

CHEMICAL RESISTANCE OF BELZONA® 1211 (E-Metal)

FN 10019



	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	Other
Inorganic Acids	Carbonic acid	H ₂ CO ₃ (463-79-6)	-	Ex	-
	Fluorosilicic acid	H ₂ SiF ₆ (16961-83-4)	-	P	-
	Hydrobromic acid	HBr (10035-10-6)	10%	M	-
	Hydrochloric acid	HCl (647-01-0)	35%	P	-
			20%	M	-
			10%	M	-
	Nitric acid	HNO ₃ (7697-37-2)	50%	P	-
			20%	M	-
			10%	M	-
Nitrous acid	HNO ₂ (7782-77-6)	20%	G	-	
Oleum		-	P	-	
Phosphoric acid (orthophosphoric acid)	H ₃ PO ₄ (7664-38-2)	20%	M	-	
		10%	M	-	
		5%	G	-	
Sulfuric acid	H ₂ SO ₄ (7664-93-9)	98%	P	-	
		50%	P	-	
		20%	M	-	
		10%	M	-	
Organic Acids	Acetic acid (ethanoic acid)	CH ₃ COOH (64-19-7)	50%	P	-
			20%	M	-
			10%	M	-
	Chloroacetic acid	ClCH ₂ COOH (79-11-8)	-	P	-
	Chlorosulfonic acid (sulfurochloridic acid)	HSO ₃ Cl (7790-94-5)	-	P	-
	Citric acid	C ₆ H ₈ O ₇ (77-92-9)	-	M	-
	Cresylic acid (cresol)	C ₇ H ₈ O (1319-77-3)	-	P	-
	Formic acid (methanoic acid)	HCOOH (64-18-6)	20%	P	-
10%			P	-	
Lactic acid (2-hydroxypropanoic acid)	CH ₃ CH(OH)(COOH) (50-21-5/79-33-4/10326-41-7)	10%	P	-	
Phenol	C ₆ H ₅ OH (108-95-2)	80%	P	-	
Alcohols	n-Butanol (butyl alcohol)	C ₄ H ₉ OH (71-36-3)	-	G	-
	Ethanol (ethyl alcohol)	CH ₃ CH ₂ OH (64-17-5)	-	M	-
	Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG)	(CH ₂ OH) ₂ (107-21-1)	-	G	-
	Glycerol (glycerine, propane-1,2,3-triol)	HOCH ₂ CH(OH)CH ₂ OH (56-81-5)	-	G	-
	Higher alcohols	C _n H _(2n+1) OH where n > 2	-	G	-
	Methanol (methyl alcohol)	CH ₃ OH (67-56-1)	-	M	-

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Alcohols continued	2-Methoxyethanol	C ₃ H ₈ O ₂ (109-86-4)	-	-	-
	Propan-1-ol (Propyl alcohol)	CH ₃ CH ₂ CH ₂ OH (71-23-8)	-	G	-
	Propylene glycol (1,2-Propanediol)	CH ₃ CH(OH)CH ₂ OH (57-55-6)	-	G	-
	Secondary alcohols	R ₁ R ₂ CHOH	-	G	-
	Tertiary alcohols	R ₁ R ₂ R ₃ COH	-	G	-
Alkalis	Ammonia	NH ₃ (7664-41-7)	40% 20% 10%	M M 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)	40% 20% 10%	M G G	- - -
	Sodium hydroxide (caustic soda)	NaOH (1310-73-2)	40% 20% 10%	M G G	- - -
Amines & Amides	Aniline (Phenylamine)	C ₆ H ₅ NH ₂ (62-53-3)	-	P	-
	Diethanolamine	HN(CH ₂ CH ₂ OH) ₂ (111-42-2)	-	G	-
	Diethylamine	CH ₃ CH ₂ NHCH ₂ CH ₃ (109-89-7)	-	P	-
	Dimethylformamide	(CH ₃) ₂ NC(O)H (68-12-2)	-	P	-
	Methylamine (25% in water)	CH ₃ NH ₂ (74-89-5)	-	G	-
	Pyridine	C ₅ H ₅ N (110-86-1)	-	P	-
	Triethanolamine (TEA) (2,2',2''-nitrilotriethanol)	N(CH ₂ CH ₂ OH) ₃ (102-71-6)	-	G	-
Beverages & Foodstuffs	Beer		-	G	-
	Cider		-	G	-
	Citrus juices		-	M	-
	Fermentation liquor		-	G	-
	Glucose		-	Ex	-
	Milk		-	G	-
	Sugar solution		-	Ex	-
	Vinegar		-	M	-
	Whisky and Wine		-	G	-

