

ASHLAND

SAFETY DATA SHEET

METHANOL
20297

Page: 1
Revision Date: 02/18/2010
Print Date: 3/7/2010
MSDS Number: R0001447
Version: 1.7

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

Ashland
P.O. Box 2219
Columbus, OH 43216

Regulatory Information Number
Telephone
Emergency telephone

1-800-325-3751
614-790-3333
1-800-ASHLAND (1-800-274-5263)

Product name

METHANOL

Product code

20297

Product Use Description

No data

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance: liquid, colourless

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

Exposure routes

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

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Swallowing this material may be harmful.

Inhalation

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

Hazardous 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.

NFPA Flammable and Combustible Liquids Classification

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. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

Storage

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

METHANOL	
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.

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Exposure controls

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

Eye protection

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	colourless
Odour	characteristic, pungent
Boiling point/boiling range	64.70 °C @ 101.32 kPa
Melting point/range	-144.0 °F / -97.8 °C
pH	No data
Flash point	12.00 °C Closed Cup
Evaporation rate	2.10 (n-Butyl Acetate)
Lower explosion limit/Upper explosion limit	7.3 %(V) / 36 %(V)
Vapour pressure	16,931 kPa @ 25 °C
Vapour density	1.110 (AIR=1)
Density	0.792 g/cm ³ @ 68 °F / 20 °C
Solubility	6.6 lb/gal @ 61 °F / 16 °C
Partition coefficient: n-octanol/water	completely soluble in water
log Pow	No data
	-0.77

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Autoignition temperature

725 °F / 385 °C

10. STABILITY AND REACTIVITY

Stability

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

: LD L0 Human: 300 mg/kg

Acute Inhalation toxicity

: LC 50 Rat: 64000 ppm, 4 h

:

Acute dermal toxicity

: LD 50 Rabbit: 12,800 mg/kg

12. ECOLOGICAL INFORMATION

Elimination Information (persistence and degradability)
Biodegradability

: Result: Readily biodegradable.

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Bioaccumulation METHANOL

: Species: Green algae (Chlorella fusca vacuolata)
Exposure time: 24 h
Dose: 0.05 mg/l
Bioconcentration factor (BCF): 28,400
Method: Static

Ecotoxicity effects

Toxicity to fish METHANOL

: no data available

Toxicity to daphnia and other aquatic invertebrates.

METHANOL : 48 h EC 50 Water flea (Daphnia magna): > 10,000.00
mg/l
Method: Static
Intoxication

Toxicity to algae

METHANOL : no data available

Toxicity to bacteria

METHANOL : no data available

Biochemical Oxygen Demand (BOD)

METHANOL : no data available

Chemical Oxygen Demand (COD)

METHANOL : no data available

Additional ecological information

METHANOL : no data available

13. DISPOSAL CONSIDERATIONS

Waste disposal methods

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution's Environmental Services Group at 800-637-7922.

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14. TRANSPORT INFORMATION

REGULATION						
ID NUMBER	PROPER SHIPPING NAME	*HAZARD CLASS	SUBSIDIARY HAZARDS	PACKING GROUP	MARINE POLLUTANT	

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

UN	1230	METANOL	3	(6.1)	II	
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INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

UN	1230	Methanol	3	(6.1)	II	
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INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

UN	1230	Methanol	3	(6.1)	II	
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INTERNATIONAL MARITIME DANGEROUS GOODS

UN	1230	METHANOL	3	(6.1)	II	
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TRANSPORT CANADA - INLAND WATERWAYS

UN	1230	METHANOL	3	(6.1)	II	
----	------	----------	---	-------	----	--

TRANSPORT CANADA - RAIL

UN	1230	METHANOL	3	(6.1)	II	
----	------	----------	---	-------	----	--

TRANSPORT CANADA - ROAD

UN	1230	METHANOL	3	(6.1)	II	
----	------	----------	---	-------	----	--

U.S. DOT - INLAND WATERWAYS

UN	1230	Methanol	3	(6.1)	II	
----	------	----------	---	-------	----	--

U.S. DOT - RAIL

UN	1230	Methanol	3	(6.1)	II	
----	------	----------	---	-------	----	--

U.S. DOT - ROAD

UN	1230	Methanol	3	(6.1)	II	
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*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

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Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SARA Hazard Classification

Fire Hazard
Acute Health Hazard

SARA 313 Component(s)
METHANOL

100.00 %

New Jersey RTK Label Information
METHANOL

67-56-1

Pennsylvania RTK Label Information
METHANOL

67-56-1

Notification status

Australia. Industrial Chemical (Notification and Assessment) Act	y (positive listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133)	y (positive listing)
China. Inventory of Existing Chemical Substances	y (positive listing)
Japan. Kashin-Hou Law List	y (positive listing)
Japan. Kashin-Hou Law List	y (positive listing)
US. Toxic Substances Control Act	y (positive listing)
EU. EINECS	y (positive listing)

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Korea. Toxic Chemical Control Law (TCCCL) List	y (positive listing)
Korea. Toxic Chemical Control Law (TCCCL) List	y (positive listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	y (positive listing)
Japan. Industrial Safety & Health Law (ISHL) List	y (positive listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	y (positive listing)
Switzerland. Consolidated Inventory	y (positive listing)

Reportable quantity - Product
US. EPA CERCLA Hazardous Substances (40 CFR 302) 5000 lbs

Reportable quantity-Components
METHANOL 67-56-1 5000 lbs

	HMIS	NFPA
Health	1*	1
Flammability	3	3
Physical hazards	0	
Instability		0
Specific Hazard	--	--

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Ashland's Environmental Health and Safety Department (1-800-325-3751).