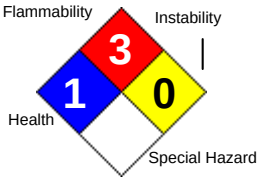
SAFETY DATA SHEET
Denatured Alcohol

HEALTH	*	2
FLAMMABILITY		3
PHYSICAL		0
PPE		X



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Supercedes Revision: 06/08/2012

1. Product and Company Identification

Product Code: 1625.6

Product Name: Denatured Alcohol

Manufacturer Information

Company Name: W. M. Barr
2105 Channel Avenue
Memphis, TN 38113

Phone Number: (901)775-0100

Emergency Contact: 3E 24 Hour Emergency Contact (800)451-8346

Information: W.M. Barr Customer Service (800)398-3892

Web site address: www.wmbarr.com

Preparer Name: W.M. Barr EHS Dept (901)775-0100

Synonyms

CSL26, DSL26, GSL26, QSL26

2. Hazards Identification

GHS Classification

GHS Hazard Phrases

No data available.

GHS Precaution Phrases

No data available.

GHS Response Phrases

No data available.

GHS Storage and Disposal Phrases

No data available.

Potential Health Effects (Acute and Chronic)

Inhalation Acute Exposure Effects:
Vapor harmful. May cause dizziness, headache, watering of eyes, irritation of respiratory tract, irritation to the eyes, drowsiness, nausea, other central nervous system effects, spotted or blurry vision, dilation of pupils, and convulsions.

Skin Contact Acute Exposure Effects:
May cause irritation, drying of skin, redness, and dermatitis. May cause symptoms listed under inhalation. May be absorbed through damaged skin.

Eye Contact Acute Exposure Effects:
May cause irritation.

Ingestion Acute Exposure Effects:
Poison. Cannot be made non-poisonous. May be fatal or cause blindness. May produce fluid in the lungs and pulmonary edema. May cause dizziness, headache, nausea, drowsiness, loss of coordination, stupor, reddening of face and or neck, liver, kidney and heart damage, coma, and death. May produce symptoms listed under inhalation.

Chronic Exposure Effects:
May cause symptoms listed under inhalation, dizziness, fatigue, tremors, permanent central nervous system changes, blindness, pancreatic damage, and death.

Target Organs:
Liver, kidneys, pancreas, heart, lungs, brain, central nervous system, eyes

Medical Conditions Generally Aggravated By Exposure

Diseases of the liver, skin, lung, kidney, central nervous system, pancreas, and heart; asthma; inflammatory or fibrotic pulmonary disease; any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease, or anemias

OSHA Regulatory Status:

This material is classified as hazardous under OSHA regulations.

3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration
1. Ethyl alcohol {Ethanol}	64-17-5	40.0 -50.0 %
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	50.0 -55.0 %
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	1.0 -4.0 %
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	0.5 -1.5 %
5. Heptane	142-82-5	0.5 -1.5 %

4. First Aid Measures

Emergency and First Aid Procedures

Skin:
Immediately begin washing the skin thoroughly with large amounts of water and mild soap, if available, while removing contaminated clothing. Seek medical attention if irritation persists.

Eyes:
Immediately begin to flush eyes with water, remove any contact lens. Continue to flush the eyes for at least 15 minutes, then seek immediate medical attention.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

Ingestion:
If swallowed, do NOT induce vomiting. Seek immediate medical attention. Call a physician, hospital emergency room, or poison control center immediately. Never give anything by mouth to an unconscious person.

Note to Physician

Poison. This product contains methanol. Methanol is metabolized to formaldehyde and formic acid. These metabolites may cause metabolic acidosis, visual disturbances and blindness. Since metabolism is required for these toxic symptoms, their onset may be delayed from 6 to 30 hours following ingestion. Ethanol competes for the same metabolic pathway and has been used as an antidote. Methanol is effectively removed by hemodialysis. Call your local poison control center for further instructions.

Signs and Symptoms Of Exposure

See Potential Health Affects

5. Fire Fighting Measures

Flammability Classification: OSHA Class IB

Flash Pt: 45 F Method Used: Setaflash Closed Cup (Rapid Setaflash)

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data available.

Fire Fighting Instructions

Self-contained respiratory protection should be provided for fire fighters fighting fires in buildings or confined area. Storage containers exposed to fire should be kept cool with water spray to prevent pressure build-up. Stay away from heads of containers that have been exposed to intense heat or flame.

