

# CHEMICAL RESISTANCE OF BELZONA® 1161

FN 10185

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	40 °C 104 °F
Inorganic Acids	Hydrochloric acid	HCl (7647-01-0)	10%	<b>G</b>	<b>M</b>
			5%	<b>G</b>	<b>M</b>
			1%	<b>Ex</b>	<b>Ex</b>
	Nitric acid	HNO <sub>3</sub> (7697-37-2)	10%	<b>G</b>	<b>M</b>
			5%	<b>Ex</b>	<b>M</b>
	Phosphoric acid (orthophosphoric acid)	H <sub>3</sub> PO <sub>4</sub> (7664-38-2)	10%	<b>M</b>	<b>M</b>
			5%	<b>M</b>	<b>M</b>
	Sulfuric acid	H <sub>2</sub> SO <sub>4</sub> (7664-93-9)	10%	<b>M</b>	<b>M</b>
			5%	<b>G</b>	<b>M</b>
			1%	<b>Ex</b>	<b>G</b>
Organic Acids	Acetic acid (ethanoic acid)	CH <sub>3</sub> COOH (64-19-7)	5%	<b>P</b>	<b>P</b>
			1%	<b>Ex</b>	<b>Ex</b>
	Formic acid (methanoic acid)	HCOOH (64-18-6)	-	<b>P</b>	<b>P</b>
Alcohols, Aldehydes and Ketones	Phenol (hydroxybenzene)	C <sub>6</sub> H <sub>5</sub> OH 108-95-2	-	<b>P</b>	<b>P</b>
	Acetone	(CH <sub>3</sub> ) <sub>2</sub> CO (67-64-1)	-	<b>P</b>	<b>P</b>
	Amyl alcohol (1-Pentanol)	C <sub>5</sub> H <sub>11</sub> OH (71-41-0)	-	<b>M</b>	<b>M</b>
	n-Butanol (butyl alcohol)	C <sub>4</sub> H <sub>9</sub> OH (71-36-3)	-	<b>M</b>	<b>M</b>
	Ethanol (ethyl alcohol)	CH <sub>3</sub> CH <sub>2</sub> OH (64-17-5)	-	<b>M</b>	<b>P</b>
	Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG)	(CH <sub>2</sub> OH) <sub>2</sub> (107-21-1)	-	<b>Ex</b>	<b>Ex</b>
	Glycerol (glycerine, propane-1,2,3-triol)	HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH (56-81-5)	-	<b>Ex</b>	<b>Ex</b>
	Isopropyl alcohol (IPA) (isopropanol, propan-2-ol)	CH <sub>3</sub> CH(OH)CH <sub>3</sub> (67-63-0)	-	<b>M</b>	<b>M</b>
	Methanol (methyl alcohol)	CH <sub>3</sub> OH (67-56-1)	-	<b>P</b>	<b>P</b>
	Methyl ethyl ketone (MEK, butanone)	CH <sub>3</sub> C(O)CH <sub>2</sub> CH <sub>3</sub> (78-93-3)	-	<b>P</b>	<b>P</b>
	Propan-1-ol (Propyl alcohol)	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH (71-23-8)	-	<b>M</b>	<b>M</b>

<b>Excellent</b>	<b>Ex</b>	no significant deterioration / barrier properties retained for greater than 52 weeks <i>suitable for all applications including long term immersion</i>
<b>Good</b>	<b>G</b>	no significant deterioration / barrier properties retained for 12 - 52 weeks <i>suitable for short-term immersion and general chemical contact</i>
<b>Moderate</b>	<b>M</b>	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>
<b>Poor</b>	<b>P</b>	significant deterioration / loss of barrier properties after 1 week or less <i>not suitable for any application</i>
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Alkalis/Bases	Ammonia	NH <sub>3</sub> (7664-41-7)	25%	Ex	Ex
	Barium hydroxide	Ba(OH) <sub>2</sub> (17194-00-2)	-	Ex	Ex
	Calcium hydroxide (lime water)	Ca(OH) <sub>2</sub> (1305-62-0)	-	Ex	Ex
	Magnesium hydroxide (milk of magnesia)	Mg(OH) <sub>2</sub> (1309-42-8)	-	Ex	Ex
	Potassium hydroxide (caustic potash)	KOH (1310-58-3)	40% 20%	Ex Ex	Ex Ex
	Sodium hydroxide (caustic soda)	NaOH (1310-73-2)	50% 40% 20% 10%	Ex Ex Ex Ex	Ex Ex Ex Ex
Amines and Amides	Diethanolamine (DEA) (2,2'-iminodiethanol)	HN(CH <sub>2</sub> CH <sub>2</sub> OH) <sub>2</sub> (111-42-2)	-	G	G
	Diethylene glycolamine (DGA) (2-(2-aminoethoxy) ethanol)	H <sub>2</sub> NCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH (929-06-6)	-	P	P
	N-Methyl diethanolamine (MDEA)	CH <sub>3</sub> N(CH <sub>2</sub> CH <sub>2</sub> OH) <sub>2</sub> 105-59-9	-	G	G
	Monoethanolamine (MEA) (2-aminoethanol)	H <sub>2</sub> NCH <sub>2</sub> CH <sub>2</sub> OH (141-43-5)	-	M	P
	Sulfanol solution (50% diisopropanolamine, 25% tetramethylene sulfone, 25% water)	N/A	-	G	G
Gases	Carbon dioxide (dry)	CO <sub>2</sub> (124-38-9)	-	Ex	Ex
	Carbon monoxide	CO (630-08-0)	-	Ex	Ex
	Hydrogen	H <sub>2</sub> (1333-74-0)	-	Ex	Ex
	Nitrogen	N <sub>2</sub> (7727-37-9)	-	Ex	Ex
Halocarbons	Carbon tetrachloride	CCl <sub>4</sub> (56-23-5)	-	P	P
	Chlorobenzene (benzene chloride, phenyl chloride)	C <sub>6</sub> H <sub>5</sub> Cl (108-90-7)	-	P	P
	Chloroform (trichloromethane)	HCCL <sub>3</sub> (67-66-3)	-	P	P
	Dichloromethane (DCM) (methylene chloride)	CH <sub>2</sub> Cl <sub>2</sub> (75-09-2)	-	P	P

