

# CHEMICAL RESISTANCE OF BELZONA® 1391T

FN10034



				Chemical Resistance			
	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	60 °C 140 °F	90 °C 194 °F	Other
Inorganic Acids	Hydrochloric acid	HCl (7647-01-0)	20%	M*	P	P	-
			10%	G*	M	P	-
			5%	Ex*	G	G	-
			3%	Ex*	Ex	Ex	-
	Nitric acid	HNO <sub>3</sub> (7697-37-2)	10%	G*	M	P	-
	Nitrous acid	HNO <sub>2</sub> (7782-77-6)	10%	G*	M	P	-
	Phosphoric acid (orthophosphoric acid)	H <sub>3</sub> PO <sub>4</sub> (7664-38-2)	10%	G*	M	P	-
			5%	Ex*	G	M	-
	Sulphuric acid	H <sub>2</sub> SO <sub>4</sub> (7664-93-9)	20%	M*	M	P	-
			10%	G*	G	M	-
5%			Ex*	Ex	G	-	
3%			Ex*	Ex	Ex	-	
Organic Acids	Acetic acid (ethanoic acid)	CH <sub>3</sub> COOH (64-19-7)	10%	M*	P	P	-
			5%	M*	M	P	-
			1%	G*	G	G	-
			0.1%	Ex*	Ex	Ex	-
	Carbonic acid	H <sub>2</sub> CO <sub>3</sub> (463-79-6)	-	Ex*	Ex	Ex	-
	Phenol (hydroxybenzene)	C <sub>6</sub> H <sub>5</sub> OH (108-95-2)	80%	M*	P	P	-

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>
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				68 °F	140 °F	194 °F	
Alcohols, Aldehydes and Ketones	Acetone (propanone)	(CH <sub>3</sub> ) <sub>2</sub> CO (67-64-1)	-	Ex*	-	-	55 °C 131 °F G*
	Amyl alcohol	C <sub>5</sub> H <sub>11</sub> OH (71-41-0)	-	Ex*	Ex	Ex	-
	n-Butanol (butyl alcohol)	C <sub>4</sub> H <sub>9</sub> OH (71-36-3)	-	Ex*	Ex	Ex	-
	Ethanol (ethyl alcohol)	CH <sub>3</sub> CH <sub>2</sub> OH (64-17-5)	-	Ex*	Ex	-	-
	Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG)	(CH <sub>2</sub> OH) <sub>2</sub> (107-21-1)	-	Ex*	Ex	Ex	-
	Glycerol (glycerine, propane-1,2,3-triol)	HOCH <sub>2</sub> CH(OH)CH <sub>2</sub> OH (56-81-5)	-	Ex*	Ex	Ex	-
	n-Hexanol (hexyl alcohol)	C <sub>6</sub> H <sub>13</sub> OH (111-27-3)	-	Ex*	Ex	Ex	-
	Higher alcohols	C <sub>n</sub> H <sub>(2n+1)</sub> OH where n > 2	-	Ex*	Ex	Ex	-
	Isopropyl alcohol (IPA) (isopropanol, propan-2-ol)	CH <sub>3</sub> CH(OH)CH <sub>3</sub> (67-63-0)	-	Ex*	Ex	-	-
	Isobutyl alcohol (IBA) (isobutanol, 2-methylpropan-1-ol)	(CH <sub>3</sub> ) <sub>2</sub> CHCH <sub>2</sub> OH (78-83-1)	-	Ex*	Ex	Ex	-
	Methanol (methyl alcohol)	CH <sub>3</sub> OH (67-56-1)	-	Ex*	Ex	-	-
	Methanol solution (aqueous)	CH <sub>3</sub> OH <sub>(aq)</sub> (67-56-1)	55%	Ex*	Ex	-	79 °C 174 °F Ex
	Methyl ethyl ketone (MEK) (2-butanone, methyl acetone)	CH <sub>3</sub> C(O)CH <sub>2</sub> CH <sub>3</sub> (78-93-3)	-	Ex*	G	-	-

