

CHEMICAL RESISTANCE OF BELZONA® 2211

(FN 10143)

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	Other
Inorganic Acids	Fluorosilicic acid (Dihydrogen hexafluorosilicate)	H ₂ SiF ₆ (16961-83-4)	-	P	-
	Hydrochloric acid	HCl (7647-01-0)	20%	P	-
			10%	Ex	-
	Nitric acid	HNO ₃ (7697-37-2)	20% 10%	P M	- -
Organic Acids	Sulfuric acid	H ₂ SO ₄ (7664-93-9)	30%	G	-
			20%	Ex	-
			10%	Ex	-
	Acetic acid (ethanoic acid)	CH ₃ COOH (64-19-7)	10%	M	-
Alcohols, Aldehydes and Ketones	Phenol (hydroxybenzene)	C ₆ H ₅ OH (108-95-2)	-	P	-
	Stearic acid	CH ₃ (CH ₂) ₁₆ CO ₂ H (57-11-4)	-	Ex	-
	Tartaric acid	C ₄ H ₆ O ₆ (526-83-0)	-	Ex	-
	Acetone	(CH ₃) ₂ CO (67-64-1)	-	P	-
Amines and Amides	Amyl alcohol (1-Pentanol)	C ₅ H ₁₁ OH (71-41-0)	-	P	-
	n-Butanol (butyl alcohol)	C ₄ H ₉ OH (71-36-3)	-	P	-
	Ethanol (ethyl alcohol)	CH ₃ CH ₂ OH (64-17-5)	-	P	-
	Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG)	(CH ₂ OH) ₂ (107-21-1)	-	M	-
	Glycerol (glycerine, propane-1,2,3-triol)	HOCH ₂ CH(OH)CH ₂ OH (56-81-5)	-	M	-
	Isopropyl alcohol (IPA) (isopropanol, propan-2-ol)	CH ₃ CH(OH)CH ₃ (67-63-0)	-	P	-
	Methanol (methyl alcohol)	CH ₃ OH (67-56-1)	-	P	-
	Methyl ethyl ketone (MEK, butanone)	CH ₃ C(O)CH ₂ CH ₃ (78-93-3)	-	P	-
	Propan-1-ol (Propyl alcohol)	CH ₃ CH ₂ CH ₂ OH (71-23-8)	-	P	-
	(Diethanolamine (DEA) 2,2'-iminodiethanol)	HN(CH ₂ CH ₂ OH) ₂ (111-42-2)	-	Ex	-
Amines and Amides	N-Methyl diethanolamine (MDEA)	CH ₃ N(CH ₂ CH ₂ OH) ₂ (105-59-9)	-	Ex	-
	Monoethanolamine (MEA) (2-aminoethanol)	H ₂ NCH ₂ CH ₂ OH (141-43-5)	-	Ex	-

