

Safety Data Sheet (SDS)

Section 1: Chemical Product and Company Identification

Cat# : V1655M

Part Name: Koptec Ethanol CDA-19 200 Proof

Supplier: DLI

460 Glennie Circle King of Prussia, Pa 19406
SDS Telephone # (610) 755-0800

Emergency Telephone Numbers

US Chemtrec: (800) 424-9300

Canada: (703) 527-3887

Identified uses: Laboratory use

Section 2: Hazards Identification:

Hazard Overview

OSHA Hazards:

Flammable liquid, Target Organ Effect, Irritant

Target Organs:

Heart, Liver, Nerves

GHS label elements, including precautionary statements



Signal Word:

DANGER!

Hazard and Precautionary Statements

Hazard statement(s)

H225 Highly flammable liquid and vapor

H315 Causes skin irritation

H320 Causes eye irritation

H335 May cause respiratory irritation

Precautionary statement(s)

P501 Dispose of contents and container to an approved waste disposal plant

P260 Do not breathe dust/fume/ gas/ mist/vapours/ spray

P240 Ground/bond container and receiving equipment

P337 + P313 If eye irritation persists: Get medical attention

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water

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P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P233 Keep container tightly closed

P403 + P235 Store in a well-ventilated place. Keep cool

P243 Take precautionary measures against static discharge

P241 Use explosion-proof electrical, ventilating , and lighting equipment.

P242 Use only non-sparking tools

P264 Wash hands thoroughly after handling

P280 Wear protective gloves and eye and face protection

GHS Classification(s)

Eye irritation (Category 2B)

Flammable Liquids (Category 2)

Skin irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Other hazards which do not result in classification

Potential Health Effects:

Organ	Description
Eyes	Can cause eye irritation with symptoms of stinging, tearing, and redness.
Ingestion	Ingestion may cause dizziness, faintness, drowsiness decreased awareness or responsiveness, nausea, vomiting, staggering gait, lack of coordination, coma and death.
Inhalation	High vapor concentration may cause burning sensation in nose and throat and stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may also occur.
Skin	Causes moderate skin irritation. Can cause dermatitis by de-fatting the skin from prolonged or repeated contact.
Chronic	Effects of Repeated Overexposure: Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. Other Health Hazards: Repeated ingestion of Ethanol by pregnant mothers has been shown to adversely affect the development of the fetal central nervous system and progression of fetal alcohol syndrome. Medical conditions aggravated by overexposure. Repeated exposure to the ethanol may aggravate previous liver conditions. Skin contact may aggravate dermatitis.

NFPA Rating

Hazard Ratings:

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These ratings are Decon Laboratories Inc.'s own assessments of the properties of the material using the ANSI/NFPA 704 Standard. Additional information can be found by consulting in the NFPA published ratings lists (List 325 and list 49).

If no data is listed the information is not available

Health 1 Flammability 3 Reactivity 0

Section 3: Composition/ Information on ingredients

Chemical identity: Ethanol CDA 19, 200 Proof
Common name / Synonym: Denatured Alcohol; Denatured Ethanol; Completely Denatured Alcohol; COMPLETELY DENATURED ALCOHOL 19-5 /200 PROOF (ETHANOL DENATURED WITH MIBK AND RUBBER HYDROCARBON SOLVENT)

UN #: 1987

% Volume	Material	CAS
90-99	Ethanol	64-17-5
2-5	Methyl Isobutyl Ketone	108-10-1
0.5-1.5	Rubber solvent	64742-89-8

Section 4: First Aid Measures

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

Note to Physician

Symptoms will vary with alcohol level of the blood. Mild alcohol intoxication occurs at blood levels

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between 0.05- 0.15%. Approximately 25% of individuals show signs of intoxication at these levels. Above 0.15% the person is definitely under the influence of ethanol ; 50-95% of individuals are clinically intoxicated at these levels. Severe poisoning occurs when the blood is ethanol level is 0.3- 0.5%. Above 0.5% the individual will be comatose and death can occur. The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs and administering excessive amounts of fluids.

Section 5: Fire-Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Alcohol-resistant foam, carbon dioxide, dry chemical, water spray, fog.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid. Water may be ineffective because it may not cool material below its flash point.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Highly flammable liquid and vapor.

