BELZONA® PRODUCT DATA E502

CHEMICAL RESISTANCE OF BELZONA® 2111

FN 10046

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	Other
Inorganic Acids	Carbonic acid	H_2CO_3 (463-79-6)	-	Ex	-
	Fluorosilicic acid	H_2SiF_6 (16961-83-4)	-	P	-
	Hydrobromic acid	HBr (10035-10-6)	10%	G	-
	Hydrochloric acid	HCl (647-01-0)	25% 15%	G Ex	- -
	Hydrofluoric acid	HF (7664-39-3)	10%	Ex	-
	Nitric acid	HNO_3 (7697-37-2)	25% 15%	P M	- -
	Oleum		-	M	-
	Sulfuric acid	H_2SO_4 (7664-93-9)	30% 20%	G Ex	- -
Organic Acids	Acetic acid (ethanoic acid)	CH_3COOH (64-19-7)	10%	G	-
	Chloroacetic acid	$ClCH_2COOH$ (79-11-8)	-	M	-
	Chlorosulfonic acid (sulfurochloridic acid)	HSO_3Cl (7790-94-5)	-	P	-
	Creosote oil		-	G	-
	Cresylic acid (cresol)	C_7H_8O (1319-77-3)	-	P	-
	Phenol	C_6H_5OH (108-95-2)	100%	P	-
	Resorcinol	$C_6H_4(OH)_2$ (108-46-3)	-	P	-
	Stearic acid	$CH_3(CH_2)_{16}CO_2H$ (57-11-4)	-	Ex	-
	Tartaric acid	$C_4H_6O_6$ (526-83-0)	-	Ex	-
Alcohols, Aldehydes and Ketones	Acetone	$(CH_3)_2CO$ (67-64-1)	-	M	-
	Amyl alcohol (1-Pentanol)	$C_5H_{11}OH$ (71-41-0)	-	M	-
	Benzaldehyde	C_6H_5CHO (100-52-7)	-	M	-
	n-Butanol (butyl alcohol)	C_4H_9OH (71-36-3)	-	M	-
	Ethanol (ethyl alcohol)	CH_3CH_2OH (64-17-5)	-	M	-
	Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG)	$(CH_2OH)_2$ (107-21-1)	-	M	-
	Glycerol (glycerine, propane-1,2,3-triol)	$HOCH_2CH(OH)CH_2OH$ (56-81-5)	-	M	-
	Isopropyl alcohol	C_3H_7OH (67-63-0)	-	M	-

Excellent	**Ex**	Suitable for all reasonable applications including immersion.
Good	**G**	Suitable for applications involving immersion for short periods, splashing and contact with fumes.
Moderate	**M**	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.
Poor	**P**	*Not suitable for any applications involving contact with the chemical itself or fumes evolved from it.*
*		Product must be post cured to deliver quoted chemical resistance

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	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 ˚C 68 ˚F	Other
Alcohols, Aldehydes and Ketones continued	Methanol (methyl alcohol)	CH_3OH (67-56-1)	-	M	-
	Methyl ethyl ketone (MEK, butanone)	$CH_3C(O)CH_2CH_3$ (78-93-3)	-	M	-
	2-Methoxyethanol	$C_3H_8O_2$ (109-86-4)	-	M	-
	Propan-1-ol (Propyl alcohol)	$CH_3CH_2CH_3OH$ (71-23-8)	-	M	-
	Propylene glycol (1,2-Propanediol)	$CH_3CH(OH)CH_2OH$ (57-55-6)	-	M	-
Alkalis	Ammonia	NH_3 (7664-41-7)	25% 10%	G Ex	- -
	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)	50% 25%	G Ex	- -
	Sodium hydroxide (caustic soda)	NaOH (1310-73-2)	50% 25%	G Ex	- -
Esters & Ethers	Amyl acetate	$CH_3COO(CH_2)_4CH_3$ (628-63-7)	-	M	-
	Butyl acetate	$C_6H_{12}O_2$ (123-86-4)	-	M	-
	Diethyl ether	$(C_2H_5)_2O$ (60-29-7)	-	M	-
	Ethyl acetate	$CH_3COOCH_2CH_3$ (141-78-6)	-	M	-
	Isopropyl ether	$C_6H_{14}O$ (108-20-3)	-	M	-
	Methyl acetate	CH_3COOCH_3 (79-20-9)	-	M	-
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	-
Halogenated Halocarbons	Carbon tetrachloride (dry)	CCl_4 (56-23-5)	-	M	-
	Chlorobenzene (dry)	C_6H_5Cl (108-90-7)	-	M	-
	Chloroethane (dry)	C_2H_5Cl (75-00-3)	-	M	-
	Chloroform (dry)	$CHCl_3$ (67-66-3)	-	M	-
	Chloromethane (dry)	CH_3Cl (74-87-3)	-	M	-

