

Product Name: **Methanol**

Preparation date: 3/28/05

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS REVISION #: 004

PRODUCT NAME: Methanol

SYNONYMS: Methyl alcohol; wood alcohol; carbinol

DISTRIBUTED BY: Mitsubishi Gas Chemical America, Inc.
655 Third Avenue, 24th Floor
New York, NY 10017

PHONE NUMBERS: Inquiries - (212) 687-9030 (business hours)
CHEMTREC - (800) 424-9300 (transportation emergencies)

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Component</u> | <u>%</u> | <u>CAS No.</u> | <u>Exposure Limits</u> |
|------------------|----------|----------------|--|
| Methanol | 100 | 67-56-1 | OSHA PEL - 200 ppm ACGIH TLV - 200 ppm (skin) ACGIH STEL - 250 ppm |

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Product is a clear, colorless, poisonous, flammable liquid. Excessive breathing of vapors can cause irritation of the respiratory tract and dizziness. Swallowing can cause blindness and death. Causes irritation to the skin, eyes and mucous membranes.

Vapors are heavier than air and may travel along the ground to remote ignition sources. Vapors may then ignite explosively.

Keep away from heat, sparks and open flames. Avoid breathing vapors. Avoid contact with skin, eyes and clothing. Wear protective goggles and gloves and impervious clothing when handling this product. Wash thoroughly after handling.

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SECTION 3 - HAZARDS IDENTIFICATION (continued)

POTENTIAL HEALTH EFFECTS

EYES:

Liquid can cause severe irritation, even corneal burns. High concentrations of vapors may cause irritation.

SKIN:

Can cause moderate irritation, defatting cracking and dermatitis. Prolonged or repeated exposure to liquid can cause defatting and fissured dermatitis. Skin absorption can contribute to overall exposure. Persons with pre-existing skin disorders may be particularly susceptible.

INGESTION (swallowing):

May cause headache, dizziness, weakness, euphoria, drowsiness, shortness of breath, vomiting, and loss of voluntary muscle control. Can also cause blindness and death. **Can not be made non-poisonous.**

INHALATION (breathing):

Excessive inhalation of vapors can cause irritation of the respiratory tract, nausea, shortness of breath and headache.

CHRONIC EFFECTS/CARCINOGENICITY:

This product (or component) is not listed in IARC Monographs, the NTP Ninth Annual Report or the ACGIH TLVs as a carcinogen or potential carcinogen. OSHA does not regulate it as a carcinogen.

SECTION 4 - FIRST AID MEASURES

EYE CONTACT:

Immediately flush with large amounts of water for at least 15 minutes, lifting upper and lower lids occasionally. Get medical attention. Do **not** use chemical antidote.

SKIN CONTACT:

Wash exposed area with lots of soap and water. Remove contaminated clothing and launder before re-use.

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SECTION 4 - FIRST AID MEASURES (continued)

INGESTION (swallowing):

Immediately drink two large glasses of water. Induce vomiting by giving IPECAC syrup or by sticking finger to back of throat. Keep head below hips to avoid aspiration of material into lungs. Never give anything by mouth to an unconscious person. Get immediate medical attention.

INHALATION (breathing):

If affected, move to fresh air. If breathing has stopped, give artificial respiration and call a physician.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT: 52° F (11° C)

FLASH POINT METHOD: TCC

UPPER EXPLOSION LIMIT: 36.5%

LOWER EXPLOSION LIMIT: 6.7%

AUTOIGNITION TEMPERATURE: Unavailable

EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, water spray or alcohol foam

FIRE AND EXPLOSION HAZARDS:

Vapors are heavier than air and may travel along the ground to remote ignition sources. Vapors may then ignite explosively. All 5 gallon and larger size containers should be properly bonded and grounded.

FIRE-FIGHTING EQUIPMENT:

Keep personnel removed from and upwind. Wear full protective clothing and self-contained breathing apparatus with full face-piece. Cool containers with water. Water may be ineffective against large spills of flammable liquids. Decomposition/combustion products may include carbon monoxide and carbon dioxide.

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

Eliminate all open flames, heat, sparks and other ignition sources from the area of the spill. Use only explosion-proof equipment. Persons not wearing protective equipment should be excluded from the area of the spill until clean up has been completed. Dike area of spill with sand or dirt to prevent spreading. Pump liquid to salvage tank or other containers. Remaining liquid may be absorbed on vermiculite or other absorbent material and shoveled into containers.

EPA has designated methanol as a hazardous substance. Reporting spills of this material to the National Response Center may be required.

SECTION 7 - HANDLING AND STORAGE

HANDLING:

Containers should be properly bonded and grounded before transferring contents to other containers. Use non-sparking tools and explosion-proof equipment when handling flammable liquids.

