
Product name	Methanol		NA/EN
MSDS number	80056	Revision Date	Sep.27.2006
Revision Number	1	Issuing date	Sep.27.2006

1. Product and company identification

Manufacturer, importer, supplier

Celanese Ltd.

1601 W. LBJ Freeway
P.O. Box 819005
Dallas, TX 75381-9005
United States
Phone: 972 443 4000
Internet: www.celanese.com

Celanese Canada, Inc.

P.O. Box 99 Station Main
Edmonton, Alberta,
Canada T5J 2H7

Transportation emergency phone numbers:

In USA, call 800 424 9300
Outside USA, call 703 527 3887, collect calls accepted

Synonyms:

Methyl alcohol; Carbinol; Monohydroxymethane; Methyl hydroxide.

End use:

Chemical raw material, chemical intermediate

2. Hazards identification

Emergency Overview

DANGER!

Flammable liquid and vapor.
Prolonged or repeated contact may dry skin and cause irritation.
May be fatal or cause blindness if swallowed.
Harmful if inhaled.
Causes eye irritation.
May cause respiratory tract and skin irritation.
Possible birth defect hazard. Contains material which may cause birth defects based on animal data.
Vapours are heavier than air and may spread along floors.

Product Description

Appearance

Form	liquid
Odour	alcoholic
Colour	colourless

Potential health effects

Routes of exposure

Skin, eyes, inhalation, ingestion.

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Immediate effects

Inhalation

May cause irritation of respiratory tract Symptoms of exposure may include: Central nervous system depression with nausea, dizziness, headache, stupor, uncoordinated or strange behavior or unconsciousness. Adverse effects on vision.

Skin

May cause skin irritation. Prolonged or repeated contact may dry skin and cause irritation. May be harmful if absorbed through skin. Symptoms of exposure may include: Drying, cracking or inflammation of skin. Central nervous system depression with headache, stupor, uncoordinated or strange behavior or unconsciousness. Prolonged and /or repeated skin contact with methanol-soaked material has produced toxic effects including vision effects and death.

Eyes

Exposure to vapors and liquid causes eye irritation. Symptoms of exposure may include: Eye irritation, burning sensation, pain, watering, and/or change of vision. Eye injury which may persist for several days.

Ingestion

May be fatal is swallowed. Symptoms of exposure may include: A small amount of Methanol (usually two or more ounces) can cause mental sluggishness, nausea and vomiting leading to severe illness, and may produce adverse effects on vision with possible blindness or death if treatment is not received.

Methanol

Reproductive toxicity

No toxicity to reproduction

Carcinogenic effects

No evidence of carcinogenicity

in vitro Mutagenicity

Not mutagenic in AMES Test

in vivo Mutagenicity

Mouse micronucleus - negative

Developmental effects

Induced developmental toxicity and malformations at 20,000 ppm

Target organ effects

Overexposure (prolonged or repeated exposure) may cause:

- Central nervous system depression
- Injury to the eyes
- Drying of the skin
- Local irritation at the site of exposure

Medical conditions which may be aggravated by exposure:

Significant exposure to this chemical may adversely affect people with acute or chronic disease of the:

- Skin
- Eyes
- Central nervous system
- Digestive tract

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3. Composition/information on ingredients

Components	CAS-No	Percent %
Methanol	67-56-1	99.85 min.

4. First aid measures

General Information

Take off all contaminated clothing immediately. Wash contaminated clothing before re-use.

Inhalation

Move to fresh air in case of accidental inhalation of vapours. If symptoms persist, call a physician.

Skin

Wash off immediately with plenty of water. If symptoms persist, call a physician.

Eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice.

5. Fire-fighting measures

NFPA: **Health:** 1 **Flammability:** 3 **Instability:** 0

Suitable extinguishing media

alcohol-resistant foam, dry powder, carbon dioxide (CO2), water spray

Extinguishing media which must not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases

Under conditions giving incomplete combustion, hazardous gases produced may consist of
 carbon monoxide
 carbon dioxide (CO2)
 Vapours are heavier than air and may spread along floors

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Other Information

In the event of fire, cool tanks with water spray. Thoroughly decontaminate bunker gear and other fire-fighting equipment before re-use.

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6. Accidental release measures

Personal precautions

Avoid contact with the skin and the eyes.

