CHEMICAL RESISTANCE OF BELZONA® 1111 (Super Metal)

FN10229

	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)	-	M	-
	Hydrobromic acid	HBr (10035-10-6)	10%	Ex	-
	Hydrochloric acid	HCl (7647-01-0)	35% 20% 10%	M G Ex	- - -
	Nitric acid	HNO_3 (7697-37-2)	50% 20% 10%	P G G	- - -
	Nitrous acid	HNO_2 (7782-77-6)	20%	Ex	-
	Oleum		-	P	-
	Phosphoric acid (orthophosphoric acid)	H_3PO_4 (7664-38-2)	20% 10% 5%	G G Ex	- - -
	Sulfuric acid	H_2SO_4 (7664-93-9)	98% 50% 20% 10%	P M G Ex	- - - -
Organic Acids	Acetic acid (ethanoic acid)	CH_3COOH (64-19-7)	50% 20% 10%	P M M	- - -
	Chloroacetic acid	$ClCH_2COOH$ (79-11-8)	-	M	-
	Chlorosulfonic acid (sulfurochloridic acid)	HSO_3Cl (7790-94-5)	-	M	-
	Citric acid	$C_6H_8O_7$ (77-92-9)	-	G	-
	Cresylic acid (cresol)	C_7H_8O (1319-77-3)	-	P	-
	Formic acid (methanoic acid)	HCOOH (64-18-6)	20% 10%	M M	- -
	Lactic acid (2-hydroxypropanoic acid)	$CH_3CH(OH)(COOH)$ (50-21-5/79-33-4/10326-41-7)	10%	G	-
	Phenol	C_6H_5OH (108-95-2)	80%	P	-
Alcohols	n-Butanol (butyl alcohol)	C_4H_9OH (71-36-3)	-	Ex	-
	Ethanol (ethyl alcohol)	CH_3CH_2OH (64-17-5)	-	G	-
	Ethylene glycol (ethan-1,2-diol, monoethylene glycol, MEG)	$(CH_2OH)_2$ (107-21-1)	-	Ex	-
	Glycerol (glycerin, propane-1,2,3-triol)	$HOCH_2CH(OH)CH_2OH$ (56-81-5)	-	Ex	-
	Higher alcohols	$C_nH_{(2n+1)}OH$ where n > 2	-	Ex	-

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Alcohols continued	Methanol (methyl alcohol)	CH_3OH (67-56-1)	-	G	-
	2-Methoxyethanol	$C_3H_8O_2$ (109-86-4)	-	Ex	-
	Propan-1-ol (Propyl alcohol)	$CH_3CH_2CH_2OH$ (71-23-8)	-	Ex	-
	Propylene glycol (1,2-Propanediol)	$CH_3CH(OH)CH_2OH$ (57-55-6)	-	Ex	-
	Secondary alcohols	R_1R_2CHOH	-	Ex	-
	Tertiary alcohols	$R_1R_2R_3COH$	-	Ex	-
Alkalis	Ammonia	NH_3 (7664-41-7)	30% 20% 10%	G Ex 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% 10%	G Ex Ex	- - -
	Sodium hydroxide (caustic soda)	NaOH (1310-73-2)	50% 40% 20% 10%	Ex Ex Ex Ex	- - -
Amines & Amides	Aniline (Phenylamine)	$C_6H_5NH_2$ (62-53-3)	-	M	-
	Diethanolamine	$HN(CH_2CH_2OH)_2$ (111-42-2)	-	Ex	-
	Diethylamine	$CH_3CH_2NHCH_2CH_3$ (109-89-7)	-	P	-
	Dimethylformamide	$(CH_3)_2NC(O)H$ (68-12-2)	-	P	-
	Methylamine (25% in water)	CH_3NH_2 (74-89-5)	-	Ex	-
	Pyridine	C_5H_5N (110-86-1)	-	P	-
	Triethanolamine (TEA) (2,2',2"-nitrilotriethanol)	$N(CH_2CH_2OH)_3$ (102-71-6)	-	Ex	-
Beverages & Foodstuffs	Beer		-	Ex	-
	Cider		-	Ex	-
	Citrus juices		-	Ex	-
	Fermentation liquor		-	Ex	-
	Glucose		-	Ex	-
	Milk		-	G	-
	Sugar solution		-	Ex	-
	Vinegar		-	G	-
	Whisky and Wine		-	M	-

