

Methanol

Safety Data Sheet



SECTION 1: Identification

Discover Chemicals Corporation
100, 111 5 Ave SW
Calgary AB T2P 3Y6

Emergency number (24 hr) : Canutec (613) 996-6666

SECTION 2: Hazard identification

Classification (GHS CA)

Flammable liquids, Category 2
Acute toxicity (oral), Category 3
Acute toxicity (dermal), Category 3
Acute toxicity (inhal.), Category 3
Specific target organ toxicity — single exposure, Category 1
Target Organs - Optic nerve, Central nervous system (CNS)
Specific target organ toxicity - (repeated exposure), Category 1
Target Organs - Kidney, Liver, spleen, Blood.

GHS CA labelling

Hazard pictograms



Signal word : Danger

Hazard statements : Highly flammable liquid and vapour.
Toxic if swallowed, in contact with skin or if inhaled
Causes damage to organs through prolonged or repeated exposure.

Precautionary statements : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take action to prevent static discharges. Do not breathe vapours, mist. Wash hands, forearms and face thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF exposed or concerned: Call a POISON CENTER or doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water . If skin irritation occurs: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), dry extinguishing powder, foam to extinguish. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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SECTION 3: Composition/information on ingredients

Name	Chemical name / Synonyms	Product identifier	%
methanol	methyl alcohol	(CAS-No.) 67-56-1	100

SECTION 4: First-aid measures

- First-aid measures after inhalation** : Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.
- First-aid measures after skin contact** : Wash immediately with lots of water (15 minutes)/shower. Take off immediately all contaminated clothing. Get medical advice/attention. Wash contaminated clothing before reuse.
- First-aid measures after eye contact** : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
- First-aid measures after ingestion** : Rinse mouth out with water. Never give anything by mouth to an unconscious person. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get immediate medical advice/attention.
- First-aid measures general** : IF exposed or concerned: Get medical advice/attention.

Most important symptoms and effects (acute and delayed):

Harmful if inhaled. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness.

May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation.

Harmful if swallowed. 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.

Harmful in contact with skin. May be absorbed through the skin in toxic or lethal amounts. Symptoms of exposure may include: Central nervous system (CNS) depression with headache, stupor, uncoordinated or strange behaviour or unconsciousness. Prolonged or repeated skin contact with methanol-soaked material has produced toxic effects including vision effects and death.

Immediate medical attention and special treatment, if necessary:

Other medical advice or treatment : Symptoms may be delayed.

SECTION 5: Fire-fighting measures

Suitable extinguishing media : Water fog. Dry powder. Alcohol resistant foam. Carbon dioxide.

Unsuitable extinguishing media : Do not use a water jet since it may cause the fire to spread.

Specific hazards arising from the hazardous product:

Fire hazard : Flammable liquid and vapour. Vapour could travel to source of ignition and flash back.

Hazardous decomposition products in case of fire: : Toxic fumes may be released. Carbon monoxide. Carbon dioxide. Nitrogen oxides. Sulphur oxides.

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Special protective equipment and precautions for fire-fighters:

- Firefighting instructions : Evacuate area. Fight fire from safe distance and protected location. Use water spray or fog for cooling exposed containers.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

- General measures : Eliminate every possible source of ignition. Use special care to avoid static electric charges. Evacuate personnel to a safe area. Ensure adequate air ventilation.
- Personal Precautions, Protective Equipment and Emergency Procedures : Avoid all contact with skin, eyes, or clothing. Do not breathe gas/fumes/vapour/spray. Wear personal protective equipment. Wear respiratory protection.

Methods and materials for containment and clean up:

- For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
- Methods for cleaning up : Eliminate all ignition sources. Use only non-sparking tools. Notify authorities if product enters sewers or public waters. In case of large spills: Stop leaks if it can be done without personal risk. Dike the spilled material, where this is possible. Collect leaking and spilled liquid in sealable containers as far as possible.
- Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Clean contaminated surfaces with an excess of water.
- Other information : Advise local authorities if considered necessary. Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

Precautions for safe handling:

- Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Use only outdoors or in a well-ventilated area. Do not breathe mist/vapours/spray.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Conditions for safe storage, including any incompatibilities:

- Technical measures : Ground/bond container and receiving equipment. Take precautionary measures against static discharge.
- Storage conditions : Store in a well-ventilated place. Keep cool. Protect from sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Store locked up. Keep container tightly closed. Keep container closed when not in use. Store away from incompatible materials.

SECTION 8: Exposure controls/personal protection

Control parameters

methanol (67-56-1)		
USA - ACGIH	ACGIH TWA (ppm)	200 ppm
USA - ACGIH	ACGIH STEL (ppm)	250 ppm
USA - ACGIH	Remark (ACGIH)	TLV® Basis: Headache; eye dam; dizziness; nausea. Notations: Skin; BEI
USA - ACGIH	Regulatory reference	ACGIH 2018

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Appropriate engineering controls

- Appropriate engineering controls : Use only outdoors or in a well-ventilated area. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
- Environmental exposure controls : Avoid release to the environment.

Individual protection measures/Personal protective equipment

Hand protection:

Wear appropriate chemical resistant gloves.