Flammable Properties and Hazards

Vapors are heavier than air. Vapor may travel considerable distance to source of ignition and flash back.

Hazardous Combustion Products

carbon monoxide, carbon dioxide

Suitable Extinguishing Media

Use carbon dioxide, dry powder, or alcohol resistant foam.

Unsuitable Extinguishing Media

Water may be ineffective. Solid streams of water will likely spread the fire.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

Vapors are heavier than air. Vapors may cause flash fire or ignite explosively.

Clean up: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Shut off ignition sources; keep flares, smoking or flames out of hazard area. Use non-sparking tools. Use proper bonding and grounding methods for all equipment and processes. Keep out of waterways and bodies of water. Be cautious of vapors collecting in small enclosed spaces, sewers, low lying areas, confined spaces, etc.

Small spills: Take up with sand, earth or other noncombustible absorbent material and place in a plastic container where applicable.

Large spills: Dike far ahead of spill for later disposal.

Waste Disposal: Dispose in accordance with applicable local, state and federal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling

Read carefully all cautions and directions on product label before use. Since empty container retains residue, follow all label warnings even after container is empty. Dispose of empty container according to all regulations. Do not reuse this container.

Do not use this product near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

Do not use in small enclosed spaces, such as basements and bathrooms where vapors can accumulate. Vapors can accumulate and explode if ignited.

Do not use this product if the work area is not well ventilated. Use only with adequate ventilation to prevent build up of vapors.

Do not spread this product over large surface areas because fire and health safety risks will increase dramatically.

Use proper bonding and grounding when transferring material. Be aware of static electricity generation when handling material.

Precautions To Be Taken in Storing

Keep container tightly closed when not in use. Store in a cool, dry place. Do not store near any source of heat or open flame, furnace areas, pilot lights, stoves, etc.

8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TWA	Other Limits
1. Ethyl alcohol {Ethanol}	64-17-5	PEL: 1000 ppm	TLV: 1000 ppm	No data.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	PEL: 200 ppm	TLV: 200 ppm STEL: 250 ppm	No data.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	PEL: 100 ppm	TLV: 50 ppm STEL: 75 ppm	No data.
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	PEL: 400 ppm	TLV: 400 ppm	No data.
5. Heptane	142-82-5	PEL: 500 ppm	TLV: 400 ppm	No data.

Respiratory Equipment (Specify Type)

For use in areas with inadequate ventilation or fresh air, wear a properly maintained and properly fitted NIOSH approved respirator for organic solvent vapors.

For OSHA controlled work places and other regular users - Use only with adequate ventilation under engineered air control systems designed to prevent exceeding the appropriate TLV.

A dust mask does not provide protection against vapors.

Eye Protection

Chemical splash goggles should be worn to prevent eye contact.

Protective Gloves

Wear gloves with as much resistance to the chemical ingredients as possible. Glove materials such as nitrile, natural rubber, and neoprene will provide protection. Glove selection should be based on chemicals being used and conditions of use. Consult your glove supplier for additional information. Gloves contaminated with product should be discarded and not reused.

Other Protective Clothing

Various application methods can dictate the use of additional protective safety equipment, such as impermeable aprons, etc., to minimize exposure.

Engineering Controls (Ventilation etc.)

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Use only with adequate ventilation to prevent buildup of vapors. Do not use in areas where vapors can accumulate and concentrate, such as basements, bathrooms or small enclosed areas. Whenever possible, use outdoors in an open air area. If using indoors open all windows and doors and maintain a cross ventilation of moving fresh air across the work area. If strong odor is noticed or you experience slight dizziness, headache, nausea or eye-watering -- STOP -- ventilation is inadequate. Leave area immediately and move to fresh air.

Work/Hygienic/Maintenance Practices

Wash hands thoroughly after use and before eating, drinking, smoking, or using the restroom.

Do not eat, drink, or smoke in the work area.

Discard any clothing or other protective equipment that cannot be decontaminated.

Facilities storing or handling this material should be equipped with an emergency eyewash and safety shower.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Melting Point:	No data.
Boiling Point:	150 F
Autoignition Pt:	No data.
Flash Pt:	45 F Method Used: Setaflash Closed Cup (Rapid Setaflash)
Specific Gravity (Water = 1):	0.7934 - 0.8108
Density:	6.646 LB/GL
Vapor Pressure (vs. Air or mm Hg):	76 MM HG at 68 F
Vapor Density (vs. Air = 1):	> 1
Evaporation Rate:	> 1
Solubility in Water:	No data.
Percent Volatile:	100 % by weight.
VOC / Volume:	790 G/L

Appearance and Odor

Water white, alcohol odor

10. Stability and Reactivity

Stability: Unstable [ ] Stable [X]

Conditions To Avoid - Instability

No data available.

