



# Chemical Resistance Guide for Concrete

Ambient temperature and maximum concentration apply, unless otherwise noted.

Key  
 1 = Continuous long term exposure  
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 3 = Spills with immediate cleanup (<8 hrs.)  
 4 = Not recommended for direct contact  
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	CS2/ SL-E	CS4	EG-1/ EG-1FC	791	797	988	NVE VC	NVE		CS2/ SL-E	CS4	EG-1/ EG-1FC	791	797	988	NVE VC	NVE
A Acetic Acid (Glacial) [CH3COOH]	4	4	4	4	4	4	1	1	C Carbon Dioxide (dry) [CO2]	1	1	1	1	1	1	1	1
Acetic Acid (10%) [CH3COOH]	4	3	4	4	4	4	1	1	Carbonic Acid (dry) [H2CO3]	1	1	1	1	1	1	1	1
Acetic Acid (5%) [CH3COOH]	4	2	4	4	4	3	1	1	Chlorine Dioxide (12%) [ClO2]	4	2	3	3	3	2	1	1
Acetone [CH3COCH3]	4	4	4	4	4	3	2	2	Chrome Alum [KCr(SO4)2.12H2O]	1	1	1	1	1	1	1	1
Aluminum Chloride (dry) [AlCl3]	1	1	1	1	1	1	1	1	Chromic Acid (20%) [H2Cr2O7]	4	3	4	4	4	3	2	2
Aluminum Sulfate (alum, dry) [Al2(SO4)3]	1	1	1	1	1	1	1	1	Chromic Acid (10%) [H2Cr2O7]	4	2	3	3	3	2	1	1
Ammonia Anhydrous [NH3]	1	1	1	1	1	1	1	1	Citric Acid (50%) [C6H8O7]	4	4	4	4	4	4	1	1
Ammonium Bicarbonate (dry) [NH4HCO3]	1	1	1	1	1	1	1	1	Citric Acid (20%) [C6H8O7]	3	1	2	2	2	1	1	1
Ammonium Carbonate (dry) [(NH4)2CO3]	1	1	1	1	1	1	1	1	Cupric Acetate (dry) [Cu(C2H3O2)2]	1	1	1	1	1	1	1	1
Ammonium Chloride (dry) [NH4Cl]	1	1	1	1	1	1	1	1	Cuprous Chloride (dry) [CuCl]	1	1	1	1	1	1	1	1
Ammonium Hydroxide (28%) [NH4OH]	2	1	1	1	1	1	1	1	Cupric Nitrate (dry) [Cu(NO3)2]	1	1	1	1	1	1	1	1
Ammonium Monophosphate [(NH4)H2PO4]	1	1	1	1	1	1	1	1	Cupric Sulfate (dry) [CuSO4]	1	1	1	1	1	1	1	1
Ammonium Nitrate (dry) [NH4NO3]	1	1	1	1	1	1	1	1	D Deionized Water [H2O]	1	1	1	1	1	1	1	1
Ammonium Sulfate (dry) [(NH4)2SO4]	1	1	1	1	1	1	1	1	Dibutyl Adipate (dry) [C14H26O4]	1	1	1	1	1	1	1	1
Aqua Regia [(HNO3)/3(HCl)]	4	4	4	4	4	3	1	1	Dibutyl Phthalate (dry) [C16H22O4]	1	1	1	1	1	1	1	1
Aviation Fuel	1	1	1	1	1	1	1	1	Dibutyl Sebacate (dry) [C18H34O4]	1	1	1	1	1	1	1	1
B Barium Carbonate (dry) [BaCO3]	1	1	1	1	1	1	1	1	Diesel Fuel	1	1	1	1	1	1	1	1
Barium Chloride (dry) [BaCl2]	1	1	1	1	1	1	1	1	Diethanolamine [C4H11O2N]	4	2	3	3	3	1	2	2
