

CORCO CHEMICAL CORPORATION

Manufacturers of ACS Reagents and Semiconductor Grade Chemicals

SAFETY DATA SHEET

METHYL ALCOHOL

1. Identification

Product identifier: Methyl Alcohol, Reagent (ACS)

Product Code Number: 1501

Trade Name: Methyl Alcohol, Reagent ACS

Synonyms: Wood Alcohol; Methanol; Carbinol

Chemical Formula: CH₃OH

Product Use: Process chemical, Laboratory and scientific research and development

Restrictions on use: None known.

Company Identification: Corco Chemical Corporation
299 Cedar Lane
Fairless Hills, PA 19030
Phone: 215-295-5006
Fax: 215-295-0781

24 Hour Emergency Telephone Number:

CHEMTREC (U.S.): 1-800-424-9300

CHEMTREC (Outside U.S.): 1-703-527-3887

SDS Date of Preparation: 11/19/19

2. Hazard(s) identification

Classification of the Substance or Mixture:

Flammable Liquid Category 2

Acute Oral Toxicity Category 3

Acute Dermal Toxicity Category 3

Acute Inhalation Toxicity Category 3

Specific Target Organ Toxicity Single Exposure Category 1

Label Elements:

Danger!



Hazard 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 optic nerve and central nervous system.

Precautionary Statements:

- P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P240 Ground or bond container and receiving equipment.
- P241 Use explosion-proof electrical, ventilating, or lighting equipment.
- P242 Use only non-sparking tools.
- P243 Take precautionary measures against static discharge.
- P260 Do not breathe mist, vapors, or spray.
- P264 Wash 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 protective gloves, eye protection, and protective clothing.
- P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P311 Call a POISON CENTER or doctor.
- P303+P361+P353 IN ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P312 Call a POISON CENTER or doctor if you feel unwell.
- P361+P364 Take off immediately all contaminated clothing and wash it before reuse.
- P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- P330 Rinse mouth.
- P370+P378 In case of fire: Use water spray, dry chemical, alcohol foam, or carbon dioxide to extinguish.
- P403+P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.
- P501 Dispose of contents and container in accordance with local and national regulations.

Other Hazards: None known

3. Composition/information on ingredients

Ingredient	CAS Number	Percent	Hazardous
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			Chemical
Methanol	67-56-1	100%	Yes

4. First-aid measures

Inhalation: Immediately remove victim to fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Get medical attention if symptoms develop or for high levels of exposure.

Skin contact: Immediately flush skin with plenty of water for several minutes while removing contaminated clothing and shoes. Get immediate medical attention. Launder clothing before re-use. (Discard contaminated shoes).

Eye contact: Rinse thoroughly with water. Get medical attention if irritation occurs and persists.

Ingestion: Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious or convulsing person. Keep the victim calm and warm. Immediately call a poison control center and get immediate medical attention.

Most important symptoms/effects, acute and delayed: Poison. Toxic if swallowed, in contact with skin, or if inhaled. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects such as headache, dizziness, drowsiness, nausea and unconsciousness. May be fatal or cause blindness if swallowed. Prolonged exposure to methanol may cause nervous system damage.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is required if swallowed, inhaled, or if absorbed by skin contact.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media: Use water spray, alcohol-resistant foam, carbon dioxide and dry chemical.

Specific hazards arising from the chemical: Highly flammable liquid and vapors. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Vapors may form explosive mixtures with air in confined areas. Sensitive to static discharge.

Special protective equipment and precautions for fire-Fighters: Wear an approved, positive pressure, self-contained breathing apparatus and full protective clothing. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Evacuate spill area and keep unprotected personnel away. Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Minimize generation of static electricity which may cause sparking. Prevent contact with the eyes, skin and clothing. Wear appropriate protective clothing. Do not breathe vapors or mists. Ventilate area with explosion proof equipment.

Methods and materials for containment and cleaning up: Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth,) and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and storage

Precautions for safe handling: Prevent contact with the eyes, skin and clothing. Wear protective clothing and equipment as described in Section 8. Do not breathe vapors or mists. Use with adequate ventilation. Wash hands with soap and water after use. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use. Use with non-sparking tools and explosion proof equipment. Electrically bond and ground containers for transfer.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well ventilated location away from heat and open flames. Keep away from incompatible materials. Protect container from physical damage. Keep containers closed when not in use. Keep out of the reach of children.

8. Exposure controls/personal protection

Chemical Name	Exposure Limits
Methanol	200 ppm TWA, 250 ppm STEL ACGIH TLV (skin) 200 ppm TWA OSHA PEL

Appropriate engineering controls: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please

refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details. Use explosion-proof equipment.

Personal protective equipment:

Respiratory protection: If the exposure limit is exceeded and engineering controls are not feasible, an approved respirator with dust/mist cartridges or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection: Use chemical safety goggles where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and chemical properties

Appearance: Clear.

Physical state: Liquid.

Form: Liquid.

Color: Colorless.

Odor: Slight.

Odor threshold: Not available.

pH: Not available.

Melting point/freezing point: -144 °F (-97.8 °C)

Initial boiling point and boiling range: 148.46 °F (64.7 °C) 101.325 kPa

Flash point: 53.60 °F (12.00 °C) Closed Cup

Evaporation rate: Not available.

Flammability (solid, gas): Not applicable.

Upper / Lower Flammability or Explosive Limits: LEL: 7.3%, UEL: 36%

Vapor pressure: 16.93 kPa at 25 °C

Vapor density: Not available.

Relative density: Not available.