Explosion Hazard: May form flammable/explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

Reactivity: Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂).

Reference to Other Sections

Refer to section 9 for flammability properties.

Section 6: Accidental Release measures

Personal precautions, protective equipment and emergency procedures:

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed

Section 7: Handling and Storage

Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No

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smoking. Take measures to prevent the buildup of electrostatic charge. Open and handle container with care. Metal containers involved in the transfer of this material should be grounded and bonded.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leaks/spills. Consult local fire codes for additional storage information

Section 8: Exposure Controls/ Personal Protection

Control parameters, e.g., occupational exposure limit values or biological limit values:

Occupational Exposure Limits

Component	Source	Type	Value	Note
Ethyl alcohol	US (ACGIH)	STEL	1000 ppm	Upper Respiratory Tract irritation Confirmed animal carcinogen with unknown relevance to humans
Ethyl alcohol	US (OSHA)	TWA	1000 ppm / 1,900 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants.
Methyl Isobutyl Ketone	US (ACGIH)	TWA	50 ppm	
Methyl Isobutyl Ketone	US (ACGIH)	STEL	75 ppm	
Rubber Solvent (n-Hexane)	US (OSHA)	TWA	400 ppm, 1800 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants.
Water	/		No exposure Limit.	

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:

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Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9: Physical and Chemical Properties

PHYSICAL AND CHEMICAL PROPERTIES

Appearance (<i>physical state, color, etc.</i>)	Liquid. Colorless.
Odor	Specific data not available
Odor threshold	Specific data not available
pH	Specific data not available
Freezing point	-114°C (-173°F)
Initial boiling point and boiling range	78°C (173°F)
Flash point	14°C (58°F) - closed cup
Evaporation rate	(butylacetate = 1) 3.0 for pure 190 proof EthylAlcohol
Flammability (solid, gas)	Flammable
Upper / Lower flammability or explosive limits	19%(V) / 3.3%(V) (for 100% EthylAlcohol)
Vapor pressure	41.6mmHg (5.55 kPa)
Vapor Density	1.6 (air =1)
Relative Density	6.79 lbs/gal
Solubility(ies)	100% at 20°C for pure 190 proof EthylAlcohol
Partition coefficient n-octanol/water(ies)	Specific data not available
Auto-ignition temperature	363°C (685.4°F) - (100% EthylAlcohol)
Decomposition temperature	Specific data not available
Formula (ETHANOL)	C ₂ H ₆ O
Formula (METHYL ISOBUTYL KETONE)	C ₆ H ₁₂ O
Formula (N-HEXANE)	C ₆ H ₁₄
Formula (WATER)	H ₂ O
Molecular Weight (ETHANOL)	46.07 g/mol
Molecular Weight (METHYL ISOBUTYL KETONE)	100.16 g/mol
Molecular Weight (N-HEXANE)	86.18 g/mol
Molecular Weight (WATER)	18.02 g/mol

Section 10: Stability and Reactivity:

Chemical Stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapors may form explosive mixture with air.
Conditions to avoid (e.g., static discharge, shock or vibration)	Heat, flames, and sparks. Extreme temperatures and direct sunlight.
Incompatible materials	Strong acids, strong oxidizing agents
Hazardous decomposition products	Carbon oxides are expected to be, under fire conditions, the primary hazardous decomposition products.

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Section 11: Toxicological Information

Signs and Symptoms of Exposure

Central nervous system depression, narcosis, damage to the heart. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Product Summary :

Ethanol is not toxic by OSHA standards. Co-ingestion of sedative hypnotics or tranquilizers can increase the toxic effects of ethanol. No data available to designate the product as causing specific target organ toxicity through repeated exposure. No data available to designate product as an aspiration hazard.

