KOCH METHANOL, LLC

SAFETY DATA SHEET

1. Identification

Product identifier Methanol

Other means of identification

Product code KMe_CH3OH_US_EN
Recommended use Industrial feedstock.

Recommended restrictionsUse in accordance with supplier's recommendations.

Manufacturer/Importer/Supplier/Distributor information

Company name

Koch Methanol LLC

P.O. Box 2219, Wichita, KS 67201-2219

316-828-7672

kochmsds@kochind.com

Emergency For Chemical Emergency

Call CHEMTREC day or night

1.800.424.9300

Mexico - 1.800.681.9531 Outside USA/Canada

1.703.527.3887

(collect calls accepted)

2. Hazard(s) identification

Physical hazardsFlammable liquidsCategory 2Health hazardsAcute toxicity, oralCategory 3Acute toxicity, dermalCategory 3Acute toxicity, inhalationCategory 3

Not classified.

Specific target organ toxicity, single exposure Category 1 (central nervous system, optic

nerve)

OSHA defined hazards

Label elements



Signal word Danger

Hazard statement Highly flammable liquid and vapor. Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

Causes damage to organs (central nervous system, optic nerve).

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - 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 precautionary measures against static discharge. Do not breathe mist/vapors. Wash 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.

Response If swallowed: Immediately call a poison center/doctor. Rinse mouth. If on skin (or hair): Take off

immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor. Take off immediately all contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to

extinguish.

Storage Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

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None.

3. Composition/information on ingredients

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Chemical name	Common name and synonyms	CAS number	%
Methanol		67-56-1	> 99

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center or doctor/physician.

Skin contact

Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention if you feel unwell. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important symptoms/effects, acute and delayed

Narcosis. Headache. Dizziness. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Take off immediately all contaminated clothing. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Alcohol resistant foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

General fire hazards

Use standard firefighting procedures and consider the hazards of other involved materials.

Highly flammable liquid and vapor.

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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist/vapors. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist/vapors. Do not taste or swallow. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

110	UCHY .	Tabla 7	1 limita	for Air	Contaminants	/20 CED	1010 1000)
US.	USHA	i abie z-	1 Limits	TOF AIF	Contaminants	129 GFR	1910.10001

Material	Туре	Value	
Methanol	PEL	260 mg/m3	
		200 ppm	
Components	Туре	Value	
Methanol (CAS 67-56-1)	PEL	260 mg/m3	
		200 ppm	

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Material	Туре	Value	
Methanol	STEL	250 ppm	
	TWA	200 ppm	
Components	Туре	Value	
Methanol (CAS 67-56-1)	STEL	250 ppm	
	TWA	200 ppm	
US. NIOSH: Pocket Guide to Che	emical Hazards		
Material	Туре	Value	
Methanol	STEL	325 mg/m3	
		250 ppm	
	TWA	260 mg/m3	
	TWA	260 mg/m3 200 ppm	
Components	TWA Type		
Components Methanol (CAS 67-56-1)		200 ppm	

Biological limit values

ACGIH Biologica	Exposure	Indices
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Material Expos	Value	Determinant	Specimen	Sampling Time
Methanol	15 mg/l	Methanol	Urine	*
Components	Value	Determinant	Specimen	Sampling Time
Methanol (CAS 67-56-1)	15 mg/l	Methanol	Urine	*

^{* -} For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Methanol (CAS 67-56-1)

Can be absorbed through the skin.

TWA

US - Minnesota Haz Subs: Skin designation applies

Methanol (CAS 67-56-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Methanol (CAS 67-56-1)

Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Methanol (CAS 67-56-1) Danger of cutaneous absorption

US. NIOSH: Pocket Guide to Chemical Hazards

Methanol (CAS 67-56-1) Can be absorbed through the skin.

Appropriate engineering

controls

Explosion-proof general and local exhaust ventilation. Good general ventilation 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. Provide eyewash station and safety shower.

260 mg/m3 200 ppm

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Butyl rubber gloves are recommended.

Skin protection

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

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General hygiene considerations

When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance Colorless liquid.

Physical state Liquid.
Form Liquid.
Color Colorless.
Odor Alcoholic.
Odor threshold 2000 ppm
pH Not available.

Melting point/freezing point -144.4 °F (-98 °C) estimated Initial boiling point and boiling 148.1 °F (64.5 °C) estimated

range

Flash point 51.8 °F (11.0 °C) Tag Closed Cup

Evaporation rate 2.1 (butyl acetate = 1)

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower

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Not determined

(%)

Flammability limit - upper

Not determined

(%)

Vapor pressureNot determinedVapor density1.1 (air=1)Relative densityNot available.

Solubility(ies)

Solubility (water) Not determined

Partition coefficient -0.77 estimated

(n-octanol/water)

Auto-ignition temperature725 °F (385 °C)Decomposition temperatureNot available.ViscosityNot available.

Other information

Density 0.79 g/cm³

Explosive properties Not explosive.

Flash point class Flammable IB

Molecular formula CH3OH

Molecular weight 32.04 g/mol

Oxidizing properties Not oxidizing.