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Isolate for 800 meters or 0.5 miles in all directions if tank, rail car, or tank truck is involved in fire. Evacuate downwind areas as conditions warrant to prevent exposure and to allow vapors or fumes to dissipate. Spills may expose downwind areas to toxic or flammable concentrations over considerable distances in some cases.

Environmental precautions

Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Dike and collect water used to fight fire.

Methods for cleaning Up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Dispose of in accordance with local regulations.

Authority Notification

Within the United States, call the National Response Center (800-424-8802) and appropriate state and local authorities if the quantity released over 24 hours is equal to or greater than the reportable quantity listed below:

5000 lb/ 2270 kg

7. Handling and storage

Handling

Advice on safe handling

Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes and clothing. Wash off with soap and water. Decontaminate soiled clothing thoroughly before re-use. .

Protection - fire and explosion:

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep in an area equipped with sprinklers.

Storage

Technical measures/Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Handle and open container with care. Keep away from direct sunlight.

8. Exposure controls / personal protection

OSHA Exposure Limits

Components	TWA
Methanol	200 ppm

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ACGIH Exposure Limits

Components	TWA
Methanol	200 ppm

Components	STEL
Methanol	250 ppm

Components	1990 NIOSH IDLH	1994 NIOSH IDLH
Methanol	25,000 PPM	6000 ppm

Exposure controls

Engineering measures

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Protective Equipment

A safety shower and eyebath should be readily available.

General advice

Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Hold eye wash fountain available. Remove and wash contaminated clothing before re-use.

Respiratory protection

Based on workplace contaminant level and working limits of the respirator, use a respirator approved by NIOSH. The following is the minimum recommended equipment for an occupational exposure level. To estimate an occupational exposure level see Section 8 and Section 11.

For concentrations > 1 and < 100 times the occupational exposure level: Use Type C full facepiece supplied-air respirator operated in positive-pressure or continuous-flow mode.

For concentrations > 100 times the occupational exposure level or greater than the IDLH level or unknown concentrations (such as in emergencies): Use self-contained breathing apparatus with full facepiece in positive-pressure mode or Type C positive-pressure full facepiece supplied-air respirator with an auxiliary positive-pressure self-contained breathing apparatus escape system.

For escape: Use self-contained breathing apparatus with full facepiece or any respirator specifically approved for escape.

Skin protection:

Wear impervious clothing and gloves to prevent contact. Butyl rubber is recommended. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present

Eye/face protection:

Wear chemical goggles when there is a reasonable chance of eye contact.

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9. Physical and chemical properties

Appearance

Form	liquid
Colour	colourless
Odour	alcoholic
Molecular Weight	32.04
Flashpoint	12°C(54 °F)
Autoignition Temperature	464 °C (867 °F)
Lower explosion limit	6 Vol %
Upper explosion limit	36 Vol %
Melting point/range	-97.8°C (144°F)
Boiling point/range	64.7°C (148.5°F)
Density	0.7866 g/ml @ 25°C
Vapour pressure	127 mm Hg @ 25°C
Vapour density	1.11 (Air=1 @ 20 °C)

10. Stability and reactivity

Stability

Stable under recommended storage conditions

Conditions to avoid

Keep away from heat, sparks and flame.

Materials to avoid

Keep away from:., strong acids, oxidizing agents

Hazardous Combustion or Decomposition Products:

Thermal decomposition products may include oxides of carbon.

Hazardous reactions

No hazards to be especially mentioned

11. Toxicological information

Methanol

Oral

LD50: 5.6-6.2 g/kg, rat- Not toxic

- Based on human exposure reports, a small amount (usually two or more ounces) can cause mental sluggishness, nausea and vomiting leading to severe illness, and may produce adverse effects on vision with possible blindness or death if treatment is not received.

Dermal

LD50: 15.8 g/kg, rabbit- Not toxic

- Repeated exposure causes defatting dermatitis

- Based on human exposure reports, prolonged and repeated skin contact methanol-soaked material has produced toxic effects including vision effects and death.