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Esters & Ethers	Amyl acetate	CH ₃ COO(CH ₂) ₄ CH ₃ (628-63-7)	-	G	-
	Butyl acetate	C ₆ H ₁₂ O ₂ (123-86-4)	-	G	-
	Dibutyl adipate	[CH ₂ CH ₂ CO ₂ (CH ₂) ₃ CH ₃] ₂ (105-99-7)	-	Ex	-
	Dibutyl phthalate	C ₁₆ H ₂₂ O ₄ (84-74-2)	-	Ex	-
	Dibutyl sebacate	C ₁₈ H ₃₄ O ₄ (109-43-3)	-	Ex	-
	Diocetyl adipate	C ₂₂ H ₄₂ O ₄ (123-79-5)	-	Ex	-
	Diocetyl phthalate	C ₆ H ₄ (C ₈ H ₁₇ COO) ₂ (117-81-7)	-	Ex	-
	Diocetyl sebacate	(CH ₂) ₈ (COOC ₈ H ₁₇) ₂	-	Ex	-
	Diethyl ether	(C ₂ H ₅) ₂ O (60-29-7)	-	G	-
	Diphenyl isodecyl phosphate	C ₂₂ H ₃₁ O ₄ P (29761-21-5)	-	Ex	-
	Ethyl acetate	CH ₃ COOCH ₂ CH ₃ (141-78-6)	-	G	-
	Isopropyl ether	C ₆ H ₁₄ O (108-20-3)	-	G	-
	Methyl acetate	CH ₃ COOCH ₃ (79-20-9)	-	G	-
Gases	Carbon dioxide (dry)	CO ₂ (124-38-9)	-	Ex	-
	Carbon monoxide	CO (630-08-0)	-	Ex	-
	Chlorine (dry)	Cl ₂ (7782-50-5)	-	-	-
	Hydrogen	H ₂ (1333-74-0)	-	Ex	-
	Natural Gas (Methane)	CH ₄	-	Ex	-
	Nitrogen	N ₂ (7727-37-9)	-	Ex	-
	Nitrous oxide (dinitrogen monoxide)	N ₂ O (10024-97-2)	-	Ex	-
	Ozone (dry)	O ₃ (10028-15-6)	-	Ex	-
	Ozone (aqueous solution)		-	M	-
	Sulphur dioxide	SO ₂ (7446-09-5)	-	Ex	-
	Sulphur trioxide (sulphuric anhydride)	SO ₃ (7446-11-9)	-	Ex	-