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Hydrocarbons	Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR)	N/A	-	Ex	Ex
	Crude oil	N/A	-	G	G
	Gasoline (ethanol-free petrol)	N/A (8032-32-4)	-	Ex	Ex
	Heptane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> (142-82-7)	-	Ex	Ex
	Hexane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> (110-54-3)	-	Ex	Ex
	Kerosene	N/A (8008-20-6)	-	Ex	Ex
	Mineral Spirits / White Spirits (Turpentine, Stoddards Solvent)	N/A (8052-41-3)	-	Ex	Ex
	Paraffin wax	N/A (8002-74-2)	-	Ex	Ex
	Petrolatum (Petroleum jelly)	N/A (8009-03-8)	-	Ex	Ex
	Toluene (methylbenzene, phenylmethane, toluol)	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub> (108-88-3)	-	G	G
	Xylene (dimethyl benzene, xylol)	C <sub>6</sub> H <sub>4</sub> (CH <sub>3</sub> ) <sub>2</sub> (95-47-6/108-38-3/106-42-3/1330-20-7)	-	G	G
Miscellaneous	Brake fluid	N/A	-	Ex	Ex
	Emulsion paint	N/A	-	Ex	Ex
	Fertilizer solutions	N/A	-	Ex	Ex
	Grease	N/A	-	Ex	Ex
	Ink (water based)	N/A	-	Ex	Ex
	Mercury	Hg (7439-97-6)	-	Ex	Ex
	Silicone oil	N/A	-	Ex	Ex
	Starch	N/A	-	Ex	Ex
	Water <i>Deionised, Fresh, Mineral, Sea</i>	H <sub>2</sub> O (7732-18-5)	-	Ex	Ex
	Water/Oil Mixtures	N/A	-	Ex	Ex
	Wax emulsions	N/A	-	Ex	Ex

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Oils - Mineral	Bunker oil	N/A	-	Ex	Ex
	Diesel oil	N/A	-	Ex	Ex
	Fuel oil	N/A	-	Ex	Ex
	Hydraulic oil	N/A	-	Ex	Ex
	Lube oil	N/A	-	Ex	Ex
	Petroleum oil	N/A	-	Ex	Ex
	Transformer oil	N/A	-	Ex	Ex
Oils – Vegetable/Animal	Castor oil	N/A	-	Ex	Ex
	Coconut oil	N/A	-	Ex	Ex
	Cod liver oil	N/A	-	Ex	Ex
	Corn oil	N/A	-	Ex	Ex
	Cottonseed oil	N/A	-	Ex	Ex
	Lard oil	N/A	-	Ex	Ex
	Linseed oil	N/A	-	Ex	Ex
	Olive oil	N/A	-	Ex	Ex
	Palm oil	N/A	-	Ex	Ex
	Pine oil	N/A	-	Ex	Ex
	Soybean oil	N/A	-	Ex	Ex
	Tall oil	N/A	-	Ex	Ex
	Tung oil	N/A	-	Ex	Ex