Solubility(ies): Miscible

Partition coefficient (n-octanol/water): -0.8

Auto-ignition temperature: 464 °F (240 °C)

Decomposition temperature: When heated to decomp, emits acrid smoke and irritating fumes

Other information:

Density: 0.79 g/cm³ estimated

Dynamic viscosity: 0.614 mPa.s

Flammability class: Flammable IB estimated

Flash point class: Flammable IB

Heat of combustion: NFPA (30B) 19 kJ/g

Molecular formula: C-H4-O

Molecular weight: 32.04 g/mol

Percent volatile: 100 %

Specific gravity: 0.7866 at 25 °C

VOC (Weight %): 100 %

Viscosity: Not available.

10. Stability and reactivity

Reactivity: Not reactive under normal conditions of use.

Chemical stability: Stable under ordinary conditions of use and storage.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Conditions to avoid: Keep away from heat, sparks, flames and other sources of ignition.

Incompatible materials: Strong oxidizing agents, alkali metals, and reducing agents.

Hazardous decomposition products: Carbon Dioxide and Carbon Monoxide may form when heated to decomposition.

11. Toxicological information

Potential Health Effects:

Inhalation: Toxic if inhaled. Inhalation of vapors may cause mucous membrane and respiratory irritation and central nervous system depression with symptoms of headache, dizziness, giddiness, intoxication, nausea, vomiting, disorientation, stupor and unconscious. Severe overexposures may cause respiration depression, blurred vision, blindness, liver and kidney damage, coma and death.

Skin Contact: Toxic in contact with skin. May cause skin irritation, drying, defatting of the skin and dermatitis. Methanol may be absorbed through the skin causing effects similar to those described under inhalation and ingestion.

Eye Contact: Direct contact with eyes may cause mild eye irritation with redness, tearing and stinging with possible eye damage.

Ingestion: Toxic if swallowed. Ingestion may cause mucous membrane and gastrointestinal irritation, visual disturbances and nervous system depression with symptoms of headache, dizziness, nausea, narcosis and unconsciousness. Methanol is

very slowly eliminated from the body. Ingestion of methanol may cause nervous system effects, blurred vision, blindness, coma and death. Usual fatal dose: 100-125 milliliters.

Chronic Exposure: Prolonged occupational overexposure may cause effects on vision, hearing and damage to the nervous system, blood system, liver and kidneys. Prolonged intentional abuse may damage many organ systems including: central and peripheral nervous systems, vision, hearing, liver, kidneys, lymphoid system, heart and blood. Such abuse has been associated with brain damage characterized by disturbances in gait, personality changes and loss of memory. Methanol has been found to cause adverse reproductive effects and/or birth defects in studies with laboratory animals.

Aggravation of Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

Carcinogenicity: None of the components of this product are listed as a carcinogen or suspected carcinogen by OSHA, IARC, and NTP.

Reproductive Effects: Reproductive harm is not expected from this product.

Mutagenic Effects: Not expected to cause mutagenic activity.

Acute Toxicity:

Methanol: Oral rat LD50- 5628 mg/kg, Skin rabbit LD50- 15800 mg/kg, Inhalation rat LC50- 64000 ppm/4hr

12. Ecological information

Exotoxicity:

Product	Species	Test Results
Methanol	Fathead minnows	29.4 g/L 96 hr LC50
	Rainbow trout	19,000 mg/L 96 hr LC50

This material is not expected to be toxic to aquatic life.

Persistence and Degradability: Methanol: Readily biodegradable - 83-91% after 3days.

Bioaccumulative Potential: This material is not expected to significantly bioaccumulate.

Mobility in Soil: No data available

Other adverse effects: Not applicable

13. Disposal considerations

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. If discarded, this product is considered a RCRA ignitable waste, D001.

Dispose of container and unused contents in accordance with federal, state and local requirements.

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

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). Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation information

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
US DOT	UN1230	Methanol	3	II	Not applicable
IMDG	UN1230	Methanol	3	II	Not applicable
IATA	UN1230	Methanol	3	II	Not applicable

* **Hazardous Substance (49CFR172.101):** Methanol (RQ5,000 lbs)- (5,000 lbs. product)

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

Special Precautions for User: Not applicable

15. Regulatory information

US federal regulations:

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

This product has a Reportable Quantity (RQ) of 5,000 lbs. (based on the RQ for Methanol of 5,000 lbs present at 100%). Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories:

SARA 311/312

Refer to Section 2 for OSHA Hazard Classification.

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:

Methanol 67-56-1 100%

SARA 302 Extremely hazardous substance

None

Other federal regulations:

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

METHYL ALCOHOL (CAS 67-56-1)

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

Not regulated.

Safe Drinking Water Act (SDWA)

Contaminate candidate list

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA)

Not regulated.

US state regulations California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This product can expose you to chemicals including 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.

U.S. Massachusetts RTK - Substance List

METHYL ALCOHOL (CAS 67-56-1)

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

METHYL ALCOHOL (CAS 67-56-1) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

METHYL ALCOHOL (CAS 67-56-1)
US. Rhode Island RTK
 METHYL ALCOHOL (CAS 67-56-1)
US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT):
 METHYL ALCOHOL (CAS 67-56-1)

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
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

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

16. Other information

Date of Current Revision: 11/19/19
Revision Summary: Updated all sections.
Date of Previous Revision: N/A

Disclaimer - The information in the SDS is based on the data available at the time. While believed to be accurate, Corco does not claim it to be all inclusive. The information given is designed only as guidance for safe handling, use, processing,

storage, transportation, disposal and release and is not to be considered a warranty or quality specification. It is not intended to provide product performance or applicability information, and no express or implied warranty of any kind is made with respect to the product, the underlying product data, or the information contained herein. We will not provide advice on such matters, or be responsible for any injury or damage resulting from the use of the product described herein.