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>
Ex		Bold text highlights real life data obtained via chemical resistance testing
Ex		Normal font indicates that the resistance has been predicted based upon partial test data and/or similar reagents
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Alkalies	Ammonia	NH ₃ (7664-41-7)	25%	G	-
	Barium hydroxide	Ba(OH) ₂ (17194-00-2)	-	Ex	
	Calcium hydroxide (lime water)	Ca(OH) ₂ (1305-62-0)	-	Ex	
	Magnesium hydroxide (milk of magnesia)	Mg(OH) ₂ (1309-42-8)	-	Ex	
	Potassium hydroxide (caustic potash)	KOH (1310-58-3)	20%	Ex	-
	Sodium hydroxide (caustic soda)	NaOH (1310-73-2)	50% 20%	Ex Ex	- -
Gases	Carbon dioxide (dry)	CO ₂ (124-38-9)	-	Ex	-
	Carbon monoxide	CO (630-08-0)	-	Ex	-
	Hydrogen	H ₂ (1333-74-0)	-	Ex	-
	Nitrogen	N ₂ (7727-37-9)	-	Ex	-
Hydrocarbons	Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR)	N/A	-	G	-
	Benzene (benzol)	C ₆ H ₆ (71-43-2)	-	P	-
	Crude oil	N/A	-	G	-
	Gasoline (petrol)	N/A (8032-32-4)	-	P	-
	Heptane	CH ₃ CH ₂ CH ₂ CH ₂ CH ₂ CH ₂ CH ₃ (142-82-5)	-	M	-
	Hexane	CH ₃ CH ₂ CH ₂ CH ₂ CH ₂ CH ₃ (110-54-3)	-	M	-
	Kerosene	N/A (8008-20-6)	-	G	-
	Mineral Spirits / White Spirits (Turpentine, Stoddards Solvent)	N/A (8052-41-3)	-	G	-
	Paraffin wax	N/A (8002-74-2)	-	G	-
	Petrolatum (Petroleum jelly)	N/A (8009-03-8)	-	G	-
	Toluene (methylbenzene, phenylmethane, toluol)	C ₆ H ₅ CH ₃ (108-88-3)	-	P	-
	Xylene (dimethyl benzene, xylol)	C ₆ H ₄ (CH ₃) ₂ (95-47-6/108-38-3/106-42-3/1330-20-7)	-	P	-

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Miscellaneous	Brake fluid	N/A		M	-
	Emulsion paint	N/A		Ex	-
	Fertilizer solutions	N/A		Ex	-
	Grease	N/A		Ex	-
	Ink (water based)	N/A		Ex	-
	Mercury	Hg (7439-97-6)		Ex	-
	Rubber latex emulsions	N/A		Ex	-
	Silicone oil	N/A		Ex	-
	Starch	N/A		Ex	-
	Water <i>Deionised, Fresh, Mineral, Sea</i>	H ₂ O (7732-18-5)	-	Ex	-
	Water/Oil Mixtures	N/A	-	Ex	-
	Wax emulsions	N/A	-	Ex	-
Oils - Mineral	Bunker oil	N/A	-	G	-
	Diesel oil	N/A	-	G	-
	Fuel oil	N/A	-	G	-
	Hydraulic oil	N/A	-	G	-
	Lube oil	N/A	-	G	-
	Petroleum oil	N/A	-	G	-
	Transformer oil	N/A	-	G	-

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Oils – Vegetable/Animal	Castor oil	N/A	-	G	-
	Coconut oil	N/A	-	G	-
	Cod liver oil	N/A	-	G	-
	Corn oil	N/A	-	G	-
	Cottonseed oil	N/A	-	G	-
	Lard oil	N/A	-	G	-
	Linseed oil	N/A	-	G	-
	Olive oil	N/A	-	G	-
	Palm oil	N/A	-	G	-
	Pine oil	N/A	-	G	-
	Soybean oil	N/A	-	G	-
	Tall oil	N/A	-	G	-
	Tung oil	N/A	-	G	-
Salts	Aluminium chloride	AlCl ₃ (7446-70-0)	-	Ex	-
	Aluminium sulphate	Al ₂ (SO ₄) ₃ (10043-01-3)	-	Ex	-
	Ammonium bicarbonate	(NH ₄)HCO ₃ (1066-33-7)	-	Ex	-
	Ammonium carbonate	(NH ₄) ₂ CO ₃ (506-87-6)	-	Ex	-
	Ammonium chloride	NH ₄ Cl (12125-02-9)	-	Ex	-
	Ammonium phosphate	(NH ₄) ₃ PO ₄ (10361-65-6)	-	Ex	-
	Ammonium nitrate	NH ₄ NO ₃ (6484-52-2)	-	Ex	-
	Ammonium sulfate	(NH ₄) ₂ SO ₄ (7783-20-2)	-	G	-

