CHEMICAL RESISTANCE OF BELZONA® 1212

FN 10174

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	Other
Inorganic Acids	Hydrochloric acid	HCl (7647-01-0)	10%	**P**	-
			5%	**M**	-
			1%	**M**	-
	Nitric acid	HNO_3 (7697-37-2)	10%	**P**	-
			5%	**M**	-
	Phosphoric acid (orthophosphoric acid)	H_3PO_4 (7664-38-2)	10%	**P**	-
			5%	**P**	-
	Sulfuric acid	H_2SO_4 (7664-93-9)	10%	**P**	-
			5%	**P**	-
			1%	**M**	-
Organic Acids	Acetic acid (ethanoic acid)	CH_3COOH (64-19-7)	5%	**P**	-
			1%	**P**	-
	Formic acid (methanoic acid)	HCOOH (64-18-6)	-	P	-
	Phenol (hydroxybenzene)	C_6H_5OH 108-95-2)	-	P	-
Alcohols, Aldehydes and Ketones	Acetone	$(CH_3)_2CO$ (67-64-1)	-	M	-
	Amyl alcohol (1-Pentanol)	$C_5H_{11}OH$ (71-41-0)	-	Ex	-
	n-Butanol (butyl alcohol)	C_4H_9OH (71-36-3)	-	Ex	-
	Ethanol (ethyl alcohol)	CH_3CH_2OH (64-17-5)	-	**Ex**	-
	Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG)	$(CH_2OH)_2$ (107-21-1)	-	Ex	-
	Glycerol (glycerine, propane-1,2,3-triol)	$HOCH_2CH(OH)CH_2OH$ (56-81-5)	-	Ex	-
	Isopropyl alcohol (IPA) (isopropanol, propan-2-ol)	$CH_3CH(OH)CH_3$ (67-63-0)	-	Ex	-
	Methanol (methyl alcohol)	CH_3OH (67-56-1)	-	**M**	-
	Methyl ethyl ketone (MEK, butanone)	$CH_3C(O)CH_2CH_3$ (78-93-3)	-	M	-
	Propan-1-ol (Propyl alcohol)	$CH_3CH_2CH_2OH$ (71-23-8)	-	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*
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

CHEMICAL RESISTANCE OF BELZONA® 1212

FN 10174

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	Other
Alkalis/Bases	Ammonia	NH_3 (7664-41-7)	25%	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)	40% 20%	Ex Ex	-
	Sodium hydroxide (caustic soda)	NaOH (1310-73-2)	50% 40% 20% 10%	**Ex** Ex Ex Ex	- - - -
Amines and Amides	Diethanolamine (DEA) (2,2'-iminodiethanol)	$HN(CH_2CH_2OH)_2$ (111-42-2)	-	Ex	-
	Diethylene gylcolamine (DGA) (2-(2-aminoethoxy) ethanol)	$H_2NCH_2CH_2OCH_2CH_2OH$ (929-06-6)	-	**M**	-
	N-Methyl diethanolamine (MDEA)	$CH_3N(CH_2CH_2OH)_2$ 105-59-9)	-	G	-
	Monoethanolamine (MEA) (2-aminoethanol)	$H_2NCH_2CH_2OH$ (141-43-5)	-	**M**	-
	Sulfanol solution (50% diisopropanolamine, 25% tetramethylene sulfone, 25% water)	N/A	-	G	-
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	-
Halocarbons	Carbon tetrachloride	CCl_4 (56-23-5)	-	P	-
	Chlorobenzene (benzene chloride, phenyl chloride)	C_6H_5Cl (108-90-7)	-	P	-
	Chloroform (trichloromethane)	$HCCl_3$ (67-66-3)	-	P	-
	Dichloromethane (DCM) (methylene chloride)	CH_2Cl_2 (75-09-2)	-	**P**	-

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*
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

