

METHANOL 115232

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

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P.O. Box 2219	Telephone	614-790-3333
Columbus, OH 43216	Emergency telephone	1-800-ASHLAND (1-800-274-5263)

Product name	METHANOL
Product code	115232
Product Use Description	No data

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid,, Colorless

WARNING! FLAMMABLE LIQUID AND VAPOR. MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE BLINDNESS. HARMFUL IF SWALLOWED. MAY BE HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. PROLONGED OR REPEATED CONTACT MAY DRY THE SKIN AND CAUSE IRRITATION AND BURNS.

Potential Health Effects

Routes of exposure

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

May cause mild eye irritation. Symptoms include stinging, tearing, and redness.

Skin contact

May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, and may add to toxic effects from breathing or swallowing.

Ingestion

Swallowing this material may be harmful.

Inhalation

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Breathing of vapor or mist is possible. Breathing this material may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: Skin, lung (for example, asthma-like conditions), Liver, kidney, Central nervous system, pancreas, Heart, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), muscle cramps, pain in the abdomen and lower back, Blurred vision, shortness of breath, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), visual impairment (including blindness), coma, and death

Target Organs

Exposure to lethal concentrations of methanol has been shown to cause damage to organs including liver, kidneys, pancreas, heart, lungs and brain. Although this rarely occurs, survivors of severe intoxication may suffer from permanent neurological damage. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: liver abnormalities, central nervous system damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: visual impairment

Carcinogenicity

Based on the available information, this material cannot be classified with regard to carcinogenicity. This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

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.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Concentration
METHANOL	67-56-1	<=100%

4. FIRST AID MEASURES**Eyes**

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: This product contains methanol which can cause intoxication and central nervous system depression. Methanol is metabolized to formic acid and formaldehyde. These metabolites can 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 to prevent methanol metabolism. Ethanol administration is indicated in symptomatic patients or at blood methanol concentrations above 20 ug/dl. Methanol is effectively removed by hemodialysis.

Treatment: Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol, diethylene glycol and methanol poisoning.

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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, Alcohol-resistant foam, Carbon dioxide (CO₂)

Hazardous combustion products

May form:, carbon dioxide and carbon monoxide

Precautions for fire-fighting

Material is volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, flames, sparks, heaters, smoking, electric motors, static discharge or other ignition sources at locations near the material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. During a fire, irritating or toxic decomposition products may be generated. Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Water may be ineffective for extinguishment unless used under favorable conditions by experienced fire fighters. Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Flammability Class for Flammable Liquids

Flammable Liquid Class IB Flammable Liquid Class IB

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

For personal protection see section 8. Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal.

Environmental precautions

Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

Methods for cleaning up

Absorb liquid on vermiculite, floor absorbent or other absorbent material.

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7. HANDLING AND STORAGE**Handling**

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Storage

Store in a cool, dry, ventilated area, away from incompatible substances.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines**

METHANOL		67-56-1
ACGIH	time weighted average	200 ppm
ACGIH	Short term exposure limit	250 ppm
NIOSH	Recommended exposure limit (REL):	200 ppm
NIOSH	Recommended exposure limit (REL):	260 mg/m ³
NIOSH	Short term exposure limit	250 ppm
NIOSH	Short term exposure limit	325 mg/m ³
OSHA Z1	Permissible exposure limit	200 ppm
OSHA Z1	Permissible exposure limit	260 mg/m ³

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Eye protection

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Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Skin and body protection

Wear resistant gloves (consult your safety equipment supplier).
To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory protection

If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH-approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Form	liquid
Colour	Colorless
Odour	Characteristic pungent odor
Boiling point/boilingrange	64.70 °C / 148.5 °F@ 101.32 kPa
Melting point/range	-144.0 °F / -97.8 °C
pH	No data
Flash point	54 °F / 12 °C, Closed Cup
Evaporation rate	2.10 (N-Butyl Acetate)
Explosion limits	7.3 %(V) 36 %(V)
Vapour pressure	16.93 kPa @ 77 °F / 25 °C
Vapour density	1.110 (AIR=1)
Density	0.792 g/cm ³ @ 68 °F / 20 °C 6.6 lb/gal @ 61 °F / 16 °C
Solubility	completely soluble in water
Partition coefficient: n-octanol/water	No data
log Pow	-0.77
Autoignition temperature	725 °F / 385 °C

10. STABILITY AND REACTIVITY**Stability**

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Stable.

Conditions to avoid

Avoid contact with:

Incompatible products

Avoid contact with:, calcium hypochlorite, hypochlorites, Peroxides, reactive metals such as aluminum and magnesium, sodium, Strong acids, strong bases, strong oxidizing agents, Zinc

Hazardous decomposition products

carbon dioxide and carbon monoxide

Hazardous reactions

Product will not undergo hazardous polymerization.

Thermal decomposition

No data

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity

METHANOL	LD L0 Human: 300 mg/kg
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Acute inhalation toxicity

METHANOL	LC 50 Rat: 64000 ppm, 4 h
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Acute dermal toxicity

METHANOL	LD 50 Rabbit: 12,800 mg/kg
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12. ECOLOGICAL INFORMATION

Aquatic toxicity

Acute and Prolonged Toxicity to Fish

No data

Acute Toxicity to Aquatic Invertebrates

No data