Excellent	**Ex**	Suitable for all reasonable applications including immersion.
Good	**G**	Suitable for applications involving immersion for short periods, splashing and contact with fumes.
Moderate	**M**	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.
Poor	**P**	*Not suitable for any applications involving contact with the chemical itself or fumes evolved from it.*
*		Product must be post cured to deliver quoted chemical resistance

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CHEMICAL RESISTANCE OF BELZONA® 2111

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 ˚C 68 ˚F	Other
Halogenated Halocarbons continued	Dry cleaning fluids		-	M	-
	Methylene chloride (dry) (dichloromethane)	CH_2Cl_2 (75-09-2)	-	M	-
	Perchloroethylene (dry) (tetrachloroethylene)	$Cl_2C=CCl_2$ (127-18-4)	-	M	-
	Trichloroethylene	C_2HCl_3 (79-01-6)	-	M	-
Hydrocarbons	Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR)	N/A	-	G	-
	Benzene (benzol)	C_6H_6 (71-43-2)	-	G	-
	Gasoline – Ethanol free (Petrol)		-	G	-
	Heptane	$CH_3CH_2CH_2CH_2CH_2CH_2CH_3$ (142-82-7)	-	G	-
	Hexane	$CH_3CH_2CH_2CH_2CH_2CH_3$ (110-54-3)	-	G	-
	Iso-octane (2,2,4-Trimethylpentane)	$(CH_3)_3CCH_2CH(CH_3)_2$ (540-84-1)	-	G	-
	Kerosene	N/A (8008-20-6)	-	G	-
	Paraffin	N/A (8002-74-2)	-	G	-
	Petrolatum (Petroleum jelly)	(8009-03-8)	-	G	-
	Styrene	$C_6H_5CH=CH_2$ (100-42-5)	-	G	-
	Toluene (methylbenzene, phenylmethane, toluol)	$C_6H_5CH_3$ (108-88-3)	-	G	-
	Xylene (dimethyl benzene, xylol)	$C_6H_4(CH_3)_2$ (95-47-6/108-38-3/106-42-3/1330-20-7)	-	G	-
Miscellaneous	Bleach		-	G	-
	Brake fluid		-	G	-
	Emulsion paint		-	Ex	-
	Fertilizer solutions		-	Ex	-
	Grease		-	Ex	-
	Ink (water based)		-	Ex	-
	Mercury	Hg	-	Ex	-
	Oil/water mixtures		-	Ex	-
	Rubber latex emulsions		-	Ex	-
	Silicone oil		-	Ex	-
	Starch		-	Ex	-
	Turpentine		-	G	-
	Water, distilled (aerated)		-	Ex	-
	Water, fresh		-	Ex	-
	Water, mineral		-	Ex	-
	Water, sea		-	Ex	-
	Wax emulsions		-	Ex	-