Incompatibility - Materials To Avoid

Incompatible with strong oxidizing agents, strong acids, reactive metals, halogens, strong inorganic acids, and aldehydes.

Hazardous Decomposition Or Byproducts

Decomposition may produce carbon monoxide and carbon dioxide.

Possibility of Hazardous Reactions: Will occur [ ] Will not occur [X]

Conditions To Avoid - Hazardous Reactions

No data available.

11. Toxicological Information

Toxicological Information

Ethanol:
ACUTE TOXICITY:
LD50 Rat oral 7060 mg/kg
LC50 Rat inhalation 20000 ppm/ 10 hr
SKIN CORROSION / IRRITATION: Skin irritant.
SERIOUS EYE DAMAGE / IRRITATION: Eye irritant. Will cause burning and stinging.
RESPIRATORY OR SKIN SENSITIZATION: Ethanol has been shown to have a weak skin sensitizing potential in a very small percentage of the population.

ASPIRATION HAZARD: No data.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: The clinical features of ethanol intoxication in a nontolerant individual are related to blood alcohol levels: at 50 to 150 mg/dL (0.05 to 0.15%), there is mild intoxication: slight impairment of visual acuity, muscular incoordination, and reaction time; and mood personality, and behavioral changes; at 150 to 300 mg/dL (0.15 to 0.30%), moderate intoxication occurs, resulting in visual impairment, sensory loss, muscular incoordination, slowed reaction time, and slurred speech; at 300 to 500 mg/dL (0.30 to 0.50%), there is severe intoxication characterized by marked muscular incoordination, blurred or double vision, sometimes stupor and hypothermia, vomiting and nausea, and occasional hypoglycemia and convulsions; and at > 400 mg/dL (0.40%), there are coma, respiratory depression, hypotension and hypothermia, and death from respiratory or circulatory failure or as a result of aspiration of stomach contents in the absence of a gag reflex.
DEVELOPMENTAL/REPRODUCTIVE: Prenatal exposure to ethanol (as alcoholic beverages) is associated with a distinct pattern of congenital malformations that have been collectively termed the fetal alcohol syndrome. There have been no reports of fetal alcohol syndrome as a result of industrial exposure by the oral, dermal, or inhalation routes.
CARCINOGEN STATUS: Not classifiable as a human carcinogen.

Ethyl Acetate:
ACUTE TOXICITY:
LD50, rat, oral, 5,600 mg/kg
LC50, rat, inhalation, 16,000 ppm, 6 hr
LD50, rabbit, skin, >20 mL/kg
SKIN CORROSION / IRRITATION: Causes slight skin irritation.
SERIOUS EYE DAMAGE / IRRITATION: Causes eye irritation.
RESPIRATORY OR SKIN SENSITIZATION: Not a sensitizer.
ASPIRATION HAZARD: No data.
MUTAGENIC DATA: Ethyl acetate was negative for mutagenicity in Salmonella typhimurium assays.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: High concentrations may cause CNS depression.
DEVELOPMENTAL/REPRODUCTIVE: No data.
CARCINOGEN STATUS: No data.

Heptane:
LD50 Mouse iv 222 mg/kg
LD50 Mouse inhalation 75 g/cu m/2 hr
LC50 Rat inhalation 103 g/cu m/4 hr

Methanol:
ACUTE TOXICITY:
LD50 Rat oral 5628 mg/kg
LC50 Rat inhalation 64000 ppm/4 hr
LC50 Rat inhalation 87.5 mg/L/6 hr
LD50 Mouse oral 7300 mg/kg
SKIN CORROSION / IRRITATION: LD50 Rabbit dermal 15,800 mg/kg bw
SERIOUS EYE DAMAGE / IRRITATION: Methanol is a mild to moderate eye irritant.
RESPIRATORY OR SKIN SENSITIZATION: Not a respiratory or skin sensitizer.