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Alcohols, Aldehydes and Ketones	Propan-1-ol (Propyl alcohol)	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH (71-23-8)	-	Ex*	Ex	Ex	-
	Propylene glycol (1,2-Propanediol)	CH <sub>3</sub> CH(OH)CH <sub>2</sub> OH (57-55-6)	-	Ex*	Ex	Ex	-
	Secondary alcohols	R <sub>1</sub> R <sub>2</sub> CHOH	-	Ex*	Ex	Ex	-
	Tertiary alcohols	R <sub>1</sub> R <sub>2</sub> R <sub>3</sub> COH	-	Ex*	Ex	Ex	-
	Triethylene glycol (triglycol)	HOCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH (112-27-6)	-	Ex*	Ex	Ex	-
	Tetraethylene glycol (tetraglycol)	HOCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OCH <sub>2</sub> CH <sub>2</sub> OH (112-60-7)	-	Ex*	Ex	Ex	-
Alkalis / Bases	Barium hydroxide	Ba(OH) <sub>2</sub> (17194-00-2)	-	Ex*	Ex	Ex	-
	Calcium hydroxide (lime water)	Ca(OH) <sub>2</sub> (1305-62-0)	-	Ex*	Ex	Ex	-
	Magnesium hydroxide (milk of magnesia)	Mg(OH) <sub>2</sub> (1309-42-8)	-	Ex*	Ex	Ex	-
	Potassium hydroxide (caustic potash)	KOH (1310-58-3)	40%	Ex*	Ex	Ex	-
			20%	Ex*	Ex	Ex	-
10%			Ex*	Ex	Ex	-	
Sodium hydroxide (caustic soda)	NaOH (1310-73-2)	50%	Ex*	Ex	Ex	-	
		40%	Ex*	Ex	Ex	-	
		20%	Ex*	Ex	Ex	-	
			10%	Ex*	Ex	Ex	-

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Amines & Amides	Diethanolamine (DEA) (2,2'-iminodiethanol)	$\text{HN}(\text{CH}_2\text{CH}_2\text{OH})_2$ (111-42-2)	-	Ex*	Ex	Ex	-
	Diethylene glycolamine (DGA) (2-(2-aminoethoxy) ethanol)	$\text{H}_2\text{NCH}_2\text{CH}_2\text{OCH}_2\text{CH}_2\text{OH}$ (929-06-6)	-	Ex*	G	M	-
	N-Methyl diethanolamine (MDEA)	$\text{CH}_3\text{N}(\text{CH}_2\text{CH}_2\text{OH})_2$ (105-59-9)	-	Ex*	Ex	Ex	-
	N-Methylethanolamine (2-methylaminoethanol)	$\text{CH}_3\text{NHCH}_2\text{CH}_2\text{OH}$ (109-83-1)	-	Ex*	Ex	Ex	-
	Monoethanolamine (MEA) (2-aminoethanol)	$\text{H}_2\text{NCH}_2\text{CH}_2\text{OH}$ (141-43-5)	-	Ex*	Ex	Ex	-
	Sulfinol solution (50% diisopropanolamine, 25% tetramethylene sulphone, 25% water)	N/A	-	Ex*	Ex	Ex	-
	Triethanolamine (TEA) (2,2',2''-nitrilotriethanol)	$\text{N}(\text{CH}_2\text{CH}_2\text{OH})_3$ (102-71-6)	-	Ex*	Ex	Ex	-
Esters and Ethers	Butyl acetate (butyl ethanoate)	$\text{CH}_3\text{C}(\text{O})\text{OCH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ (123-86-4)	-	Ex*	Ex	Ex	-
	Dibutyl phthalate (DBP) (phthalic acid dibutyl ester)	$\text{C}_6\text{H}_4(\text{C}(\text{O})\text{OCH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$ (84-74-2)	-	Ex*	Ex	Ex	-
	Diethyl ether (ether, ethoxyethane)	$\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$ (60-29-7)	-	Ex*	-	-	-
	Diocetyl phthalate (DOP) (bis(2-ethylhexyl) phthalate, DEHP)	$\text{C}_8\text{H}_{17}(\text{C}(\text{O})\text{OCH}_2\text{CH}(\text{CH}_2\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$ (117-81-7)	-	Ex*	Ex	Ex	-
	Ethyl acetate (ethyl ethanoate, acetic ester)	$\text{CH}_3\text{C}(\text{O})\text{OCH}_2\text{CH}_3$ (141-78-6)	-	Ex*	Ex	-	-

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Gases	Butane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> (106-97-8)	-	Ex	Ex	Ex	-
	Carbon dioxide	CO <sub>2</sub> (124-38-9)	-	Ex	Ex	Ex	-
	Carbon monoxide	CO (630-08-0)	-	Ex	Ex	Ex	-
	Chlorine (dry)	Cl <sub>2</sub> (7782-50-5)	-	Ex	Ex	Ex	-
	Ethane	C <sub>2</sub> H <sub>6</sub> (74-84-0)	-	Ex	Ex	Ex	-
	Hydrogen	H <sub>2</sub> (1333-74-0)	-	Ex	Ex	Ex	-
	Hydrogen sulphide	H <sub>2</sub> S (7783-06-4)	-	Ex	Ex	Ex	-
	Methane (natural gas)	CH <sub>4</sub> (74-82-8)	-	Ex	Ex	Ex	-
	Nitrogen	N <sub>2</sub> (7727-37-9)	-	Ex	Ex	Ex	-
	Nitrous oxide (dinitrogen monoxide)	N <sub>2</sub> O (10024-97-2)	-	Ex	Ex	Ex	-
	Ozone (dry)	O <sub>3</sub> (10028-15-6)	-	Ex	Ex	Ex	-
	Ozone (wet)	O <sub>3</sub> (10028-15-6)	-	G*	M	M	-

