



Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : Methanol
CAS No : 67-56-1
Formula : CH₄O

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Chemical raw material

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2 H225
Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
Acute Tox. 3 (Inhalation:dust,mist) H331
STOT SE 1 H370

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS02

GHS06

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H370 - Causes damage to organs (May cause blindness if swallowed)

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, sparks, open flames. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe mist, vapors
P264 - Wash affected areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear personal protective equipment as required
P301+P310 - If swallowed: Immediately call doctor/physician or poison center. Rinse Mouth
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P314 - Get medical advice/attention if you feel unwell
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse
P370+P378 - In case of fire: Use Foam, Sand, Dry powder, Carbon dioxide to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : Methanol
CAS No : 67-56-1

Name	Product identifier	% by wt	GHS-US classification
methanol	(CAS No) 67-56-1	<= 100	Flam. Liq. 2, H225 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice. Allow the victim to rest. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents. Remove clothing before washing. Consult a doctor/medical service.

First-aid measures after eye contact : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Obtain emergency medical attention. Rinse mouth. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : High concentrations may cause acute central nervous system depression characterized by headaches, dizziness, nausea and confusion. May cause irritation of the nose and throat.

Symptoms/injuries after skin contact : Prolonged exposure to skin may cause skin irritation experienced as burning, dryness, cracking and redness.

Symptoms/injuries after eye contact : May cause severe irritation.

Symptoms/injuries after ingestion : May cause nausea, abdominal pain, headache, shortness of breath, visual impairment and blindness. Severe poisoning can lead to coma and death.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Skin rash/inflammation. Headache. Feeling of weakness. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Gastrointestinal complaints. Cardiac and blood circulation effects.

4.3. Indication of any immediate medical attention and special treatment needed

This product consists of methanol which can cause intoxication and depression of the central nervous system;. 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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : ABC powder. Foam. Dry powder. Carbon dioxide. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Flammable liquid and vapor. Vapors are heavier than air and may travel along the ground or may be moved by ventilation.
- Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Special protective equipment for fire fighters : Wear positive pressure self-contained breathing apparatus (SCBA). Protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Remove ignition sources. Use special care to avoid static electric charges. Do not breathe vapor or mist. Wear appropriate respirator when ventilation is inadequate.

6.1.1. For non-emergency personnel

- Emergency procedures : Evacuate unnecessary personnel. Keep upwind. Mark the danger area.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment : Dilute combustible/toxic gases/vapors with water spray. Contain released substance, pump into suitable containers. Dam up the liquid spill. Plug the leak, cut off the supply. Try to reduce evaporation. Take account of toxic/corrosive precipitation water.
- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : In use, may form flammable vapor-air mixture.
- Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
- Hygiene measures : Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Use explosion-proof electrical, lighting, ventilating equipment. Ground/bond container and receiving equipment. Proper grounding procedures to avoid static electricity should be followed.
- Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources, hot surfaces, open flames, sparks. Keep container closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.
- Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.
- Incompatible materials : Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

methanol (67-56-1)		
ACGIH	ACGIH TWA (ppm)	200 ppm (Skin)

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

methanol (67-56-1)		
ACGIH	ACGIH STEL (ppm)	250 ppm (Skin)
ACGIH	Remark (ACGIH)	Headache; eye dam; dizziness; nausea
OSHA	OSHA PEL (TWA) (mg/m ³)	260 mg/m ³ (Skin)
OSHA	OSHA PEL (TWA) (ppm)	200 ppm (Skin)

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure. Gloves. Safety glasses.



Hand protection : Wear protective gloves.
Eye protection : Chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : In case of inadequate ventilation wear respiratory protection. Wear appropriate mask.
Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : Clear
Odor : alcohol odor
Odor threshold : No data available
Relative evaporation rate (butylacetate=1) : Greater than n-Butyl acetate
Freezing point : -98 °C (-143.9 °F)
Boiling point : 64.7 °C (148.4 °F) [760 mm Hg]
Flash point : 11.1 °C (52 °F) Method Used: Closed Cup
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : 99 mm Hg @ 20 °C
Relative vapor density at 20 °C : Heavier than air
Specific Gravity : 0.79 @ 20 °C (68 °F)
Solubility : Water: Complete
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosive limits : 6 - 36 vol %

9.2. Other information

VOC content : 100.00 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.4. Conditions to avoid

Heat and ignition sources. Sparks. flames. Sources of ignition.

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Dermal: Toxic in contact with skin. Inhalation:dust,mist: Toxic if inhaled.

methanol (67-56-1)	
LD50 oral rat	> 5,000.00 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence)
LD50 dermal rabbit	15,800.00 mg/kg (Rabbit; Literature study)
LC50 inhalation rat (mg/l)	85.00 mg/l/4h (Rat; Literature study)
LC50 inhalation rat (ppm)	64,000.00 ppm/4h (Rat; Literature study)
ATE US (dermal)	15,800.00 mg/kg bodyweight
ATE US (gases)	700.00 ppmv/4h
ATE US (vapors)	3.00 mg/l/4h
ATE US (dust,mist)	0.50 mg/l/4h

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Causes damage to organs (May cause blindness if swallowed) .