ASPIRATION HAZARD: Methanol presents an aspiration hazard.
MUTAGENIC DATA: No data.
IMMUNOTOXICITY: No data.
NEUROTOXICITY: Overexposure to methanol has been suggested as causing central nervous system damage in laboratory animals.
DEVELOPMENTAL/REPRODUCTIVE: The inhalation of methanol by pregnant rodents throughout the period of embryogenesis induces a wide range of concentration-dependent teratogenic and embryolethal effects. Methanol has caused birth defects in laboratory animals, but only when inhaled at extremely high vapor concentrations. The relevance of this finding to humans is uncertain.
CARCINOGEN STATUS: There is no evidence from animal studies to suggest methanol is a carcinogen.

Methyl Isobutyl Ketone:
LD50 Rabbit dermal >16000 mg/kg bw
LC50 Rat inhalation 8.2-16.4 mg/L/4 hr
LD50 Mouse ip 590 mg/kg bw
LD50 Guinea pig ip 0.919 mL/kg
LC50 Mouse inhalation, CF-1, 74.2 + or - 25.8 mg/L/45 min
LD50 Rat ip 1.14 mL/kg
LD50 Mouse oral 2850 mg/kg bw
LD50 Mouse oral 1900 mg/kg bw
LD50 Rat oral 4600 mg/kg bw
LD50 Rat oral 2.08 g/kg

CAS# 67-56-1:
Reproductive Effects:, TDLo, Oral, Rat, 42.00 mL/kg, 21 day after birth.
Result:
Effects on Newborn: Behavioral.
- Neurotoxicology and Teratology., Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, Vol/p/yr: 24,519, 2002

Mutagenicity:, Mutation test: DNA damage., Oral, Rat, 10.00 UMOL/KG.
Result:
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.
Tumorigenic:Tumors at site of application.
- Environmental Mutagenesis., For publisher information, see EMMUEG, New York, NY, Vol/p/yr: 4,317, 1982

Acute toxicity, LD50, Oral, Rat, 5628. MG/KG.
Result:
Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).
- Gigiena Truda i Professional'nye Zabolevaniya.(Labor Hygiene and Occupational Disease), V/O Mezhdunarodnaya Kniga, Moscow 113095 Russia, Vol/p/yr: 19(11),27, 1975

Acute toxicity, LC50, Inhalation, Rat, 64000. PPM, 4 H.
Result:
Behavioral: Altered sleep time (including change in righting reflex).
Behavioral: Somnolence (general depressed activity).
Lungs, Thorax, or Respiration:Dyspnea.
- Raw Material Data Handbook, Vol.1: Organic Solvents, 1974., National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Labor, Lehigh Univ., Bethlehem, PA 18015, Vol/p/yr: 1,74, 1974

Acute toxicity, TDLo, Oral, Rat, 3.000 gm/kg.
Result:
Liver: Other changes.
- Toxicologist., Soc. of Toxicology, Inc., 475 Wolf Ledge Parkway, Akron, OH 44311, Vol/p/yr: 72,315, 2003

Standard Draize Test, Skin, Species: Rabbit, 20.00 MG, 24 H, Moderate.
Result:
Blood:Other changes.
Biochemical: Metabolism (Intermediary): Other proteins.
- Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,187, 1986

Standard Draize Test, Eyes, Species: Rabbit, 40.00 MG, Moderate.
Result:
Blood:Other hemolysis with or withot anemia.
Blood:Other changes.
Biochemical: Metabolism (Intermediary): Other proteins.
- Union Carbide Data Sheet, Union Carbide Corp., 39 Old Ridgebury Rd., Danbury, CT 06817, Vol/p/yr: 3/24, 1970

Standard Draize Test, Eyes, Species: Rabbit, 100.0 MG, 24 H, Moderate.
Result:
Blood:Changes in serum composition (e.g.
Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Phosphatases.
Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels: Transaminases.
- Prehled Prumyslove Toxikologie, Marhold, J., Organicke Latky, Prague Czechoslovakia, Vol/p/yr: -,187, 1986

Chronic Toxicological Effects

No data available.

Carcinogenicity/Other Information

IARC 2B - Possibly Carcinogenic to Humans
ACGIH A4 - Not Classifiable as a Human Carcinogen.