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Gases	Sulphur dioxide	SO <sub>2</sub> (7446-09-5)	-	Ex	Ex	Ex	-
	Sulphur trioxide (sulphuric anhydride)	SO <sub>3</sub> (7446-11-9)	-	Ex	Ex	Ex	-
Halocarbons	Chlorobenzene (benzene chloride, phenyl chloride)	C <sub>6</sub> H <sub>5</sub> Cl (108-90-7)	-	Ex*	G	M	-
	Chloroform (trichloromethane)	HCCL <sub>3</sub> (67-66-3)	-	Ex*	-	-	-
	Dichloromethane (DCM) (methylene chloride)	CH <sub>2</sub> Cl <sub>2</sub> (75-09-2)	-	Ex*	-	-	-
Hydrocarbons	Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR)	N/A	-	Ex*	Ex	Ex	-
	Benzene (benzol)	C <sub>6</sub> H <sub>6</sub> (71-43-2)	-	Ex*	Ex	-	-
	Cyclohexane	C <sub>6</sub> H <sub>12</sub> (110-82-7)	-	Ex*	Ex	-	-
	Gasoline (without Ethanol) (petrol)	N/A (8032-32-4)	-	Ex*	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	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	-	-
	Iso-octane (2,2,4-trimethylpentane)	(CH <sub>3</sub> ) <sub>3</sub> CCH <sub>2</sub> CH(CH <sub>3</sub> ) <sub>2</sub> (540-84-1)	-	Ex*	Ex	Ex	-
	Kerosene	N/A (8008-20-6)	-	Ex*	Ex	Ex	-

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Hydrocarbons	Mesitylene (1,3,5-Trimethylbenzene)	C <sub>6</sub> H <sub>3</sub> (CH <sub>3</sub> ) <sub>3</sub> (108-67-8)	-	Ex*	Ex	Ex	-
	Mineral spirits / White spirits (Stoddard solvent)	N/A (8052-41-3)	-	Ex*	Ex	Ex	-
	Naphtha	N/A (8030-30-6)	-	Ex*	Ex	Ex	-
	Naphthalene (naphthalin, white tar)	C <sub>10</sub> H <sub>8</sub> (91-20-3)	-	Ex*	Ex	Ex	-
	Paraffin	N/A (8002-74-2)	-	Ex*	Ex	Ex	-
	Pentane	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> CH <sub>3</sub> (109-66-0)	-	Ex*	-	-	-
	Toluene (methylbenzene, phenylmethane, toluol)	C <sub>6</sub> H <sub>5</sub> CH <sub>3</sub> (108-88-3)	-	Ex*	Ex	Ex	-
	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)	-	Ex*	Ex	Ex	-
Miscellaneous	Water	H <sub>2</sub> O (7732-18-5)	-	Ex*	Ex	Ex	130°C 266°F Ex
	Nalco DVE4D002 Corrosion Inhibitor	N/A	-	Ex*	G	-	-
	Nalco DVE4D006 Corrosion Inhibitor	N/A	-	Ex*	G	-	-
	Nalco EC1317A Corrosion inhibitor	N/A	-	Ex*	Ex	-	-
	Nalco EC6303A Oxygen Scavenger	N/A	-	Ex*	Ex	-	-

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Miscellaneous	Nalco EC6481A Hydrate Inhibitor	N/A	-	Ex*	Ex	-	-
	Nalco EC6622A Low Dosage Hydrate Inhibitor (LDHI)	N/A	-	Ex*	Ex	-	-
	Nalco EC9356A Hydrogen Sulphide Scavenger	N/A	-	Ex*	Ex	-	-
	Nalco O3VD123 Corrosion Inhibitor	N/A	-	Ex*	G	-	-
	Nalco Ultimer 7751 Flocculant Water Treatment	N/A	-	Ex*	Ex	-	-
	Sour oil / Brine mix	N/A	-	Ex*	Ex	Ex	120°C 248°F Ex

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