Acute Toxicity:

LC50 Inhalation	Rat	20000 ppm	10 hrs.
LC50 Oral	Rat	7060mg/Kg BWT	
LDLo Oral	Human	1400 mg/Kg BWT	

Irritation:

Eyes (ETHANOL)

Eye exposure to Ethanol generally causes transient pain, irritation, and reflex lid closure. A foreign-body sensation may persist for one to two days. Vapors produce transient stinging and tearing, but no apparent adverse effects. Transiently impaired preception of color may occur with acute ingestion or chronic alcoholism. Standard Draize eye test (rabbit) - Dose: 500 mg Reaction: Severe Dose: 500 mg/24 hrs Reaction: Mild

Respiratory or Skin

Sensitization No data available

Skin

Standard Draize skin test (rabbit) - Dose: 20 mg/24 hrs Reaction: Moderate Repeated exposure may cause skin dryness or cracking.

Reproductive Toxicity

Reproductive toxicity - Human - female - Oral. Effects on Newborns - measured low apgar scores and showed signs of alcohol dependence.

Specific target organ toxicity - single exposure (Globally Harmonized System) Inhalation - May cause respiratory irritation. – Lungs

Carcinogenicity

ARC: Not classifiable as a human carcinogen. ACGIH: Not classifiable as a human carcinogen. NTP: Not classifiable as a human carcinogen. OSHA: Not classifiable as a human carcinogen.

Carcinogenicity - Mouse - Oral. Tumorigenic. Tumors found in liver and formation of lymphomas in blood.

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Other Hazards

Organ	Description
Eyes	Causes irritation to the eyes. Can cause painful sensitization to light. Can cause a form of chemical conjunctivitis and cause corneal damage.
Ingestion	Can cause gastrointestinal irritation with nausea, vomiting and diarrhea. Systemic toxicity and acidosis can occur. Advanced stages can lead to respiratory failure, kidney failure, coma, and death.
Inhalation	Causes respiratory tract irritation. Can cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation. Systemic toxicity and acidosis can occur. Advanced stages can lead to respiratory failure, kidney failure, coma, and death.
Skin	Causes moderate skin irritation. Can cause dermatitis by de-fatting the skin from prolonged or repeated contact.
Chronic	Prolonged exposure can cause liver, kidney, and heart damage. Long term exposure can cause loss of appetite, weight loss, nervousness, memory loss, mental retardation.

Methyl Isobutyl Ketone 108-10-1

Product Summary:

Laboratory tests have shown teratogenic effects. No data available for the mutagenic effects for this product. No data available to designate the product as causing specific target organ toxicity through single or repeated exposure. No data available to designate product as an aspiration hazard.

Acute Toxicity

LC50 (Inhalation)	Rat	16.4 mg/m ³	4 hours
LD50 (Dermal)	Rabbit	> 16,000 mg/kg	
LD50 (Oral)	Rat	2,080 mg/kg	

Irritation:

Eyes (METHYL ISOBUTYL KETONE)

Rabbit - Moderate eye irritation - 24 hours

Respiratory or Skin Sensitization

No data available

Skin

Rabbit - skin irritation - 24 hours

Specific target organ toxicity - single exposure (Globally Harmonized System)

Inhalation - May cause respiratory irritation. – Lungs

Teratogenicity (METHYL ISOBUTYL KETONE)

Methyl Isobutyl Ketone is teratogenic. Fetal death and developmental abnormalities occurred in the babies of mice that inhaled Methyl isobutyl ketone.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC

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ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

Other Hazards

Organ	Description
Eyes	Can be irritating to the eyes
Ingestion	Can be harmful if ingested.
Inhalation	Can be harmful, causing respiratory tract irritation, if inhaled.
Skin	Can be harmful, causing irritation, if absorbed through the skin.

Rubber Solvent (n-Hexane) 110-54-3

Product Summary:

No data available for the teratogenic or mutagenic effects of the product. REPRODUCTIVE TOXICITY: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Suspected human reproductive toxicant Suspected of damaging fertility.

Acute Toxicity:

LCSO (Inhalation)	Rat	48,000 ppm	4 h
LDSO (Oral)	Rat	25,000m /k	

Irritation:

Eyes

Rabbit - mild eye irritation

Respiratory or Skin

Sensitization Nodata
available

Skin

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

May cause damage to Central Nervous System through prolonged or repeat exposure. Route: Inhalation

Specific target organ toxicity - single exposure (Globally Harmonized System) Inhalation-May cause drowsiness or dizziness. -Central Nervous System

Aspiration Hazard

May be fatal if ingested or inhaled.