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Salts	Barium carbonate	BaCO ₃ (513-77-9)	-	Ex	-
	Barium chloride	BaCl ₂ (10361-37-2)	-	Ex	-
	Barium sulfate	BaSO ₄ (7727-43-7)	-	Ex	-
	Calcium carbonate	CaCO ₃ (471-34-1)	-	Ex	-
	Calcium chloride	CaCl ₂ (10043-52-4)	-	Ex	-
	Calcium hypochlorite	Ca(ClO) ₂ (7778-54-3)	10%	M	-
	Calcium sulphate	CaSO ₄ (7778-18-9)	-	Ex	-
	Copper acetate	Cu(CH ₃ COO) ₂ (142-71-2)	-	Ex	-
	Copper chloride	CuCl ₂ (7447-39-4)	-	Ex	-
	Copper nitrate	Cu(NO ₃) ₂ (3251-23-8)	-	Ex	-
	Copper sulphate	CuSO ₄ (7758-98-7)	-	Ex	-
	Ferric chloride	FeCl ₃ (7705-08-0)	-	M	-
	Ferrous chloride	FeCl ₂ (7758-94-3)	-	M	-
	Ferric sulphate	Fe ₂ (SO ₄) ₃ (10028-22-5)	-	M	-
	Ferrous sulfate	FeSO ₄ (7720-78-7)	-	M	-
	Lead acetate	Pb(CH ₃ COO) ₂ (301-04-2)	-	Ex	-
	Magnesium chloride	MgCl ₂ (7786-30-3)	-	Ex	-
	Magnesium sulphate (Epsom salt)	MgSO ₄ (7487-88-9)	-	Ex	-
	Nickel chloride	NiCl ₂ (7718-54-9)	-	Ex	-
	Potassium bromide	KBr (7758-02-3)	-	Ex	-
	Potassium chlorate	KClO ₃ (3811-04-9)	-	Ex	-

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	Potassium cyanide	KCN (151-50-8)	-	Ex	-
	Potassium ferrocyanide	K ₄ [Fe(CN) ₆] (13943-58-3)	-	Ex	-
	Potassium iodide	KI (7681-11-0)	-	Ex	-
	Potassium nitrate	KNO ₃ (7757-79-1)	-	Ex	-
	Potassium permanganate	KMnO ₄ (7722-64-7)	-	Ex	-
	Potassium sulfate	K ₂ SO ₄ (7778-80-5)	-	Ex	-
	Silver nitrate	AgNO ₃ (7761-88-8)	-	Ex	-
	Sodium acetate	CH ₃ COONa (127-09-3)	-	Ex	-
	Sodium borate (borax)	Na ₂ B ₄ O ₇ (1303-96-4)	-	Ex	-
	Sodium bromide	NaBr (7647-15-6)	-	Ex	-
	Sodium chlorate	NaClO ₃ (7775-09-9)	-	Ex	-
	Sodium chloride	NaCl (7647-14-5)	-	Ex	-
	Sodium chromate	Na ₂ CrO ₄ (7775-11-3)	-	Ex	-
	Sodium cyanide	NaCN (143-33-9)	-	Ex	-
	Sodium fluoride	NaF (7681-49-4)	-	Ex	-
	Sodium hypochlorite (bleach)	NaClO (7681-52-9)	12%	M	-
	Sodium nitrate	NaNO ₃ (7631-99-4)	-	Ex	-
	Sodium phosphate (dibasic)	Na ₂ HPO ₄ (7558-79-4)	-	Ex	-
	Sodium phosphate (tribasic)	Na ₃ PO ₄ (7601-54-9)	-	Ex	-
	Sodium silicate	Na ₂ SiO ₃ (6834-92-0)	-	Ex	-

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Salts	Sodium sulphate	Na ₂ SO ₄ (7757-82-6)	-	Ex	-
	Sodium sulphide	Na ₂ S (1313-82-2)	-	Ex	-
	Stannous chloride (tin chloride)	SnCl ₂ (7772-99-8)	-	Ex	-
	Zinc chloride	ZnCl ₂ (7646-85-7)	-	Ex	-
	Zinc sulfate	ZnSO ₄ (7733-02-0)	-	Ex	-

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