IARC has determined that the consumption of alcoholic beverages is casually related to the occurrence of malignant tumors of the oral cavity, pharynx, larynx, esophagus, and liver in humans. The carcinogenic response attributed to drinking alcoholic beverages has not be verified in studies with laboratory animals. Established uses of denatured ethanol and non-beverage use of pure ethanol are not considered to pose any significant cancer hazard.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Ethyl alcohol {Ethanol}	64-17-5	n.a.	1	A4	n.a.
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	n.a.	n.a.	n.a.	n.a.
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	n.a.	2B	n.a.	n.a.
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	n.a.	n.a.	n.a.	n.a.
5. Heptane	142-82-5	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information

Ethanol:
TOXICITY:
LC50 Salmo gairdnerii (Rainbow trout) 13000 mg/L/96 hr at 12 deg C (95% Confidence limit 12000-16000 mg/L), wt 0.8 g /Static bioassay/
LC50 Pimephales promelas (fathead minnows) 15.3 g/L/96 hr (95% confidence limit 14.0-16.6 g/L); age 30 days old, water hardness 47.3 mg/L (CaCO3), temp 24.3 deg C, pH 7.60, dissolved oxygen 6.8 mg/L, alkalinity 43.7 mg/L (CaCO3); tank vol: 6.3 L; additions: 3.81 vol/day /Flow-through bioassay/
PERSISTENCE AND DEGRADABILITY: If released to the atmosphere, an extrapolated vapor pressure of 59.3 mm Hg at 25 deg C indicates that ethanol will exist solely in the vapor phase. Vapor phase ethanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 5X10-6 atm-cu m/mole. Ethanol may also volatilize from dry soils based upon it vapor pressure. Biodegradation is expected to occur rapidly in the environment based on numerous screening tests using different types of inocula and incubation periods. Ethanol was degraded with half-lives on the order of a few days using microcosms constructed with a low organic sandy soil and groundwater, indicating it is unlikely to be persistent in the environment.
BIOACCUMULATIVE POTENTIAL: If released into water, ethanol is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.
MOBILITY IN SOIL: If released to soil, ethanol is expected to have very high mobility based upon an estimated Koc of 1.
OTHER ADVERSE EFFECTS: No data.

Ethyl Acetate:
Toxicity:
LC50 HETEROPNEUSTES FOSSILIS (COMMON INDIAN CATFISH) 212.5 PPM/96 HR /
LC50 Pimephales promelas (fathead minnow) 230 mg/l/96 hr
EC50 Pimephales promelas (fathead minnow) 220 mg/l/96 hr
Persistance and Degradability: Biodegradation is expected to be an important process in both soil and water.
Bioaccumulative Potential: If released into water, ethyl acetate is not expected to adsorb to suspended solids and sediment in water based on the estimated Koc. An estimated BCF of 3.2 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility in Soil: Expected to have high mobility based upon an estimated Koc of 59.

Methanol:
TOXICITY: Methanol is of low toxicity to aquatic organisms. LC50 Pimephales promelas (fathead minnows) 29.4 g/L/96 hr, (28-29 days old), confidence limit= 28.5-30.4; Test conditions: Water temp= 25 deg C, dissolved oxygen= 7.3 mg/L, water hardness= 43.5 mg/l calcium carbonate, alkalinity= 46.6 calcium carbonate, tank volume= 6.3 L, additions= 5.71 V/D, pH= 7.66 (0.03).
PERSISTENCE AND DEGRADABILITY: If released to the atmosphere, a vapor pressure of 127 mm Hg at 25 deg C indicates that methanol will exist solely in the vapor phase. Vapor phase methanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 4.55X10-6 atm-cu m/mole. Methanol may also volatilize from dry soils based upon it vapor pressure. Biodegradation of methanol in soils is expected to occur rapidly based on half-lives in a sandy silt loam from Texas and a sandy loam from Mississippi of 1 and 3.2 days, respectively. If released into

water, methanol is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 3 and 35 days, respectively. Biodegradation is expected to occur in natural waters since methanol is degraded quickly in soils and was biodegraded rapidly in various aqueous screening tests using sewage seed or activated sludge. Hydrolysis of methanol and photolysis in sunlit surface waters are not expected since methanol lacks functional groups that are susceptible to hydrolysis or photolysis under environmental conditions.
BIOACCUMULATIVE POTENTIAL: BCF values of less than 10, measured in fish suggests bioconcentration in aquatic organisms is low.
MOBILITY IN SOIL: If released to soil, methanol is expected to have very high mobility based upon an estimated Koc of 1.

Methyl Isobutyl Ketone:
Toxicity:
LC50 fathead minnow 96 hr 780 mg/L
LC50 water flea 48 hr >1,000 mg/L
LC50 bacteria 16 hr >1,000 mg/L
Persistance and Degradability: A biodegradation rate of 0.24 1/hr using activated sludge suggests that biodegradation is an important environmental fate process.
Bioaccumulative Potential: An estimated BCF of 2 suggests the potential for bioconcentration in aquatic organisms is low.
Mobility in Soil: Expected to have high mobility based upon an estimated Koc of 120.

