



BENZYL ALCOHOL

FORMULA: $C_6H_5 - CH_2OH$ (C_7H_8O)

FORM: LIQUID

MOLECULAR WEIGHT: 108.14

FEMA NUMBER: 2137

CAS REGISTRATION NUMBER: 100-51-6

EINECS CODE NUMBER: 202-859-9

GRADES AVAILABLE: TECHNICAL, N.F./F.C.C., N.F. PARENTERAL, BP / EP, and JP

USES: Benzyl alcohol, Technical grade, is used as a general solvent; in the formulation of inks and lacquers; as a raw material in the manufacture of its various esters, used in the soap, perfume, and flavor industries; and as an intermediate in the synthesis of polypeptides. It is also used extensively as a non-reactive compound where it reduces the viscosity and raises the flexibility of epoxy resin coatings.

The N.F./F.C.C. and BP grades of benzyl alcohol are used in the pharmaceutical industry in emulsions and ointments, and in lotions for the relief of insect bites. In the cosmetics industry it is used as a preservative in conjunction with parabens and with methylisothiazolinone.

TYPICAL PHYSICAL PROPERTIES OF BENZYL ALCOHOL

BOILING POINT	205° C	@ 760 mm Hg
	142° C	@ 100 mm Hg
MELTING POINT	- 15.3° C (+4.5° F)	
SPECIFIC GRAVITY	d 15/4 1.049	
	d 30/4 1.038	
DENSITY	8.7 #/gallon	@ 25° C
REFRACTIVE INDEX	1.540	@ 20° C
FLASH POINT T.C.C.	210° F (98.9° C)	
AUTOIGNITION TEMPERATURE	817° F (436° C)	
VISCOSITY	8 cP	@ 20° C
	5 cP	@ 25° C
	3 cP	@ 50° C
	1 cP	@ 100° C
VAPOR PRESSURE	10 mm Hg	@ 92.6° C
	60 mm Hg	@ 129.3° C
	100 mm Hg	@ 141.7° C
	400 mm Hg	@ 183° C
VAPOR PRESSURE EQUATION	$\text{Log } P = A - B / (t + C)$	A = 6.95916
		B = 1461.6
		P = mm Hg
		t = ° C C = 153.0
SOLUBILITY IN WATER	4 grams / 100 grams water	@ 25° C
	5.5 grams / 100 grams water	@ 60° C
	7.7 grams / 100 grams water	@ 90° C
SOLUBILITY OF WATER IN	~ 8 % (WT)	@ 20° C

TYPICAL PHYSICAL PROPERTIES OF BENZYL ALCOHOL (cont.):

HEAT OF VAPORIZATION	201 BTU / #	@ 205° C
SPECIFIC HEAT	0.87 BTU / # / °C	@ 25° C
HEAT OF COMBUSTION	14.900 BTU / #	@ 25° C
HEAT OF FUSION	35 BTU / #	@ 15.4° C

(The above properties are typical of BENZYL ALCOHOL, but should not be confused with, or regarded as, sales specifications.)

SAFETY and HANDLING of BENZYL ALCOHOL:

SAFETY: Benzyl alcohol is a relatively non-toxic material. The Registry of Toxic Effects of Chemical Substances of the U.S. National Institute of Occupational Science and Health (NIOSH) lists the following data for benzyl alcohol:

Registration Number	DN 3150000	
LD50 (orl-rat)	1230 mg / kg	
LD50 (orl-mouse)	1589 mg / kg	
LD50 (orl-rbt)	1040 mg / kg	
LD50 (ihl-rat)	1000 PPM / 8 hr	
Skn (rbt)	Mild response	10 mg / 24 hr
Skn (gpg)	Moderate response	500 mg / 24 hr
Eye (rbt)	Severe response	750 mg / 24 hr
Aquatic Toxicity Rating	TLm96: 1000 - 100 ppm	

A threshold limit value (TLV) has not been established by the American Conference of Governmental Industrial Hygienists (ACGIH). However, direct contact with benzyl alcohol or prolonged exposure to its vapors should be avoided. At temperatures of less than 25° C, saturated mixtures of air and benzyl alcohol will contain less than 100 ppm (by vol) of Benzyl alcohol.

Benzyl alcohol should be handled with the good manufacturing practices of avoidance of contact, adequate ventilation, and cleanliness, normally accorded the handling of solvents or other organic chemical compounds.

HANDLING: Benzyl alcohol is a non-corrosive and stable liquid. In the presence of air, it will very slowly oxidize to benzaldehyde. For this reason, storage tanks should be blanketed with nitrogen gas. Partially used drums of benzyl alcohol should also be blanketed with nitrogen. Since benzyl alcohol freezes at + 4° F, suitable precautions should be made for cold weather.

Emerald Kalama Chemical stores all of its benzyl alcohol product in type 304 stainless steel tanks, and uses stainless steel pumps and pipelines. Assistance to customers for their particular requirements is available upon request.

Since benzyl alcohol is an excellent solvent, contact with plastics other than fluorinated polymers or poly-olefins should be avoided. High density polyethylene drums have been found to be satisfactory for Technical Grade product.

MSDS: A Material Safety Data Sheet (MSDS) is available for benzyl alcohol.

SHIPPING CONTAINERS: Benzyl alcohol is available in the following containers:

- 1) 55 gallon (U.S.), non-returnable steel drums (with baked phenolic resin lining), 210 Kg (463 #), net. (All grades)
- 2) 55 gallon (U.S.), non-returnable HDPE* drum, 210 Kg (463 #), net. (Technical grade)
- 3) 5,000 gallon (U.S.) stainless steel tank trucks (Technical only)
- 4) 5,000 gallon (U.S.) stainless steel iso-containers (Technical only)
- 5) 20,000 gallon (U.S.) phenolic-resin lined tank cars. (Technical only)
- 6) Technical Grade Benzyl alcohol is also available in HDPE* Intermediate Bulk Containers, each containing 1,050 kg (2,315 #)

* HDPE – High Density Polyethylene

DOMESTIC SHIPPING INFORMATION: Since benzyl alcohol does not meet the definition of any DOT or IMDG Hazard Class, it is not regulated as hazardous by either agency.

HAZARD RATINGS:

HMIS (Hazardous Material Identification System of the National Paint and Coatings Assn.)

HEALTH	2
FLAMMABILITY	1
REACTIVITY	0

NOTE: The information presented herein is believed to be true and accurate. However, all suggestions and recommendations are made without guarantee. Our technical personnel are always ready to respond to inquiries regarding the safe handling of any of our products.

Emerald Kalama Chemical, LLC Sales Offices

**Customer Service
Kalama, WA**

**1-800-223-0035
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Fax 1-360-673-3564**

Stock Points

Edison, NJ
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