CHEMICAL RESISTANCE OF BELZONA® 1212

FN 10174

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 ˚C 68 ˚F	Other
Hydrocarbons	Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR)	N/A	-	**Ex**	-
	Crude oil	N/A	-	**Ex**	-
	Gasoline (petrol)	N/A (8032-32-4)	-	**Ex**	-
	Heptane	$CH_3CH_2CH_2CH_2CH_2CH_2CH_3$ (142-82-7)	-	Ex	-
	Hexane	$CH_3CH_2CH_2CH_2CH_2CH_3$ (110-54-3)	-	Ex	-
	Kerosene	N/A (8008-20-6)	-	**Ex**	-
	Mineral Spirits / White Spirits (Turpentine, Stoddards Solvent)	N/A (8052-41-3)		Ex	
	Paraffin wax	N/A (8002-74-2)	-	Ex	-
	Petrolatum (Petroleum jelly)	N/A (8009-03-8)	-	Ex	-
	Toluene (methylbenzene, phenylmethane, toluol)	$C_6H_5CH_3$ (108-88-3)	-	**Ex**	-
	Xylene (dimethyl benzene, xylol)	$C_6H_4(CH_3)_2$ (95-47-6/108-38-3/106-42-3/1330-20-7)	-	Ex	-
Miscellaneous	Brake fluid	N/A	-	Ex	-
	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	-
	Silicone oil	N/A	-	Ex	-
	Starch	N/A	-	Ex	-
	Water *Deionised, Fresh, Mineral, Sea*	H_2O (7732-18-5)	-	**Ex**	-
	Water/Oil Mixtures	N/A	-	Ex	-
	Wax emulsions	N/A	-	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*
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

CHEMICAL RESISTANCE OF BELZONA® 1212

FN 10174

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 ˚C 68 ˚F	Other
Oils - Mineral	Bunker oil	N/A	-	Ex	-
	Diesel oil	N/A	-	Ex	-
	Fuel oil	N/A	-	Ex	-
	Hydraulic oil	N/A	-	Ex	-
	Lube oil	N/A	-	Ex	-
	Petroleum oil	N/A	-	Ex	-
	Transformer oil	N/A	-	**Ex**	-
Oils – Vegetable/Animal	Castor oil	N/A	-	Ex	-
	Coconut oil	N/A	-	Ex	-
	Cod liver oil	N/A	-	Ex	-
	Corn oil	N/A	-	Ex	-
	Cottonseed oil	N/A	-	Ex	-
	Lard oil	N/A	-	Ex	-
	Linseed oil	N/A	-	Ex	-
	Olive oil	N/A	-	Ex	-
	Palm oil	N/A	-	Ex	-
	Pine oil	N/A	-	Ex	-
	Soybean oil	N/A	-	Ex	-
	Tall oil	N/A	-	Ex	-
	Tung oil	N/A	-	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*
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

CHEMICAL RESISTANCE OF BELZONA® 1212

FN 10174

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68°F	Other
Salts	Aluminium chloride	$AlCl_3$ (7446-70-0)	-	Ex	-
	Aluminium sulfate	$Al_2(SO_4)_3$ (10043-01-3)	-	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)	-	G	-
	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 sulfate	$CaSO_4$ (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 sulfate	$CuSO_4$ (7758-98-7)	-	Ex	-
	Ferric chloride	$FeCl_3$ (7705-08-0)	-	M	-
	Ferrous chloride	$FeCl_2$ (7758-94-3)	-	M	-

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*
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

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68°F	Other
Salts	Ferric sulfate	$Fe_2(SO_4)_3$ (10028-22-5)	-	M	-
	Ferrous sulfate	$FeSO_4$ (7720-78-7)	-	M	-
	Lead acetate	$Pb(CH_3COO)_2$ (301-04-2)	-	Ex	-
	Magnesium chloride	$MgCl_2$ (7786-30-3)	-	Ex	-
	Magnesium sulfate (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	-
	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	-

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*
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

CHEMICAL RESISTANCE OF BELZONA® 1212

FN 10174

	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68°F	Other
Salts	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_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 sulfate	Na_2SO_4 (7757-82-6)	-	Ex	-
	Sodium sulfide	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*
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