

Methanol MSDS

Material Data Safety Sheet (MSDS): METHYL ALCOHOL

1. Product Identification

MSDS Name: **Methyl alcohol**, reagent acs, 99.8% (gc)

Synonyms: Carbinol, Methanol, Methyl Hydroxide, Monohydroxymethane, Pyroxylic Spirit, Wood Alcohol, Wood Naptha, Wood Spirit.

2. Composition/Information on Ingredients

CAS#	Chemical Name	%	EINECS#
67-56-1	Methyl Alcohol	99+%	200-659-6

Hazard Symbols: T F

Risk Phrases: 11 23/25

3. Hazards Identification

EMERGENCY OVERVIEW

Appearance: APHA: 10 max. Flash Point: 12 deg C.

Warning! Flammable liquid. May cause skin irritation. May cause central nervous system depression. May be absorbed through the skin. May cause kidney damage. May cause respiratory and digestive tract irritation. May be fatal or cause blindness if swallowed. May cause fetal effects. Causes severe eye irritation and possible injury. Target Organs: Kidneys, central nervous system, eyes.

Potential Health Effects

Eye:

Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Vapors may cause eye irritation. May cause painful sensitization to light.

Skin:

May cause skin irritation.

Ingestion:

May be fatal or cause blindness if swallowed. May cause irritation of the digestive tract. May cause kidney damage. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation:

May cause respiratory tract irritation. May cause visual impairment and possible permanent blindness.

May cause effects similar to those described for ingestion.

Chronic:

Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

4. First Aid Measures

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin:

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Effects may be delayed. Ethanol may inhibit metabolism.

5. Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Use water spray to keep fireexposed containers cool. Flammable Liquid. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May be ignited by heat, sparks, and flame. Containers may explode when heated.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: 455 deg C (851.00 deg F)

Flash Point: 12 deg C (53.60 deg F)

NFPA Rating: health-1; flammability-3; reactivity-0

Explosion Limits, Lower: 6.00 vol %

Upper: 31.00 vol %

6. Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

7. Handling and Storage

Handling:

Wash thoroughly after handling. Use only in a well ventilated area. Ground and bond containers when transferring material. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Avoid ingestion and inhalation. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. Exposure Controls/Personal Protection

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits:

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Methyl Alcohol	200 ppm; 262 mg/m ³ ; 250 ppm STEL; 328 mg/m ³ STEL; skin - Potential for cutaneous absorption	200 ppm TWA; 260mg/m ³ TWA; 6000 ppm IDLH	200 ppm TWA; 260 mg/m ³ TWA

OSHA Vacated PELs:

Methyl Alcohol:

200 ppm TWA; 260 mg/m³ TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149.

Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

9. Physical and Chemical Properties (Methanol, Methyl Alcohol)

Appearance:	Colorless liquid
Odor:	Slight alcohol-like
Solubility:	Miscible
Density:	0.7910 g/cm ³
pH:	Neutral
% Volatiles by volume @ 21C (70F):	Not available
Boiling Point:	64.7 deg C @ 760.00mm Hg
Melting Point:	-98 deg C
Vapor Density (Air=1):	1.1
Vapor Pressure (mm Hg):	128 mm Hg @20 deg C
Evaporation Rate (Ether=1):	5.2
Viscosity:	0.55 cP 20.00
Molecular Formula:	CH ₄ O
Molecular Weight:	32.04

10. Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

High temperatures, incompatible materials, ignition sources.

Incompatibilities with Other Materials:

Acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), isocyanates (e.g. methyl isocyanate), metals (alkali and alkaline, e.g. cesium, potassium, sodium), nitrides (e.g. potassium nitride, sodium nitride), peroxides and hydroperoxides (organic, e.g. acetyl peroxide, benzoyl peroxide, butyl peroxide, methyl ethyl ketone peroxide), epoxides (e.g. butyl glycidyl ether), oxidizing agents (strong, e.g. bromine, hydrogen peroxide, nitrogen dioxide, potassium nitrate), reducing agents (strong, e.g. aluminum carbide, chlorosilane, hydrogen phosphide, lithium hydride), water reactive substances (e.g. acetic anhydride, alkyl aluminum chloride, calcium carbide, ethyl dichlorosilane).

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, formaldehyde.

Hazardous Polymerization: Has not been reported

11. Toxicological Information

RTECS#:

CAS# 67-56-1: PC1400000

LD50/LC50:

CAS# 67-56-1: Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit:

LD50 = 14200 mg/kg; Oral, rat: LD50 = 5628 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg.

Carcinogenicity:

Methyl Alcohol -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

Methanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Specific

developmental abnormalities include cardiovascular, musculoskeletal, and urogenital systems.

Teratogenicity:

No data available.

Reproductive Effects:

No data available.

Neurotoxicity:

No data available.

Mutagenicity:

No data available.

Other Studies:

None.

12. Ecological Information

Ecotoxicity:

Goldfish (fresh water), 250 ppm/11H, death. Aquatic toxicity rating: TLm 96 >1000 ppm. LC50(48hr) trout 8000 mg/l LC50(24hr) brine shrimp 10000 mg/l EC50(30min) Photobacterium phosphoreum 51000- 320000ppm, microtox test (Kaiser, K.L.E. et al. Water Pollut. Res. J. Can. 1991, 26(3), 361-431)

Bioaccumulation. Bioconcentration factor for goldenide<10 (Freitag, D. et al. Chemosphere 1985, 14, 1589-1616).

Environmental Fate:

Nitrification inhibition. IC50ammonic oxidation by Nitrosomonas 160 mg/l (exposure not specified) (Hooper,A. J.Bacteriol.1973, 115, 480). Metabolised by the marine ammonia oxidising bacterium Nitrococcus oceanus with the liberation of CO2 (Ward, B.B. Arch. Microbiol. 1987, 147(2), 126-133).Degradation studies. Under anaerobic conditions traces of carbon monoxide were formed together with methane by activated sludge inoculum (Hickey,R.F. et al. Biotechnol.Lett.1987,9(1),63-66)

Physical/Chemical:

No information available.

Other:

None.

13. Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

RCRA D-Series Maximum Concentration of Contaminants: None listed.

RCRA D-Series Chronic Toxicity Reference Levels: None listed.

RCRA F-Series: None listed.

RCRA P-Series: None listed.

RCRA U-Series: CAS# 67-56-1: waste number U154 (Ignitable waste).

14. Transport Information

Shipping Name: Methanol
Hazard Class: 3
UN Number: UN1230
Packaging Grp: II

15. Regulatory Information:

US

TSCA

CAS# 67-56-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

SARA Codes

CAS # 67-56-1: immediate, fire.

Clean Air Act:

CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

T F

Risk Phrases:

R 11 Highly flammable.

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 39/23/24/25 Toxic : danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 67-56-1: 1

16. Other Information

The statements contained herein this material data sheet is believed to be reliable but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the user / manufacturer/ seller to ensure that the information contained in the material safety data sheet is relevant to the product manufactured / handled or sold by him as the case may be. M/s Amos Enterprise Ltd makes no Warranties expressed or implied in respect of the adequacy of this document for any particular purpose.