Carcinogenicity

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ARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by ARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Carcinogenicity - Rat - Inhalation. Testicular tumors present in study sample

Other Hazards

Organ	Description
Eyes	Can cause eye irritation.
Ingestion	Can be harmful if swallowed. Is considered an aspiration hazard.
Inhalation	Can be harmful if inhaled, causes respiratory tract irritation. Drowsiness and dizziness can occur from exposure to vapors.
Skin	Can be harmful if absorbed through skin. Can cause skin burns.

Section 12: Ecological Information

Ethyl Alcohol 64-17-5

Eco toxicity (aquatic and terrestrial, where available): Acute Fishtoxicity (ETHANOL)

LC50 / 96 HOUR Oncorhynchus mykiss (rainbow trout) > 10,000 mg/l
LC50 / 96 HOUR Pimephales promelas (fathead minnow) > 13,400 mg/l

Toxicity to aquatic plants (ETHANOL)

Growth inhibition / 96 HOURS Chlorella vulgaris (Fresh water algae) 1,000 mg/l

Toxicity to microorganisms (ETHANOL)

Toxicity Threshold / Pseudomonas putida 6,500 mg/l
Summary: Inhibition of cell multiplication begins.

Persistence and degradability:

Biodegradation is expected.

Bioaccumulative potential:
Bioaccumulation is unlikely

Other adverse effects:
No data available

- Methyl Isobutyl Ketone 108-10-1

Ecotoxicity (aquatic and terrestrial, where

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available): Acute Toxicity to Fish (METHYL
ISOBUTYL KETONE) LC50 /48 hours Leuciscus
idus melanotus- 480 mg/L

Toxicity to Aquatic Plants (METHYL ISOBUTYL
KETONE) EC50 /48 hours Green algae- 2,000
mg/L

Persistence and
degradability:
Biotic/ Aerobic

Bioaccumulative
potential:
No data available

Other adverse
effects:
No data
available

Rubber Solvent (n-Hexane) 110-54-3

Ecotoxicity (aquatic and terrestrial, where
available): Acute algae toxicity (RUBBER
SOLVENT/ N-HEXANE) EC50 /3 h /Fresh water
algae - 12,840.00 mg/l

Acute algae toxicity (RUBBER SOLVENT/N-
HEXANE) EC50 /8 h /Skeletoma - 0.30mg/l

Acute fish toxicity (RUBBER SOLVENT/N-
HEXANE) LC50 /96hr /fathead minnow -
2.5mg/l

Toxicity to daphnia (RUBBER SOLVENT/ N-
HEXANE) EC50 /48h /Waterflea -3,878.00mg/l

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Other adverse effects:
Possible environmental hazard can result from improper handling or disposal.

Section 13: Disposal Considerations

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

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Additional Information: Handle empty containers with care because residual vapors are flammable

Section 14: Transportation Information

Description of waste residues and information on their safe handling and methods of disposal:

UN number	1170
UN proper shipping name	Ethanol solutions
Transport hazard class(es)	3
Packing group (if applicable)	II

Section 15: Regulatory Information

Safety, health and environmental regulations specific for the product in question: OSHA Hazards
Flammable liquid, Target Organ Effect, Irritant

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the reporting limits.

SARA 311/312 Hazards Acute Health Hazard Fire Hazard

CERCLA

Methyl isobutyl ketone CAS No. 108-10-1 RQ: 5000 lbs

Massachusetts Right To Know Components Ethanol CAS-No.64-17-5 Revision Date 2007-03-01

Methyl Isobutyl Ketone CAS-No. 108-10-1 Revision Date 1993-04-24

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Rubber Solvent (No information available.)

New Jersey Right To Know Components
Ethanol CAS-No.64-17-5 Revision Date 2007-03-01

Methyl Isobutyl Ketone CAS-No.108-10-1 Revision Date 1993-04-24

Rubber Solvent (No information available.)

US. California Proposition 65



WARNING: This product can expose you to chemicals including Methyl Isobutyl Ketone which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 16: Other Information

Date of Issue: 02/05/2010

Date of Revision: 05/01/2018

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End of Safety Data Sheet