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	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 °C 68 °F	Other
Esters & Ethers	Amyl acetate	$CH_3COO(CH_2)_4CH_3$ (628-63-7)	-	Ex	-
	Butyl acetate	$C_6H_{12}O_2$ (123-86-4)	-	Ex	-
	Dibutyl adipate	$[CH_2CH_2CO_2(CH_2)_3CH_3]_2$ (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	-
	Dioctyl adipate	$C_{22}H_{42}O_4$ (123-79-5)	-	Ex	-
	Dioctyl phthalate	$C_6H_4(C_8H_{17}COO)_2$ (117-81-7)	-	Ex	-
	Dioctyl sebacate	$(CH_2)_8(COOC_8H_{17})_2$	-	Ex	-
	Diethyl ether	$(C_2H_5)_2O$ (60-29-7)	-	Ex	-
	Diphenyl isodecyl phosphate	$C_{22}H_{31}O_4P$ (29761-21-5)	-	Ex	-
	Ethyl acetate	$CH_3COOCH_2CH_3$ (141-78-6)	-	Ex	-
	Isopropyl ether	$C_6H_{14}O$ (108-20-3)	-	Ex	-
	Methyl acetate	CH_3COOCH_3 (79-20-9)	-	Ex	-
Gases	Carbon dioxide (dry)	CO_2 (124-38-9)	-	Ex	-
	Carbon monoxide	CO (630-08-0)	-	Ex	-
	Chlorine (dry)	Cl_2 (7782-50-5)	-	Ex	-
	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_2O (10024-97-2)	-	Ex	-
	Ozone (dry)	O_3 (10028-15-6)	-	Ex	-
	Ozone (aqueous solution)		-	M	-
	Sulfur dioxide	SO_2 (7446-09-5)	-	Ex	-
	Sulfur trioxide (sulfuric anhydride)	SO_3 (7446-11-9)	-	Ex	-

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	Chemical name (Synonym)	Chemical formula (CAS number)	Concentration	20 ˚C 68 ˚F	Other
Halocarbons	Carbon tetrachloride	CCl_4 (56-23-5)	-	G	-
	Chlorobenzene	C_6H_5Cl (108-90-7)	-	G	-
	Chloroform	$CHCl_3$ (67-66-3)	-	G	-
	Dry cleaning fluids		-	G	-
	Methylene chloride (dichloromethane)	CH_2Cl_2 (75-09-2)	-	P	-
	Perchloroethylene (tetrachloroethylene)	$Cl_2C=CCl_2$ (127-18-4)	-	G	-
	1,1,1, - Trichloroethane (methyl chloroform)	CH_3CCl_3 (71-55-6)	-	G	-
Hydrocarbons	Aviation fuel (AVCAT, AVGAS, AVTAG, AVTUR)	N/A	-	Ex	-
	Benzene (benzol)	C_6H_6 (71-43-2)	-	Ex	-
	Cyclohexane	C_6H_{12} (110-82-7)	-	Ex	-
	Gasoline – Ethanol free (Petrol)		-	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	-
	Isooctane (2,2,4-trimethylpentane)	$(CH_3)_3CCH_2CH(CH_3)_2$ (540-84-1)	-	Ex	-
	Kerosene	N/A (8008-20-6)	-	Ex	-
	Paraffin	N/A (8002-74-2)	-	Ex	-
	Pentane	$CH_3CH_2CH_2CH_2CH_3$ (109-66-0)	-	Ex	-
	Styrene	$C_6H_5CH=CH_2$ (100-42-5)	-	Ex	-
	Toluene (methylbenzene, phenylmethane, toluol)	$C_6H_5CH_3$ (108-88-3)	-	Ex	-
	White Spirit (Stoddard solvent, Mineral spirits)	(8052-41-3)	-	Ex	-
	Xylene (dimethyl benzene, xylol)	$C_6H_4(CH_3)_2$ (95-47-6/108-38-3/106-42-3/1330-20-7)	-	Ex	-
Ketones	Acetone	$(CH_3)_2CO$ (67-64-1)	-	M	-
	Methyl ethyl ketone (MEK, butanone)	$CH_3C(O)CH_2CH_3$ (78-93-3)	-	M	-
Miscellaneous	Brake fluid		-	Ex	-
	Drilling mud		-	Ex	-
	Emulsion paint		-	Ex	-
	Fertilizer solutions		-	Ex	-
	Grease		-	Ex	-
	Ink (water based)		-	Ex	-