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Halocarbons	Carbon tetrachloride	CCl ₄ (56-23-5)	-	G	-
	Chlorobenzene	C ₆ H ₅ Cl (108-90-7)	-	M	-
	Chloroform	CHCl ₃ (67-66-3)	-	G	-
	Dry cleaning fluids		-	G	-
	Methylene chloride (dichloromethane)	CH ₂ Cl ₂ (75-09-2)	-	P	-
	Perchloroethylene (tetrachloroethylene)	Cl ₂ C=CCl ₂ (127-18-4)	-	G	-
	1,1,1, - Trichloroethane (methyl chloroform)	CH ₃ CCl ₃ (71-55-6)	-	M	-
Hydrocarbons	Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR)	N/A	-	Ex	-
	Benzene (benzol)	C ₆ H ₆ (71-43-2)	-	P	-
	Cyclohexane	C ₆ H ₁₂ (110-82-7)	-	M	-
	Gasoline – Ethanol free (Petrol)		-	Ex	-
	Heptane	CH ₃ CH ₂ CH ₂ CH ₂ CH ₂ CH ₂ CH ₃ (142-82-7)	-	Ex	-
	Hexane	CH ₃ CH ₂ CH ₂ CH ₂ CH ₂ CH ₃ (110-54-3)	-	Ex	-
	Iso-octane (2,2,4-trimethylpentane)	(CH ₃) ₃ CCH ₂ CH(CH ₃) ₂ (540-84-1)	-	Ex	-
	Kerosene	N/A (8008-20-6)	-	Ex	-
	Paraffin	N/A (8002-74-2)	-	Ex	-
	Pentane	CH ₃ CH ₂ CH ₂ CH ₂ CH ₃ (109-66-0)	-	Ex	-
	Styrene	C ₆ H ₅ CH=CH ₂ (100-42-5)	-	G	-
	Toluene (methylbenzene, phenylmethane, toluol)	C ₆ H ₅ CH ₃ (108-88-3)	-	G	-
	White Spirit (Stoddard solvent, Mineral spirits)	(8052-41-3)	-	Ex	-
	Xylene (dimethyl benzene, xylol)	C ₆ H ₄ (CH ₃) ₂ (95-47-6/108-38-3/106-42-3/1330-20-7)	-	G	-
Ketones	Acetone	(CH ₃) ₂ CO (67-64-1)	-	M	-
	Methyl ethyl ketone (MEK, butanone)	CH ₃ C(O)CH ₂ CH ₃ (78-93-3)	-	M	-
Miscellaneous	Brake fluid		-	G	-
	Drilling mud		-	Ex	-
	Emulsion paint		-	Ex	-
	Fertilizer solutions		-	Ex	-
	Grease		-	Ex	-

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Miscellaneous - continued	Ink (water based)		-	Ex	-
	Mercury	Hg	-	Ex	-
	Mine waters (acid)		-	Ex	-
	Oil/water mixtures		-	Ex	-
	Water, distilled		-	Ex	-
	Water, fresh		-	Ex	-
	Water, sea		-	Ex	-
Oils - Mineral	Bunker oils (fuel oils)		-	G	-
	Crude oil		-	G	-
	Cutting oils, water emulsions		-	-	-
	Diesel oil		-	Ex	-
	Lubricating oil		-	Ex	-
	Transformer oil		-	Ex	-
Oils - Vegetable/ Animal	Castor oil		-	Ex	-
	Coconut oil		-	Ex	-
	Cod liver oil		-	Ex	-
	Corn oil		-	Ex	-
	Linseed oil		-	Ex	-
	Olive oil		-	Ex	-
Salts	Aluminium chloride (dry)	AlCl ₃ (7446-70-0)	-	Ex	-
	Aluminium sulphate	Al ₂ (SO ₄) ₃ (10043-01-3)	-	Ex	-
	Alums		-	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 monophosphate	NH ₄ H ₂ PO ₄ (7722-76-1)	-	Ex	-
	Ammonium phosphate (dibasic)	(NH ₄) ₂ HPO ₄ (7783-28-0)	-	Ex	-
	Ammonium phosphate (tribasic)	(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)	-	Ex	-
	Antimony trichloride	SbCl ₃ (10025-91-9)	-	Ex	-
	Barium carbonate	BaCO ₃ (513-77-9)	-	Ex	-
	Barium chloride	BaCl ₂ (10361-37-2)	-	Ex	-
	Barium sulfate	BaSO ₄ (7727-43-7)	-	Ex	-
	Brines		-	Ex	-
Calcium bisulfite	Ca(HSO ₃) ₂ (13780-03-5)	-	Ex	-	

