



# MATERIAL SAFETY DATA SHEET

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MSDS No. EE 75  
Effective Date January 17, 1996



CHEMTREC  
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Day 716-228-6177

Health	3
Fire	4
Reactivity	2
HMIS <sup>A</sup>	
LEAST	EXTREME
0	4
1	3
2	2

NFPA  
HAZARD RATING  
LEAST SLIGHT MODERATE HIGH EXTREME  
0 1 2 3 4

## SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	ETHYL ALCOHOL REAGENT, DENATURED
Chemical Synonyms	Reagent Ethyl Alcohol, Denatured
Formula	CH <sub>3</sub> CH <sub>2</sub> OH
Unit Size	up to 4 Lt.
C.A.S. No.	64-17-5

## SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Ethyl Alcohol, Denatured: (CAS No. 64-17-5)	90.5%	1000 ppm
Isopropyl Alcohol: (CAS No. 67-63-0)	5.0%	400 ppm
Methyl Alcohol: (CAS No. 67-56-1)	4.5%	200 ppm

**DANGER! FLAMMABLE! VAPOR HARMFUL. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. CANNOT BE MADE NON-POISONOUS.**

## SECTION III PHYSICAL DATA

Melting Point (°F)	-114°C (-173°F)	Specific Gravity (H <sub>2</sub> O = 1)	0.794 @ 60°F
Boiling Point (°F)	78°C (178°F)	Percent Volatile by Volume (%)	100%
Vapor Pressure (mm Hg)	44.6 mm @ 68°F	Evaporation Rate (Butyl Acetate = 1)	4.1
Vapor Density (Air=1)	1.59		
Solubility in Water	Complete.		
Appearance & Odor	Clear, colorless, mobile liquid; mild characteristic odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	12.7°C (55°F) TCC	Flammable Limits in Air % by Volume	Lower	Upper
			3.3	19.0
Extinguisher Media	Dry chemical (ABC); "Alcohol" foam; or carbon dioxide (CO <sub>2</sub> ).			

### SPECIAL FIREFIGHTING PROCEDURES

If involved in fire situation, wear a NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Water may be ineffective, but water should be used to keep fire exposed containers cool. If a leak or spill has not ignited, use water spray to disperse vapors. Water spray may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

Autoignition Temperature: 362°C (685°F)

(1993 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.6, GUIDE PAGE NO. 26)

### UNUSUAL FIRE AND EXPLOSION HAZARDS

Vapors formed from this product may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge or other ignition sources at location distant from handling source. **CAUTION:** Flame may not be visible in daylight. Fire or excessive heat may produce hazardous decomposition products; can react vigorously with oxidizing materials.

D.O.T. DENATURED ALCOHOL, 3, NA 1987

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

## Threshold Limited Value

Ethyl Alcohol: PEL/TLV 1000 ppm; Isopropyl Alcohol: TLV: 400 ppm, STEL: 500 ppm; Methyl Alcohol: PEL-TWA: 200 ppm, STEL: 250 ppm

## Effects of Overexposure

**INGESTION:** Can cause central nervous system depression, nausea, vomiting, diarrhea.  
**INHALATION:** May cause headache, drowsiness, loss of appetite, inability to concentrate and irritation of the throat. **EYES:** Liquid or vapor may cause irritation.  
**SKIN:** May cause irritation and defatting of skin on prolonged contact. **OTHER:** Individual responses to Methyl Alcohol vary. Ingestion of less than 30 mL has been fatal to humans. In general a few ounces may cause blindness and death, as little as 4 mL may be toxic if ingested.

## Emergency and First Aid Procedures

**INGESTION:** Do NOT give anything by mouth to an unconscious or very drowsy person. If conscious, have victim drink several glasses of water. Call physician or Poison Control Center immediately. Induce vomiting if advised by physician or Poison Control Center. **SKIN:** Flush with water.  
**INHALATION:** Remove to fresh air. Give artificial respiration if not breathing. Oxygen may be given by qualified personnel if breathing is difficult. Obtain medical attention. **EYES:** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

## SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	Excessive temperature and heat. Sparks, flame and ignition sources.
	Stable	X		
Incompatibility (Materials to Avoid)	Contact with acetyl chloride and a wide range of oxidizing agents may react violently. Vapors may form flammable mixtures with air.			

**Hazardous Decomposition Products** Carbon monoxide can form on incomplete combustion.

<b>Hazardous Polymerization</b>		Conditions to Avoid
May Occur	Will Not Occur	
	X	Not applicable.

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled** Wearing proper safety equipment and with adequate ventilation, remove all sources of ignition. Absorb on vermiculite or other absorbent and place in suitable container for proper disposal.

**Waste Disposal Method** Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dispose of in an approved incinerator or contract with a licensed waste disposal service.

## SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	Do not use in confined area. If required, work in fume hood with NIOSH/MSHA approved respiratory equipment.			
Ventilation	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	Adequate to maintain below exposure limit
Protective Gloves	Rubber.		Eye Protection	Chemical safety glasses.
Other Protective Equipment	Lab coat, apron, eye wash station, proper gloves, ventilation hood, fire extinguisher.			

## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing** Store in a cool, dry, well-ventilated area, away from heat, sparks and ignition sources. Wash thoroughly after handling. Do not take internally.  
Keep container tightly closed when not in use.

**Other Precautions** Read label on container before using. Do not wear contact lenses when working with chemicals.

Use with adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 5 | Date 1/17/96 | Approved Michael Raszeja | Chemical Safety Coordinator MR

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