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Miscellaneous continued	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)		-	Ex	-
	Crude oil		-	Ex	-
	Cutting oils, water emulsions		-	Ex	-
	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	Aluminum chloride (dry)	$AlCl_3$ (7446-70-0)	-	Ex	-
	Aluminum sulfate	$Al_2(SO_4)_3$ (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 monophosphate	$NH_4H_2PO_4$ (7722-76-1)	-	Ex	-
	Ammonium phosphate (dibasic)	$(NH_4)_2HPO_4$ (7783-28-0)	-	Ex	-
	Ammonium phosphate (tribasic)	$(NH_4)_3PO_4$ (10361-65-6)	-	Ex	-
	Ammonium nitrate	NH_4NO_3 (6484-52-2)	-	Ex	-
	Ammonium sulfate	$(NH_4)_2SO_4$ (7783-20-2)	-	Ex	-
	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	-
	Calcium carbonate	$CaCO_3$ (471-34-1)	-	Ex	-

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FN10229

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Salts continued	Calcium chloride	$CaCl_2$ (10043-52-4)	-	Ex	-
	Calcium hypochlorite	$Ca(ClO)_2$ (7778-54-3)	-	Ex	-
	Calcium sulphate	$CaSO_4$ (7778-18-9)	-	Ex	-
	Chrome alum	$KCr(SO_4)_2$ (10141-00-1)	-	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 (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	$Pb(CH_3COO)_2$ (301-04-2)	-	Ex	-
	Magnesium bisulfate	$Mg(HSO_4)_2$ (10028-26-9)	-	Ex	-
	Magnesium chloride	$MgCl_2$ (7786-30-3)	-	Ex	-
	Magnesium sulfate (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	$(NH_4)_2Ni(SO_4)_2$ (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 aluminum sulfate (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_2CO_3 (584-08-7)	-	Ex	-

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Salts continued	Potassium chlorate	$KClO_3$ (3811-04-9)	-	Ex	-
	Potassium chloride	KCl (7447-40-7)	-	Ex	-
	Potassium cyanide	KCN (151-50-8)	-	Ex	-
	Potassium dichromate	$K_2Cr_2O_7$ (7778-50-9)	-	Ex	-
	Potassium diphosphate	K_2HPO_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_2SO_4 (7778-80-5)	-	Ex	-
	Potassium sulfide	K_2S (1059-82-5)	-	Ex	-
	Potassium sulfite	K_2SO_3 (10117-38-1)	-	Ex	-
	Silver nitrate	$AgNO_3$ (7761-88-8)	-	Ex	-
	Sodium acetate	CH_3COONa (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)	$Na_2B_4O_7$ (1303-96-4)	-	Ex	-
	Sodium bromide	NaBr (7647-15-6)	-	Ex	-
	Sodium carbonate (soda ash)	Na_2CO_3 (497-19-8)	-	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	-

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Salts continued	Sodium hypochlorite (bleach)	$NaClO$ (7681-52-9)	12%	G	-
	Sodium metaphosphate	$(NaPO_3)_6$ (10124-56-8)	-	Ex	-
	Sodium metasilicate (sodium silicate)	Na_2SiO_3 (6834-92-0)	-	Ex	-
	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 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 hydrosulfite	ZnS_2O_4 (7779-86-4)	-	Ex	-
	Zinc sulfate	$ZnSO_4$ (7733-02-0)	-	Ex	-

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