex | Ex | Ex* | Ex* |
| | Diethyl ether (ether, ethoxyethane) | CH ₃ CH ₂ OCH ₂ CH ₃ (60-29-7) | - | Ex | Ex | Ex* | - |
| | Ethyl acetate (ethyl ethanoate, acetic ester) | CH ₃ C(O)OCH ₂ CH ₃ (141-78-6) | - | Ex | Ex | Ex* | - |

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| Gases | Butane | CH ₃ CH ₂ CH ₂ CH ₃ (106-97-8) | - | Ex | Ex | Ex* | - |
| | Carbon dioxide | CO ₂ (124-38-9) | - | Ex | Ex | Ex* | Ex* |
| | Ethane | C ₂ H ₆ (74-84-0) | - | Ex | Ex | Ex* | - |
| | Hydrogen sulphide | H ₂ S (7783-06-4) | - | Ex | Ex | Ex* | Ex* |
| | Methane (natural gas) | CH ₄ (74-82-8) | - | Ex | Ex | Ex* | - |
| | Nitrogen | N ₂ (7727-37-9) | - | Ex | Ex | Ex* | Ex* |
| Halocarbons | Chlorobenzene (benzene chloride, phenyl chloride) | C ₆ H ₅ Cl (108-90-7) | - | Ex | Ex | Ex* | P* |
| | Dichloromethane (DCM) (methylene chloride) | CH ₂ Cl ₂ (75-09-2) | - | P | M* | P* | - |
| Hydrocarbons | Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR) | N/A | - | Ex | Ex | Ex* | Ex* |
| | Benzene (benzol) | C ₆ H ₆ (71-43-2) | - | Ex | Ex | Ex* | - |
| | Crude Oil | N/A | - | Ex | Ex | Ex* | Ex* |
| | Cyclohexane | C ₆ H ₁₂ (110-82-7) | - | Ex | Ex | Ex* | - |
| | Gasoline (without Ethanol) (petrol) | N/A (8032-32-4) | - | Ex | Ex | Ex* | Ex* |
| | Heptane | CH ₃ CH ₂ CH ₂ CH ₂ CH ₂ CH ₂ CH ₃ (142-82-7) | - | Ex | Ex | Ex* | Ex* |

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| Hydrocarbons continued | Hexane | CH ₃ CH ₂ CH ₂ CH ₂ CH ₂ CH ₃ (110-54-3) | - | Ex | Ex | Ex* | - |
| | Iso-octane (2,2,4-trimethylpentane) | (CH ₃) ₃ CCH ₂ CH(CH ₃) ₂ (540-84-1) | - | Ex | Ex | Ex* | Ex* |
| | Kerosene | N/A (8008-20-6) | - | Ex | Ex | Ex* | Ex* |
| | Mesitylene (1,3,5-Trimethylbenzene) | C ₆ H ₃ (CH ₃) ₃ (108-67-8) | - | Ex | Ex | Ex* | Ex* |
| | Mineral spirits / White spirits (Stoddard solvent) | N/A (8052-41-3) | - | Ex | Ex | Ex* | Ex* |
| | Naphtha | N/A (8030-30-6) | - | Ex | Ex | Ex* | Ex* |
| | Naphthalene (naphthalin, white tar) | C ₁₀ H ₈ (91-20-3) | - | Ex | Ex | Ex* | Ex* |
| | Paraffin | N/A (8002-74-2) | - | Ex | Ex | Ex* | Ex* |
| | Pentane | CH ₃ CH ₂ CH ₂ CH ₂ CH ₃ (109-66-0) | - | Ex | Ex | Ex* | - |
| | Toluene (methylbenzene, phenylmethane, toluol) | C ₆ H ₅ CH ₃ (108-88-3) | - | Ex | Ex | Ex* | Ex* |
| | Xylene (dimethyl benzene, xylol) | C ₆ H ₄ (CH ₃) ₂ (95-47-6/108-38-3/106-42-3/1330-20-7) | - | Ex | Ex | Ex* | Ex* |

Note: Provisional data only - test work on-going. Results to be confirmed at completion of 12 months testing.

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The technical data contained herein is based on the results of long term tests carried out in our laboratories and to the best of our knowledge is true and accurate on the date of publication. It is however, subject to change without prior notice and the user should contact Belzona to verify the technical data is correct before specifying or ordering. No guarantee of accuracy is given or implied. We assume no responsibility for rates of coverage, performance or injury resulting from use. Liability, if any, is limited to the replacement of products. No other warranty or guarantee of any kind is made by Belzona, express or implied, whether statutory, by operation of law or otherwise, including merchantability or fitness for a particular purpose. Nothing in the foregoing statement shall exclude or limit any liability of Belzona to the extent such liability cannot by law be excluded or limited.