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Salts continued	Calcium carbonate	CaCO ₃ (471-34-1)	-	Ex	-
	Calcium chloride	CaCl ₂ (10043-52-4)	-	Ex	-
	Calcium hypochlorite	Ca(ClO) ₂ (7778-54-3)	-	M	-
	Calcium sulphate	CaSO ₄ (7778-18-9)	-	Ex	-
	Chrome alum	KCr(SO ₄) ₂ (10141-00-1)	-	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 (dry)	FeCl ₃ (7705-08-0)	-	Ex	-
	Ferric nitrate	Fe(NO ₃) ₃ (10421-48-4)	-	Ex	-
	Ferric sulfate	Fe ₂ (SO ₄) ₃ (10028-22-5)	-	Ex	-
	Ferrous chloride	FeCl ₂ (7758-94-3)	-	Ex	-
	Ferrous sulfate	FeSO ₄ (7720-78-7)	-	Ex	-
	Lead acetate	Pb(CH ₃ COO) ₂ (301-04-2)	-	Ex	-
	Magnesium bisulfate	Mg(HSO ₄) ₂ (10028-26-9)	-	Ex	-
	Magnesium chloride	MgCl ₂ (7786-30-3)	-	Ex	-
	Magnesium sulphate (Epsom salt)	MgSO ₄ (7487-88-9)	-	Ex	-
	Mercuric chloride	HgCl ₂ (7487-94-7)	-	Ex	-
	Mercuric cyanide	Hg(CN) ₂ (592-04-1)	-	Ex	-
	Nickel ammonium sulfate	(NH ₄) ₂ Ni(SO ₄) ₂ (7785-20-8)	-	Ex	-
	Nickel chloride	NiCl ₂ (7718-54-9)	-	Ex	-
	Nickel nitrate	Ni(NO ₃) ₂ (13138-45-9)	-	Ex	-
	Nickel sulfate	NiSO ₄ (7786-81-4)	-	Ex	-
	Potassium aluminium sulphate (potash alum)	KAl(SO ₄) ₂ (10043-67-1)	-	Ex	-
	Potassium bisulfite	KHSO ₃ (7773-03-7)	-	Ex	-
	Potassium bromide	KBr (7758-02-3)	-	Ex	-
	Potassium carbonate	K ₂ CO ₃ (584-08-7)	-	Ex	-
Potassium chlorate	KClO ₃ (3811-04-9)	-	Ex	-	
Potassium chloride	KCl (7447-40-7)	-	Ex	-	

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Salts continued	Potassium cyanide	KCN (151-50-8)	-	Ex	-
	Potassium dichromate	K ₂ Cr ₂ O ₇ (7778-50-9)	-	Ex	-
	Potassium diphosphate	K ₂ HPO ₄ (7758-11-4)	-	Ex	-
	Potassium ferricyanide	K ₃ [Fe(CN) ₆] (13746-66-2)	-	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	-
	Potassium sulfide	K ₂ S (1059-82-5)	-	Ex	-
	Potassium sulphite	K ₂ SO ₃ (10117-38-1)	-	Ex	-
	Silver nitrate	AgNO ₃ (7761-88-8)	-	Ex	-
	Sodium acetate	CH ₃ COONa (127-09-3)	-	Ex	-
	Sodium aluminate	NaAlO ₂ (1302-42-7)	-	Ex	-
	Sodium bicarbonate	NaHCO ₃ (144-55-8)	-	Ex	-
	Sodium bisulfate	NaHSO ₄ (7681-38-1)	-	Ex	-
	Sodium bisulfite	NaHSO ₃ (7631-90-5)	-	Ex	-
	Sodium borate (borax)	Na ₂ B ₄ O ₇ (1303-96-4)	-	Ex	-
	Sodium bromide	NaBr (7647-15-6)	-	Ex	-
	Sodium carbonate (soda ash)	Na ₂ CO ₃ (497-19-8)	-	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	-	

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Salts continued	Sodium hypochlorite (bleach)	NaClO (7681-52-9)	12%	M	-
	Sodium metaphosphate	(NaPO ₃) ₆ (10124-56-8)	-	Ex	-
	Sodium metasilicate (sodium silicate)	Na ₂ SiO ₃ (6834-92-0)	-	Ex	-
	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 sulfate	Na ₂ SO ₄ (7757-82-6)	-	Ex	-
	Sodium sulfide	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 hydrosulfite	ZnS ₂ O ₄ (7779-86-4)	-	Ex	-
	Zinc sulfate	ZnSO ₄ (7733-02-0)	-	Ex	-

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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.