Eye protection:

Chemical goggles

Skin and body protection:

Wear suitable protective clothing. Chemical resistant apron

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection. Use respirator with an organic vapour and mist cartridge if the recommended exposure limit is exceeded. Use self-contained breathing apparatus for entry into confined space, for other poorly ventilated areas and for large spill clean-up sites.

SECTION 9: Physical and chemical properties

Physical state	: Liquid
Colour	: Clear, colourless to light yellow
Odour	: alcohol
Odour threshold	: No data available
pH	: 6 - 8
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 9.7 °C (Closed Cup)
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: No data available
Vapour pressure at 50 °C	: No data available
Relative density	: 0.791
Solubility	: Soluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Explosive limits	: No data available

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SECTION 10: Stability and reactivity

Reactivity	: Flammable liquid and vapour.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Incompatible materials	: Strong oxidizers.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Harmful in contact with skin.
Acute toxicity (inhalation)	: Harmful if inhaled.

ATE CA (oral)	300-2000 mg/kg
ATE CA (Dermal)	1000-2000 mg/kg
ATE CA (vapours)	10-20 mg/l/4h
ATE CA (dust,mist)	1-5 mg/l/4h

methanol (67-56-1)	
LD50 oral rat	> 5000 mg/kg (BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15800 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64000 ppm (Rat; Literature study)
1-hexanol, 2-ethyl-, manuf. of, by-products from, distn. residues (68609-68-7)	
LD50 oral rat	> 5000 mg/kg (RTECS 2018)

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Causes damage to organs (optic nerve) (oral).
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Likely routes of exposure	: Inhalation. Eye contact. Skin contact.
Symptoms/effects after inhalation	: Harmful if inhaled. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation. Harmful in contact with skin. May be absorbed through the skin in toxic or lethal amounts. Symptoms of exposure may include: Central nervous system (CNS) depression with headache, stupor, uncoordinated or strange behaviour or unconsciousness. Prolonged or repeated skin contact with methanol-soaked material has produced toxic effects including vision effects and death.

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- Symptoms/effects after eye contact** : Causes serious eye irritation.
- Symptoms/effects after ingestion** : Harmful if swallowed. 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.

SECTION 12: Ecological information

Toxicity

- Ecology - general : The product is not classified as environmentally hazardous. However, this does not exclude the possibility that spills can have a harmful or damaging effect on the environment.
- Acute aquatic toxicity : Not classified (Lack of data)
- Chronic aquatic toxicity : Not classified (Lack of data)

methanol (67-56-1)	
LC50 fish 1	15400 mg/l (EPA 660/3 - 75/009, 96 h, Lepomis macrochirus, Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	18260 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 96 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)

Persistence and degradability

methanol (67-56-1)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 - 1.12 g O ₂ /g substance
Chemical oxygen demand (COD)	1.42 g O ₂ /g substance
ThOD	1.5 g O ₂ /g substance

Bioaccumulative potential

methanol (67-56-1)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
BCF fish 1	1 - 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)
Log Pow	-0.77 (Experimental value)
Log Koc	-0.89 - -0.21 (log Koc, Calculated value)

Mobility in soil

methanol (67-56-1)	
Surface tension	0.023 N/m (20 °C)

SECTION 13: Disposal considerations

- Waste treatment methods** : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations** : Since emptied containers may retain product residue, follow label warnings even after container is emptied.
- Additional information** : Flammable vapours may accumulate in the container.

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SECTION 14: Transport information

Transportation of Dangerous Goods

UN-No. (TDG) : UN1230
Packing group : II
TDG Primary Hazard Classes : 3
TDG Subsidiary Classes : 6.1
Proper Shipping Name (Transportation of Dangerous Goods) : **METHANOL**

Hazard labels (TDG) : 3 - Flammable liquids
6.1 - Toxic substances



TDG Special Provisions : 43 - Despite section 2.1 of Part 2, Classification, these dangerous goods are assigned to this classification based on human experience.

Explosive Limit and Limited Quantity Index : 1 L
Excepted quantities (TDG) : E2
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 1 L

Air and sea transport

IMDG

UN-No. (IMDG) : UN1230
Proper Shipping Name (IMDG) : **METHANOL**
Classes (IMDG) : 3 (6.1)
Packing group (IMDG) : II

IATA

UN-No. (IATA) : UN1230
Proper Shipping Name (IATA) : **Methanol**
Classes (IATA) : 3 (6.1)
Packing group (IATA) : II

SECTION 15: Regulatory information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR). This SDS contains all the information required by the HPR.

All components of this product are either on the Domestic Substances List (DSL) or are in compliance with the chemical notification requirements of the New Substances Notification Regulations under the Canadian Environmental Protection Act (CEPA).

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

SECTION 16: Other information

Revision date : 06/28/2022
Supersedes :

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The information on this SDS is based on data which is considered to be accurate. Discover Chemicals Corporation, however, makes no guarantees or warranty, either expressed or implied of the accuracy or completeness of this information. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product. This SDS was prepared and is to be used for this product. If the product is used as a component in another product, this SDS information may not be applicable.