Barium Hydroxide (dry) [Ba(OH)2]	1	1	1	1	1	1	1	1	Diethylamine [C4H11N]	4	2	2	2	2	1	2	2
Barium Sulfate (dry) [BaSO4]	1	1	1	1	1	1	1	1	Diethyl Phthalate (dry) [C24H40O4]	1	1	1	1	1	1	1	1
Beer	1	1	1	1	1	1	1	1	Diethyl Sebacate (dry) [C26H52O4]	1	1	1	1	1	1	1	1
Beet Sugar [C12H22O11]	1	1	1	1	1	1	1	1	E Epsom Salt [MgSO4.7H2O]	1	1	1	1	1	1	1	1
Benzene [C6H6]	4	4	3	3	3	2	2	1	Ethanol [CH3CH2OH]	4	3	3	3	3	1	1	1
Black Liquor	2	1	1	1	1	1	1	1	Ethylene Chloride [CH3CH2Cl]	4	3	4	4	4	3	2	2
Brine	1	1	1	1	1	1	1	1	Ethylene Dichloride [ClCH2CH2Cl]	4	3	4	4	4	3	2	2
Bunker C	1	1	1	1	1	1	1	1	Ethylene Glycol [HOCH2CH2OH]	1	1	1	1	1	1	1	1
C Calcium Bisulfite (dry) [Ca(HSO3)2]	3	1	1	1	1	1	1	1	Ethylene Oxide [C2H4O]	4	3	4	4	4	3	2	2
Calcium Carbonate (dry) [CaCO3]	1	1	1	1	1	1	1	1	F Ferric Chloride (dry) [FeCl3]	2	1	1	1	1	1	1	1
Calcium Chloride (dry) [CaCl2]	1	1	1	1	1	1	1	1	Ferric Chloride (50%) [FeCl3]	2	1	2	2	2	1	1	1
Calcium Hydroxide (dry) [Ca(OH)2]	1	1	1	1	1	1	1	1	Ferric Nitrate [Fe(NO3)3]	3	1	1	1	1	1	1	1
Calcium Sulfate (dry) [CaSO4]	1	1	1	1	1	1	1	1	Ferric Sulfate [Fe2(SO4)3]	3	1	1	1	1	1	1	1
Cane Sugar [C12H22O11]	1	1	1	1	1	1	1	1	Ferrous Chloride (100%,dry) [FeCl2]	2	1	1	1	1	1	1	1



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	CS2/ SL-E	CS4	EG-1/ EG-1FC	791	797	988	NVE VC	NVE		CS2/ SL-E	CS4	EG-1/ EG-1FC	791	797	988	NVE VC	NVE
F Ferrous Nitrate (dry) [Fe(NO3)2]	2	1	1	1	1	1	1	1	M Methane [CH4]	1	1	1	1	1	1	1	1
Ferrous Sulfate (dry) [FeSO4]	2	1	1	1	1	1	1	1	Methanol [CH3OH]	4	3	3	3	3	2	1	1
Fluosilicic Acid (20%) [H2SiF6]	4	3	3	3	3	2	1	1	Methylamine [CH3NH2]	4	2	3	3	3	1	2	2
Fluosilicic Acid (10%) [H2SiF6]	4	2	2	2	2	1	1	1	MEK [C4H8O]	4	4	4	4	4	3	1	1
Formaldehyde (35%) [CH2O]	3	1	1	1	1	1	1	1	Methylene Chloride [CH2Cl2]	4	3	4	4	4	3	2	2
Formic Acid (50%) [CH2O2]	4	4	4	4	4	4	1	1	MIBK [C6H12O]	3	2	3	3	3	2	1	1
Formic Acid (10%) [CH2O2]	4	3	4	4	4	4	1	1	Mineral Spirits	1	1	1	1	1	1	2	2
G Gasoline [C7H16/C10H22]	1	1	1	1	1	1	1	1	Monoethanolamine [H2NCH2CH2OH]	3	2	3	3	3	2	1	1
Glucose [C6H12O6]	1	1	1	1	1	1	1	1	N Naphtha	1	1	1	1	1	1	1	1