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Good	**G**	Suitable for applications involving immersion for short periods, splashing and contact with fumes.
Moderate	**M**	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.
Poor	**P**	*Not suitable for any applications involving contact with the chemical itself or fumes evolved from it.*
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	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 ˚C 68 ˚F	Other
Oils - Mineral	Bunker oils (fuel oils)		-	G	-
	Crude oil, sweet		-	G	-
	Crude oil, sour		-	G	-
	Diesel oil		-	G	-
	Fuel oil		-	G	-
	Hydraulic oil petroleum based		-	G	-
	Lube oil		-	G	-
	Oil, petroleum (refined)		-	G	-
	Oil, petroleum (sour)		-	G	-
	Transformer oil		-	G	-
Oils - Vegetable/Animal	Castor oil		-	G	-
	Coconut oil		-	G	-
	Cod liver oil		-	G	-
	Corn oil		-	G	-
	Cottonseed oil		-	G	-
	Lard oil		-	G	-
	Linseed oil		-	G	-
	Olive oil		-	G	-
	Palm oil		-	G	-
	Pine oil		-	G	-
	Soybean oil		-	G	-
	Tall oil		-	G	-
	Tung oil		-	G	-
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	$(NH_4)_2CO_3$ (506-87-6)	-	Ex	-
	Ammonium chloride	NH_4Cl (12125-02-9)	-	Ex	-
	Ammonium phosphate	$(NH_4)_3PO_4$ (10361-65-6)	-	Ex	-
	Ammonium nitrate	NH_4NO_3 (6484-52-2)	-	Ex	-
	Ammonium sulfate	$(NH_4)_2SO_4$ (7783-20-2)	-	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	-

Excellent	**Ex**	Suitable for all reasonable applications including immersion.
Good	**G**	Suitable for applications involving immersion for short periods, splashing and contact with fumes.
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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)	-	G	-
	Calcium sulphate	$CaSO_4$ (7778-18-9)	-	Ex	-
	Copper acetate	$Cu(CH_3COO)_2$ (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)	-	Ex	-
	Ferric nitrate	$Fe(NO_3)_3$ (10421-48-4)	-	Ex	-
	Ferric sulphate	$Fe_2(SO_4)_3$ (10028-22-5)	-	Ex	-
	Ferrous sulfate	$FeSO_4$ (7720-78-7)	-	Ex	-
	Lead acetate	$Pb(CH_3COO)_2$ (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	-
	Potassium chloride	KCl (7447-40-7)	-	Ex	-
	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_2SO_4 (7778-80-5)	-	Ex	-
	Potassium sulphite	K_2SO_3 (10117-38-1)	-	G	-

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Good	**G**	Suitable for applications involving immersion for short periods, splashing and contact with fumes.
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Salts continued	Silver nitrate	$AgNO_3$ (7761-88-8)	-	Ex	-
	Sodium acetate	CH_3COONa (127-09-3)	-	Ex	-
	Sodium borate (borax)	$Na_2B_4O_7$ (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_2CrO_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)	-	G	-
	Sodium nitrate	$NaNO_3$ (7631-99-4)	-	Ex	-
	Sodium phosphate (dibasic)	Na_2HPO_4 (7558-79-4)	-	Ex	-
	Sodium phosphate (tribasic)	Na_3PO_4 (7601-54-9)	-	Ex	-
	Sodium silicate	Na_2SiO_3 (6834-92-0)	-	Ex	-
	Sodium sulphate	Na_2SO_4 (7757-82-6)	-	Ex	-
	Sodium sulphide	Na_2S (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	-

Excellent	**Ex**	no significant deterioration / barrier properties retained for greater than 52 weeks *suitable for all applications including long term immersion*
Good	**G**	no significant deterioration / barrier properties retained for 12 - 52 weeks *suitable for short-term immersion and general chemical contact*
Moderate	**M**	no significant deterioration / barrier properties retained for 1 - 12 weeks *suitable for applications involving short term chemical contact e.g. spillage, splashing or secondary containment*
Poor	**P**	significant deterioration / loss of barrier properties after 1 week or less *not suitable for any application*
*		Product must be post cured to deliver quoted chemical resistance

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.

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