Surface tension 22.61 mN/m (68 °F (20 °C))

10. Stability and reactivity

ReactivityThe product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous Hazardous polymerization does not occur.

reactions

Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the

flash point. Contact with incompatible materials.

Incompatible materials Strong bases. Strong oxidizing agents. Metals.

Hazardous decomposition

products

Carbon monoxide. Formaldehyde.

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11. Toxicological information

Information on likely routes of exposure

Inhalation Toxic if inhaled. May cause damage to organs by inhalation.

Skin contact Toxic in contact with skin.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion Toxic if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Narcosis. Headache. Dizziness. Nausea, vomiting. Behavioral changes. Decrease in motor

functions.

Information on toxicological effects

Acute toxicity Toxic if inhaled. Toxic in contact with skin. Toxic if swallowed. Even small amounts (30-250 ml

methanol) may be fatal. Symptoms are stomach ache, nausea, vomiting, dullness, visual disorder

and blindness.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye Direct contact with eyes may cause temporary irritation.

irritation

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicityNo data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicityThis product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity -

single exposure

Causes damage to organs (central nervous system, optic nerve).

Specific target organ toxicity -

repeated exposure

Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the

possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of this substance.

Bioaccumulative potential Log Pow: < 1. Not expected to bioaccumulate on the basis of the low octanol-water partition

coefficient.

Partition coefficient n-octanol / water (log Kow)

Methanol (CAS 67-56-1) -0.77

Mobility in soilThe product is insoluble in water. Expected to be highly mobile in soil.

Other adverse effects The product contains a substance which has a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the

material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of

contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

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Hazardous waste code D001: Waste Flammable material with a flash point <140 F

The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues / unused

products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see:

Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or

disposal.

14. Transport information

DOT

UN number UN1230 UN proper shipping name Methanol

Transport hazard class(es)

Class 3
Subsidiary risk 6.1
Label(s) 3
Packing group II

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions IB2, T7, TP2

Packaging exceptions 150
Packaging non bulk 202
Packaging bulk 242

DOT BULK

BULK

UN number UN1230 **UN proper shipping name** Methanol

Transport hazard class(es)

Class 3
Subsidiary risk 6.1
Label(s) 3
Packing group

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Special provisions IB2, T7, TP2

Packaging exceptions 150
Packaging non bulk 202
Packaging bulk 242

IATA

UN number UN1230 **UN proper shipping name** Methanol

Transport hazard class(es)

Class 3
Subsidiary risk 6.1
Label(s) 3, 6.1
Packing group II
Environmental hazards No.
ERG Code 3L

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1230 UN proper shipping name METHANOL

Transport hazard class(es)

Marine pollutant No. EmS F-E. S-D

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II.

This product is listed in the IBC Code.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

CERCLA Hazardous Substance List (40 CFR 302.4)

Methanol (CAS 67-56-1) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA)

This substance is on the TSCA 8(b) inventory and is designated "active".

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Yes

chemical

Classified hazard

Flammable (gases, aerosols, liquids, or solids)

Acute toxicity (any route of exposure) categories

Specific target organ toxicity (single or repeated exposure)

Hazard not otherwise classified (HNOC)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.	
Methanol	67-56-1	> 99	

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Methanol (CAS 67-56-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Listed.

(SDWA)

US state regulations

US. Massachusetts RTK - Substance List

Methanol (CAS 67-56-1)

US. New Jersey Worker and Community Right-to-Know Act

Methanol (CAS 67-56-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Methanol (CAS 67-56-1)

US. Rhode Island RTK

Methanol (CAS 67-56-1)

California Proposition 65



WARNING: This product can expose you to Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1) Listed: March 16, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Methanol (CAS 67-56-1)

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International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No

Japan Inventory of Existing and New Chemical Substances (ENCS) Yes Korea Existing Chemicals List (ECL) Yes New Zealand New Zealand Inventory Yes **Philippines** Yes

Philippine Inventory of Chemicals and Chemical Substances

(PICCS)

Taiwan Chemical Substance Inventory (TCSI) Yes Taiwan United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Yes

16. Other information, including date of preparation or last revision

21-December-2020 Issue date

Revision date Version # 01

HMIS® ratings Health: 3*

Flammability: 3 Physical hazard: 0

NFPA ratings



List of abbreviations EC50: Effective Concentration, 50%.

LC50: Lethal Concentration, 50%.

LD50: Lethal Dose 50%.

PEL: Permissible Exposure Limit. TWA: Time Weighted Average.

References IARC Monographs. Overall Evaluation of Carcinogenicity

Disclaimer NOTICE: The information contained in this document is based on data considered to be accurate

as of the preparation date of this Safety Data Sheet (SDS) and was prepared pursuant to applicable Government regulation(s). This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the above data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided about any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. Purchasers and users of the product are responsible for determining that this product is suitable for the intended use and application. No responsibility can be assumed by vendor for any damage or injury resulting from failure to adhere to recommended uses, or from any hazards inherent to the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product should explicitly advise their employees, agents, contractors and customers who will use the product of this SDS.

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^{*}A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).