Results of PBT and vPvB assessment

CAS# 67-56-1:
LC50, Fathead Minnow (Pimephales promelas), 28400. MG/L, 24 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Fathead Minnow (Pimephales promelas), 28400. MG/L, 48 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Fathead Minnow (Pimephales promelas), 28100. MG/L, 96 H, Mortality, Water temperature: 25 C C.
Result:
Sex Effects.
- Toxicity and Metabolism Studies with EPA (Environmental Protection Agency) Priority Pollutants and Related Chemicals in Freshwater Organisms, Call, D.J., L.T. Brooke, N. Ahmad, and J.E. Richter, 1983

LC50, Water Flea (Daphnia magna), larva(e), 100000. UG/L, 96 H, Mortality, Water temperature: 20 C C, pH: 8.50.
Result:
Sex Effects.
- Simultaneous Evaluation of the Acute Effects of Chemicals on Seven Aquatic Species, Ewell, W.S., J.W. Gorsuch, R.O. Kringle, K.A. Robillard, and R.C. Spiegel, 1986

LC50, Water Flea (Daphnia magna), neonate, 4816. MG/L, 24 H, Mortality, Water temperature: 20 C C. Result:
Age Effects.
- Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?, Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares, 2000

LC50, Water Flea (Daphnia magna), neonate, 3289. MG/L, 48 H, Mortality, Water temperature: 20 C C. Result:
Age Effects.
- Acute Toxicity Test with Daphnia magna: An Alternative to Mammals in the Prescreening of Chemical Toxicity?, Guilhermino, L., T. Diamantino, M.C. Silva, and A.M.V.M. Soares, 2000

13. Disposal Considerations

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

14. Transport Information

LAND TRANSPORT (US DOT)

DOT Proper Shipping Name	Alcohols, n.o.s. (Ethyl Alcohol, Methanol)
DOT Hazard Class:	3
DOT Hazard Label:	FLAMMABLE LIQUID
UN/NA Number:	UN1987
Packing Group:	II

Additional Transport Information

The transportation information listed above is suitable for all modes of transportation. IMO/IMDG, ICAO/IATA, 49 CFR

For D.O.T. information, contact W.M. Barr Technical Services at 1-800-398-3892.

The shipper / supplier may apply one of the following exceptions: Combustible Liquid, Consumer Commodity, Limited Quantity, Viscous Liquid, Does Not Sustain Combustion, or others, as allowed under 49CFR Hazmat Regulations. Please consult 49CFR Subchapter C to ensure that subsequent shipments comply with these exceptions.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Ethyl alcohol {Ethanol}	64-17-5	No	No	No	No
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	No	Yes 5000 LB	Yes	No
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	No	Yes 5000 LB	Yes	Yes
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	No	Yes 5000 LB	No	No
5. Heptane	142-82-5	No	No	No	No

Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Ethyl alcohol {Ethanol}	64-17-5	No	No	Inventory	No

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
2. Methanol {Methyl alcohol; Carbinol; Wood alcohol}	67-56-1	HAP	No	Inventory	Yes
3. Methyl isobutyl ketone {Hexone; Isopropylacetone; MIBK; 4-Methyl-2-pentanone}	108-10-1	HAP	No	Inventory	Yes
4. Acetic acid, ethyl ester {Ethyl acetate}	141-78-6	No	No	Inventory, 4 Test	No
5. Heptane	142-82-5	No	No	Inventory, 4 Test, 8A PAIR	No

EPA Hazard Categories:

This material meets the EPA 'Hazard Categories' defined for SARA Title III Sections 311/312 as indicated:

[X] Yes [ ] No Acute (immediate) Health Hazard

[X] Yes [ ] No Chronic (delayed) Health Hazard

[X] Yes [ ] No Fire Hazard

[ ] Yes [X] No Sudden Release of Pressure Hazard

[ ] Yes [X] No Reactive Hazard

Regulatory Information Statement

All components of this material are listed on the TSCA Inventory or are exempt.

16. Other Information

Company Policy or Disclaimer

The information contained herein is presented in good faith and believed to be accurate as of the effective date shown above. This information is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. Any use of this data and information must be determined by the user to be in accordance with applicable federal, state and local laws and regulations.

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