Avoid contact with skin, eyes and clothing. Avoid inhalation of vapors. Wash thoroughly after handling.

STORAGE:

Keep in closed or covered containers away from heat, sparks and open flames when not in use. Do not store near oxidizing materials. Store in cool dry place with adequate ventilation.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:

A NIOSH/MSHA approved supplied air respirator or canister-type respirator equipped with organic vapor cartridge is recommended if exposure exceeds established exposure limits or level of overexposure.

SKIN PROTECTION:

Wear protective gloves such as Neoprene.

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SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

EYE PROTECTION:

Chemical splash goggles in compliance with OSHA regulations and full face-shield are advised.

OTHER PROTECTION:

Impervious clothing and boots are recommended.

ENGINEERING CONTROLS:

Provide sufficient ventilation to maintain exposure below established exposure limits.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------|----------------------------------|
| APPEARANCE: | Colorless liquid @ 77° F (25° C) |
| ODOR THRESHOLD: | Unavailable |
| SPECIFIC GRAVITY: | ~0.79 |
| VAPOR PRESSURE (mm Hg): | Unavailable |
| VAPOR DENSITY (Air = 1): | 1.11 |
| INITIAL BOILING POINT: | 148° F (64.6° C) |
| MELTING POINT: | -144° F (98° C) |
| EVAPORATION RATE: | Slower |
| (Butyl Acetate = 1) | |
| SOLUBILITY in WATER: | 100% @ 68 ° F (20° C) |
| VOLATILE %: | 100% |

SECTION 10 - STABILITY AND REACTIVITY

STABILITY (conditions to avoid):

Stable under normal conditions.

INCOMPATIBILITIES (materials to avoid):

Avoid contact with strong acids, oxidizers and alkali metals.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition may form carbon monoxide and carbon dioxide.

HAZARDOUS POLYMERIZATION:

mitsubishi gas chemical company, inc.
MATERIAL SAFETY DATA SHEET

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Not known to occur

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SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicological information is based on information found in NIOSH Registry of Toxic Effects of Chemical Substances.

SKIN & EYE IRRITATION

Human (eye) - 5 ppm.
Rabbit (skin) - 500 mg/24H (moderate).
Rabbit (eye) - 40 mg (moderate)

TOXICITY DATA

Inhalation

Rat LC_{Lo} - 64000 ppm/4H

Intraperitoneal

Rat LD₅₀ - 9540 mg/kg.

Oral

Human LD_{Lo} - 340 mg/kg.
Man LD_{Lo} - 13 gm/kg.
Mouse LD₅₀ - 870 mg/kg.
Rat LD₅₀ - 5628 mg/kg.

Intravenous

Mouse LD₅₀ - 5673 mg/kg.

Subcutaneous

Mouse LD₅₀ - 9800 mg/kg.

Skin

Rabbit LD₅₀ - 20 gm/kg.

Unreported

Man LD_{Lo} - 868 mg/kg.

SECTION 12 - ECOLOGICAL INFORMATION

No data available

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SECTION 13 - DISPOSAL CONSIDERATIONS

Incineration is the recommended disposal method for all chemical wastes such as this product. Material collected on absorbent material may be deposited in a landfill in accordance with all applicable local, state and federal regulations.

This product, if disposed of, is considered a hazardous waste (U154) under current RCRA regulations.

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Description: Methanol, 3 (flammable liquid), UN 1230, PG II

Subsidiary 6.1 labeling is required.

SECTION 15 - REGULATORY INFORMATION

TSCA INFORMATION:

All components in this product are in compliance with TSCA Inventory requirements.

EINECS:

All components in this product are on the European Inventory of Existing Chemical Substances.

CEPA:

All components in this product are listed on the Canadian Domestic Substances List (DSL).

CERCLA:

Methanol has been designated as hazardous substances with an RQ of 5000#.

SARA 313 INFORMATION:

SARA requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372. This information must be included in all MSDS that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are: methanol; CAS 67-56-1; 100%

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|---------------------------------------|
| SECTION 16 - OTHER INFORMATION |
|---------------------------------------|

HAZARD RATING:

| | | |
|------------|---|--------------|
| HEALTH | 3 | 0 - LEAST |
| FIRE | 3 | 1 - SLIGHT |
| REACTIVITY | 0 | 2 - MODERATE |
| OTHER | - | 3 - HIGH |
| | | 4 - EXTREME |

HAZARD RATING METHOD: HMIS

REASON FOR REVISION:

Reviewed and updated; changed company address and phone number.

The product information contained herein is believed to be accurate as of the date of the Material Safety Data Sheet, and is provided without warranty, expressed or implied, as to the results of use of this information or the product to which it relates. Recipient assumes all responsibility for the use of this information and the use (alone or in combination with any other product), storage or disposal of the product, including any resultant personal injury or property damage.

****END OF REPORT****