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Inhalation	LC50: 83.6 mg/l, rat, 4h- Non-toxic - Based on human exposure reports, levels substantially above the TLV cause stupor, headache, nausea, dizziness, unconsciousness and may produce adverse effects on vision.
Skin Sensitization	- positive
Species	Human experience
Eye Irritation	Moderate eye irritation
Species	rabbit eye
Carcinogenic effects	No evidence of carcinogenicity
Species	rats and mice
Study	inhalation study
in vitro Mutagenicity	Not mutagenic in AMES Test
in vivo Mutagenicity	Mouse micronucleus - negative
Reproductive toxicity	No toxicity to reproduction
Routes of exposure	inhalation
Species	rat
	NOAEL: 1000 mg/kg/day
Developmental effects	Induced developmental toxicity and malformations at 20,000 ppm
Species	rat
Routes of exposure	Inhalation
	NOAEL: 5000 ppm
Developmental effects	Induced developmental toxicity and malformations at 5000 ppm
Species	mouse
Route of exposure	inhalation
	NOAEL: 2000 ppm
Repeated exposure	28-day No adverse effects
Species	Cynomolgus monkey
Routes of exposure	Inhalation
	NOAEL: 5000 ppm
Neurotoxicity	No data

12. Ecological information

Methanol

Toxicity to fish	LC50: 28 g/l (96h)
Species	Pimephales promelas (Fathead minnow)
Method	Flow- through
	LC50: 15.4 g/l (96h)
Species	Lepomis macrochirus (Bluegill sunfish)
Method	Flow-through
Toxicity to daphnia	EC50: 24.5 g/l (48h)
Species	Daphnia magna
Toxicity to algae	EC50: 7.1 mg/l (48h)
Species	Selenastrum capricornutum (green algae)

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Biodegradation	48 % (5d)
Bioconcentration factor (BCF)	<10
Bioaccumulation	Bioaccumulative potential - low

13. Disposal considerations

Disposal Considerations:

Dispose of spilled material in accordance with state and local regulations for hazardous waste. Recommended methods are incineration or biological treatment at a federally or state-permitted disposal facility. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

Note that this handling and disposal information may also apply to empty containers, liners and rinsate. State or local regulations or restrictions are complex and may differ from federal regulations. This information is intended as an aid to proper handling and disposal; the final responsibility for handling and disposal is with the owner of the waste.

EPA Hazardous Waste Code(s): U154

14. Transport information

US Department of Transportation

UN/NA Number:	UN 1230
Proper Shipping Name	Methanol
Hazard class	3
Subsidiary hazard	6.1
Packing Group	II
Reportable Quantity (RQ)	5000 lb/ 2270 kg

TDG

UN/NA Number:	UN 1230
Proper Shipping Name	METHANOL
Class:	3
Subsidiary Risk:	6.1
Packing Group:	II

ICAO/IATA

UN-No.	UN 1230
Proper Shipping Name	Methanol
Hazard Class	3
Subsidiary Hazard(s)	6.1
Packing group	II

IMDG

UN/ID No.	UN 1230
Proper Shipping Name	Methanol

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Hazard Class	3
Subsidiary Hazard(s)	6.1
Packing group	II
EmS Code	F-E, S-D

15. Regulatory information

U.S. STATE REGULATIONS

Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with the applicable state(s):

Methanol 67-56-1

Pennsylvania	Listed
New York	Listed
New Jersey	Listed
Illinois	Listed
Massachusetts	Listed
Rhode Island	Listed

U.S. FEDERAL REGULATIONS

TSCA Inventory:

We certify that all components are either on the TSCA inventory or qualify for an exemption.

Environmental Regulations:

Methanol 67-56-1

EPCRA Section 313	Listed
CERCLA Hazardous Substance	Listed

SARA 311:

Acute health:	Yes
Chronic health:	Yes
Fire:	Yes
Sudden release of pressure:	No
Reactive:	No

INTERNATIONAL REGULATIONS

International Chemical Inventory

Listed on the chemical inventories of the following countries or qualifies for an exemption:
 AUSTRALIA, CHINA, CANADA, EUROPE, KOREA, PHILIPPINES, JAPAN

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Canadian Regulations:

WHMIS Classification: Class B, Division 2. Class D, Division 2, Subdivision A. Division 2, Subdivision B.

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16. Other information

Prepared By

Product Stewardship Department
Celanese

NFPA: Health: 1 Flammability: 3 Instability: 0

HMIS: Health: 2 Flammability: 3 Physical hazard: 0

For more information, other material safety data sheets or technical data sheets please consult the Celanese homepage (www.celanese.com)

Sources of key data used to compile the datasheet

The absence of data elements required by ANSI or 2001/58/EC indicates, that no data meeting these requirements is available.

This information is based on our present state of knowledge. It shall describe our products regarding safety requirements and shall not be construed as a guarantee or statement of condition and/or quality.