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : High concentrations may cause acute central nervous system depression characterized by headaches, dizziness, nausea and confusion. May cause irritation of the nose and throat.

Symptoms/injuries after skin contact : Prolonged exposure to skin may cause skin irritation experienced as burning, dryness, cracking and redness.

Symptoms/injuries after eye contact : May cause severe irritation.

Symptoms/injuries after ingestion : May cause nausea, abdominal pain, headache, shortness of breath, visual impairment and blindness. Severe poisoning can lead to coma and death.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Skin rash/inflammation. Headache. Feeling of weakness. Disturbed tactile sensibility. Visual disturbances. Sleeplessness. Gastrointestinal complaints. Cardiac and blood circulation effects.

SECTION 12: Ecological information

12.1. Toxicity

methanol (67-56-1)	
LC50 fish 1	15,400.00 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)
EC50 Daphnia 1	> 10,000.00 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
LC50 fish 2	10,800.00 mg/l (LC50; 96 h; Salmo gairdneri)

12.2. Persistence and degradability

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.
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	1.50 g O ₂ /g substance
BOD (% of ThOD)	0.80 (Literature study)

12.3. Bioaccumulative potential

methanol (67-56-1)	
BCF fish 1	< 10.00 (BCF; 72 h; Leuciscus idus)
Log Pow	-0.77 (Experimental value; Other)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

methanol (67-56-1)	
Surface tension	0.02 N/m (20 °C)
Log Koc	Koc,PCKOCWIN v1.66; 1; Calculated value

12.5. Other adverse effects

- Effect on global warming : No known ecological damage caused by this product.
- Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.
- Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1230 Methanol Solution, 3, II
- UN-No.(DOT) : UN1230
- Proper Shipping Name (DOT) : Methanol Solution
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Hazard labels (DOT) : 3 - Flammable liquid
6.1 - Poison



- Packing group (DOT) : II - Medium Danger
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
- DOT Packaging Bulk (49 CFR 173.xxx) : 242
- DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group, I - Proper shipping name appropriate for international and domestic transportation
- DOT Packaging Exceptions (49 CFR 173.xxx) : 150
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"
Other information	: In inner packaging no more than 1.0L (0.3 gallons): Proper shipping name: Limited Quantity (Methanol Solution).

TDG

Refer to current TDG Canada for further Canadian regulations

Transport by sea

UN-No. (IMDG)	: 1230
Proper Shipping Name (IMDG)	: Methanol
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: II - substances presenting medium danger
Limited quantities (IMDG)	: Limited Quantity (Methanol Solution)

Air transport

UN-No. (IATA)	: 1230
Proper Shipping Name (IATA)	: Methanol Solution
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Methanol (67-56-1)	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	100 % Methanol (CAS # 67-56-1)
methanol (67-56-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb(s) (2270 kg)

15.2. International regulations

CANADA

WHMIS Classification



Class B Division 2 -
Flammable Liquid



Class D Division 1
Subdivision A - Very
toxic material
causing immediate
and serious toxic
effects



Class D Division 2
Subdivision A - Very
toxic material
causing other toxic
effects



Class D Division 2
Subdivision B -
Toxic material
causing other toxic
effects

EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Liq. 2

H225

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Acute Tox. 3 (Oral) H301
Acute Tox. 3 (Dermal) H311
STOT SE 1 H370

Full text of classification categories and H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

National regulations

Methanol (67-56-1)

ECL (South Korea): The intentional ingredients of this product are listed
ELNECS (Europe): The intentional ingredients of this product are listed
ENCS (Japan): The intentional ingredients of this product are listed
DSL (Canada): The intentional ingredients of this product are listed

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

methanol (67-56-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	Yes	No	No	

methanol (67-56-1)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-statements:

H225	Highly flammable liquid and vapor
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H370	Causes damage to organs

NFPA health hazard

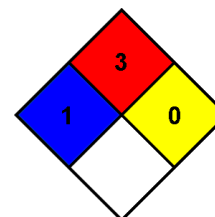
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

: 3 - Liquids and solids that can be ignited under almost all ambient conditions.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur

Flammability

: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 °F (22 °C) and boiling points above 100 °F (37 °C). as well as liquids with flash points between 73 °F (22 °C) and 100 °F (37 °C). (Classes IB & IC)

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection

B - Safety glasses, Gloves

SDS GHS US (GHS HazCom 2012) OWI

Methanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Old World Industries, LLC makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, LLC as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, LLC assume liability arising out of the use by others of this product referred to herein. The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.