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Salts	Aluminium chloride	AlCl <sub>3</sub> (7446-70-0)	-	Ex	Ex
	Aluminium sulfate	Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (10043-01-3)	-	Ex	Ex
	Ammonium bicarbonate	(NH <sub>4</sub> )HCO <sub>3</sub> (1066-33-7)	-	Ex	Ex
	Ammonium carbonate	(NH <sub>4</sub> ) <sub>2</sub> CO <sub>3</sub> (506-87-6)	-	Ex	Ex
	Ammonium chloride	NH <sub>4</sub> Cl (12125-02-9)	-	Ex	Ex
	Ammonium phosphate	(NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub> (10361-65-6)	-	Ex	Ex
	Ammonium nitrate	NH <sub>4</sub> NO <sub>3</sub> (6484-52-2)	-	Ex	Ex
	Ammonium sulfate	(NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> (7783-20-2)	-	G	G
	Barium carbonate	BaCO <sub>3</sub> (513-77-9)	-	Ex	Ex
	Barium chloride	BaCl <sub>2</sub> (10361-37-2)	-	Ex	Ex
	Barium sulfate	BaSO <sub>4</sub> (7727-43-7)	-	Ex	Ex
	Calcium carbonate	CaCO <sub>3</sub> (471-34-1)	-	Ex	Ex
	Calcium chloride	CaCl <sub>2</sub> (10043-52-4)	-	Ex	Ex
	Calcium hypochlorite	Ca(ClO) <sub>2</sub> (7778-54-3)	10%	G	G
	Calcium sulfate	CaSO <sub>4</sub> (7778-18-9)	-	Ex	Ex
	Copper acetate	Cu(CH <sub>3</sub> COO) <sub>2</sub> (142-71-2)	-	Ex	Ex
	Copper chloride	CuCl <sub>2</sub> (7447-39-4)	-	Ex	Ex
	Copper nitrate	Cu(NO <sub>3</sub> ) <sub>2</sub> (3251-23-8)	-	Ex	Ex
	Copper sulfate	CuSO <sub>4</sub> (7758-98-7)	-	Ex	Ex
	Ferric chloride	FeCl <sub>3</sub> (7705-08-0)	-	Ex	Ex
	Ferrous chloride	FeCl <sub>2</sub> (7758-94-3)	-	G	G

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Salts	Ferric sulfate	Fe <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> (10028-22-5)	-	Ex	Ex
	Ferrous sulfate	FeSO <sub>4</sub> (7720-78-7)	-	G	G
	Lead acetate	Pb(CH <sub>3</sub> COO) <sub>2</sub> (301-04-2)	-	Ex	Ex
	Magnesium chloride	MgCl <sub>2</sub> (7786-30-3)	-	Ex	Ex
	Magnesium sulfate (Epsom salt)	MgSO <sub>4</sub> (7487-88-9)	-	Ex	Ex
	Nickel chloride	NiCl <sub>2</sub> (7718-54-9)	-	Ex	Ex
	Potassium bromide	KBr (7758-02-3)	-	Ex	Ex
	Potassium chlorate	KClO <sub>3</sub> (3811-04-9)	-	Ex	Ex
	Potassium chloride	KCl (7447-40-7)	-	Ex	Ex
	Potassium cyanide	KCN (151-50-8)	-	Ex	Ex
	Potassium ferrocyanide	K <sub>4</sub> [Fe(CN) <sub>6</sub> ] (13943-58-3)	-	Ex	Ex
	Potassium iodide	KI (7681-11-0)	-	Ex	Ex
	Potassium nitrate	KNO <sub>3</sub> (7757-79-1)	-	Ex	Ex
	Potassium permanganate	KMnO <sub>4</sub> (7722-64-7)	-	Ex	Ex
	Potassium sulfate	K <sub>2</sub> SO <sub>4</sub> (7778-80-5)	-	Ex	Ex
	Silver nitrate	AgNO <sub>3</sub> (7761-88-8)	-	Ex	Ex
	Sodium acetate	CH <sub>3</sub> COONa (127-09-3)	-	Ex	Ex
	Sodium borate (borax)	Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> (1303-96-4)	-	Ex	Ex
	Sodium bromide	NaBr (7647-15-6)	-	Ex	Ex
	Sodium chlorate	NaClO <sub>3</sub> (7775-09-9)	-	Ex	Ex
	Sodium chloride	NaCl (7647-14-5)	-	Ex	Ex
	Sodium chromate	Na <sub>2</sub> CrO <sub>4</sub> (7775-11-3)	-	Ex	Ex

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Salts	Sodium cyanide	NaCN (143-33-9)	-	Ex	Ex
	Sodium fluoride	NaF (7681-49-4)	-	Ex	Ex
	Sodium hypochlorite (bleach)	NaClO (7681-52-9)	10%	G	G
	Sodium nitrate	NaNO <sub>3</sub> (7631-99-4)	-	Ex	Ex
	Sodium phosphate (dibasic)	Na <sub>2</sub> HPO <sub>4</sub> (7558-79-4)	-	Ex	Ex
	Sodium phosphate (tribasic)	Na <sub>3</sub> PO <sub>4</sub> (7601-54-9)	-	Ex	Ex
	Sodium silicate	Na <sub>2</sub> SiO <sub>3</sub> (6834-92-0)	-	Ex	Ex
	Sodium sulfate	Na <sub>2</sub> SO <sub>4</sub> (7757-82-6)	-	Ex	Ex
	Sodium sulfide	Na <sub>2</sub> S (1313-82-2)	-	Ex	Ex
	Stannous chloride (tin chloride)	SnCl <sub>2</sub> (7772-99-8)	-	Ex	Ex
	Zinc chloride	ZnCl <sub>2</sub> (7646-85-7)	-	Ex	Ex
	Zinc sulfate	ZnSO <sub>4</sub> (7733-02-0)	-	Ex	Ex

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