Green/White Liquor	2	1	1	1	1	1	1	1	Nickel Ammonium Sulfate (dry) [NiNH4SO4]	2	1	1	1	1	1	1	1
H Heptane [C7H16]	1	1	1	1	1	1	1	1	Nickel Chloride (dry) [NiCl2]	2	1	1	1	1	1	1	1
Hexane [C6H14]	1	1	1	1	1	1	1	1	Nickel Nitrate (dry) [Ni(NO3)2]	2	1	1	1	1	1	1	1
Hydrochloric Acid (37%) [HCl]	4	3	3	3	3	1	1	1	Nickel Sulfate (dry) [NiSO4]	3	1	1	1	1	1	1	1
Hydrochloric Acid (10%) [HCl]	1	1	1	1	1	1	1	1	Nitric Acid (70%) [HNO3]	4	4	4	4	4	4	2	2
Hydrofluoric Acid (10%) [HF]	3	2	3	3	3	2	1	1	Nitric Acid (40%) [HNO3]	4	4	4	4	4	4	1	1
Hydrogen Peroxide (50%) [H2O2]	4	4	4	4	4	3	2	2	Nitric Acid (20%) [HNO3]	4	3	3	3	3	1	1	1
Hydrogen Peroxide (10%) [H2O2]	4	3	3	3	3	2	1	1	Nitric Acid (10%) [HNO3]	4	2	2	2	2	1	1	1
Hydrogen Peroxide (3%) [H2O2]	3	1	2	2	2	1	1	1	Nitrogen [N2]	1	1	1	1	1	1	1	1
Hydrogen Sulfide (wet) [H2S]	3	1	1	1	1	1	1	1	O Oleic Acid [C18H34O2]	4	1	4	4	4	2	1	1
I Iso-Octane [C8H18]	2	1	1	1	1	1	1	1	Ozone 0.5 ppm [O3]	4	2	3	3	3	2	1	1
Isopropyl Alcohol [C3H8O]	1	1	1	1	1	1	1	1	Oleum [fuming H2SO4]	4	2	4	4	4	3	4	4
J Jet Fuel (JP-5)	1	1	1	1	1	1	1	1	P Palmitic Acid [CH3(CH2)14COOH]	4	2	3	3	3	2	1	1
K Kerosene	1	1	1	1	1	1	1	1	Paraffin Wax	1	1	1	1	1	1	1	1
L Lactic Acid (10%) [C3H6O3]	4	2	4	4	4	3	1	1	Pentane [C5H12]	1	1	1	1	1	1	1	1
Lead Acetate [Pb(CH3COO)2]	2	1	1	1	1	1	1	1	Phenol (Carbolic Acid) [C6H6O]	4	3	4	4	4	3	2	2
Lime Water [Ca(OH)2/H2O]	1	1	1	1	1	1	1	1	Phosphoric Acid (85%) [H3PO4]	4	4	4	4	4	1	1	1
M Magnesium Bisulfate (dry) [Mg(HSO4)2]	1	1	1	1	1	1	1	1	Phosphoric Acid (50%) [H3PO4]	4	4	3	3	3	1	1	1
Magnesium Chloride (dry) [MgCl2]	1	1	1	1	1	1	1	1	Phosphoric Acid (30%) [H3PO4]	4	2	2	2	2	1	1	1
Magnesium Sulfate (dry) [MgSO4]	1	1	1	1	1	1	1	1	Phosphoric Acid (10%) [H3PO4]	1	1	1	1	1	1	1	1
Maleic Acid (30%) [C4H4O4]	3	1	2	2	2	1	1	1	Pickle Brine (2 – 4% Acetic Acid)	4	2	4	4	4	3	1	1
Mercuric Chloride (dry) [HgCl2]	1	1	1	1	1	1	1	1	Potash Alum (dry) [AlK08S2]	1	1	1	1	1	1	1	1
Mercury [Hg]	1	1	1	1	1	1	1	1	Potassium Bicarbonate (dry) [KHCO3]	1	1	1	1	1	1	1	1

Technical data reflects results of laboratory tests and is intended to indicate general characteristics only.

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Potassium Bisulfate (dry) [KHSO4]	1	1	1	1	1	1	1	1		Sodium Fluoride (dry) [NaF]	2	1	1	1	1	1	1	1
P Potassium Bromide (30%) [KBr]	1	1	1	1	1	1	1	1	S	Sodium Hydroxide (50%) [NaOH]	2	1	2	2	2	1	1	1
Potassium Carbonate (50%) [K2CO3]	1	1	1	1	1	1	1	1		Sodium Hydroxide (10%) [NaOH]	1	1	1	1	1	1	1	1
Potassium Chloride (30%) [KCl]	1	1	1	1	1	1	1	1		Sodium Hypochlorite (15%) [NaClO]	4	3	4	4	4	3	2	2
Potassium Cyanide (dry) [KCN]	2	1	2	2	2	2	1	1		Sodium Hypochlorite (6%) [NaClO]	2	1	1	1	1	1	1	1
Potassium Dichromate (dry) [K2Cr2O7]	2	1	2	2	2	1	1	1		Sodium Metaphosphate (dry) [(NaPO3)n]	2	1	1	1	1	1	1	1
Potassium Phosphate Dibasic (dry) [K2HPO4]	3	1	2	2	2	1	1	1		Sodium Metasilicate (dry) [Na2SiO3]	2	1	1	1	1	1	1	1
Potassium Ferricyanide (dry) [K3Fe(CN)6]	2	1	2	2	2	1	1	1		Sodium Nitrate (dry) [NaNO3]	1	1	1	1	1	1	1	1
Potassium Ferrocyanide (dry) [K4Fe(CN)6]	2	1	2	2	2	1	1	1		Sodium Phosphate Acid [NaH2PO4]	2	1	2	2	2	1	1	1
Potassium Hydroxide (50%) [KOH]	2	1	1	1	1	1	1	1		Sodium Silicate (dry) [Na2SiO3]	1	1	1	1	1	1	1	1
Potassium Hydroxide (10%) [KOH]	1	1	1	1	1	1	1	1		Sodium Sulfate (dry) [Na2SO4]	1	1	1	1	1	1	1	1
Potassium Iodide [KI]	1	1	1	1	1	1	1	1		Sodium Sulfite (dry) [Na2SO3]	1	1	1	1	1	1	1	1
Potassium Nitrate (dry) [KNO3]	1	1	1	1	1	1	1	1		Stannic Chloride (dry) [SnCl4]	1	1	1	1	1	1	1	1
Potassium Permanganate [KMnO4]	3	1	2	2	2	1	1	1		Starch [C6H12O6]n	1	1	1	1	1	1	1	1
Propylene Oxide [C3H6O]	3	2	3	3	3	2	2	2		Sulfuric Acid (98%) [H2SO4]	4	1	4	4	4	1	4	4
S Salt Water [NaCl+H2O+minerals]	1	1	1	1	1	1	1	1		Sulfuric Acid (70%) [H2SO4]	4	1	4	4	4	1	1	1
Sewage	1	1	1	1	1	1	1	1		Sulfuric Acid (30%) [H2SO4]	1	1	1	1	1	1	1	1
Silicone Oil	1	1	1	1	1	1	1	1		Sulfuric Acid (10%) [H2SO4]	1	1	1	1	1	1	1	1
Silver Nitrate [AgNO3]	1	1	1	1	1	1	1	1		Sulfur Dioxide [SO2]	1	1	1	1	1	1	1	1
Skydrol [aircraft hydraulic fluid]	1	1	1	1	1	1	1	1	T	Tar	1	1	1	1	1	1	1	1
Sodium Acetate [CH3COONa]	1	1	1	1	1	1	1	1		Toluene [C7H8]	4	4	2	2	2	1	1	1
Sodium Aluminate [AlNaO2]	1	1	1	1	1	1	1	1		Transformer Oil	1	1	1	1	1	1	1	1
Sodium Bicarbonate [NaHCO3]	1	1	1	1	1	1	1	1		Turpentine [C10H16]	2	1	1	1	1	1	1	1
Sodium Bisulfate [NaHSO4]	1	1	1	1	1	1	1	1	U	Urea (dry) [H2NCONH2]	1	1	1	1	1	1	1	1
Sodium Bisulfite [Na2S2O5]	1	1	1	1	1	1	1	1		Urea (30%) [H2NCONH2]	1	1	1	1	1	1	1	1
Sodium Borate [Na2B4O7]	1	1	1	1	1	1	1	1	V	Vegetable Oil	1	1	1	1	1	1	1	1
Sodium Bromide [NaBr]	1	1	1	1	1	1	1	1		Vinegar (4 – 8% Acetic Acid)	4	2	4	4	4	3	1	1
Sodium Carbonate [Na2CO3]	1	1	1	1	1	1	1	1	W	Wine (7 – 20% Ethanol)	2	1	2	2	2	1	1	1
Sodium Chlorate (dry) [NaClO3]	1	1	1	1	1	1	1	1	X	Xylene [C6H4(CH3)2]	2	1	1	1	1	1	1	1
Sodium Chloride (dry) [NaCl]	1	1	1	1	1	1	1	1	Z	Zinc Chloride (dry) [ZnCl2]	1	1	1	1	1	1	1	1
Sodium Chromate [Na2CrO4]	2	1	2	2	2	1	1	1		Zinc Hydrosulfite (dry) [Zn(HSO3)2]	1	1	1	1	1	1	1	1
Sodium Cyanide (dry) [NaCN]	1	1	1	1	1	1	1	1		Zinc Sulfate (dry) [ZnSO4]	1	1	1	1	1	1	1	1