



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME : METHYL ALCOHOL

UTILIZATION : Using a temperature controller, industrial hardening metal. Used as an industrial solvent Manufacture of paints, thinners, used as a substrate in the production of formaldehyde and formaldehyde, a chemical used in the synthesis of nitro-cellulose.

SUPPLY : CARCO CHEMICAL CO., LTD.
79/1-2 Moo4 Thepphrarat Banpho ChaChengsao 24140

TELEPHON : +6638-595-508 – 9

FAX : +6638-525-351

2. COMPOSITION/INFORMATION ON INGREDIENTS

SYSTEMATIC NAME : Methanol

OTHER NAME : Methyl Hydroxide

CAS No. : 67-56-1

UN No. : 1230

INDEX No. : 601-021-00-3

EINECS No : 200-659-6

3. HAZARDS IDENTIFICATION

HEALTH HAZARDS : Vapours may cause drowsiness and dizziness. Slightly irritating to the respiratory system. Contact / get frequently may cause skin dryness or cracking. Moderately irritating to the eyes Harmful; may cause lung damage if swallowed / obtaining may increase the toxicity of other substances; See Chapter 11 for details.

SAFTY HAZARDS : Flammable.

ENVIRONMENTAL HAZARDS : Not classified as dangerous according to criteria of the EC.



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

4. FIRST AID MEASURES

GENERAL INFORMATION : Keep victim calm. Obtain medical treatment immediately. DO NOT DELAY.

INHALATION : Remove to fresh air. If rapid recovery do not occur, transport to nearest medical facility for additional treatment.

SKIN CONTECT : Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes, and follow by washing with soap and water if available. If redness, swelling, pain and/or blisters occur, transport the nearest medical facility for additional treatment.

EYE CONTECT : Immediately flush eyes with large amounts of water for at least 15 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

INGESTION : If swallowed, do not induce vomiting; transport to nearest medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

ADVICE TO PHYSICIAN : Potential for chemical. Consider: gastric lavage with protected airway, administration of activated charcoal. Potential for cardiac sensitisation, particularly in abuse situations. Hypoxia or negative inotropes may enhance these effects. Consider: oxygen therapy. Call a doctor or poison control center for guidance.

5. FIRE FIGHTING MEASURES

Clear fire area of all non-emergency personnel.

SPECIFIC HAZARDS : The vapour is heavier than air, spreads along the ground and distant ignition is possible. Will float and can be reignited on surface water. Carbon monoxide may be evolve if incomplete combustion occurs.

EXTINGGULSHING MEDIA: Foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

PROTECTIVE EQUIPMENT: Wear full protective clothing and self-contained breathing apparatus.

FOR FIREFGHTERS

ADDITIONAL ADVICE : Keep adjacent containers cool by spraying with water.



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

6. ACCIDENTAL RELEASE MEASURES

Observe all relevant local and international regulations. Avoid contact with spilled or released material. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. See Chapter 13 for information on disposal.

PROTECTIVE MEASURES : Isolate hazard area and deny entry to unnecessary or unprotected personal risks

Remove all possible sources of ignition in the surrounding area. Use appropriate containment (of product and firefighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Ventilate contaminated area thoroughly.

CLEAN UP METHODS : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

For small liquid spills (> 1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

ADDITIONAL ADVICE : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained. The vapour is heavier than air, spreads along the ground and distant ignition is possible. Vapour may form an explosive mixture with air. See Chapter 13 for information on disposal.



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

7. HANDLING AND STORAGE

GENERAL PRECAUTIONS : Avoid breathing vapour or contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Material Safety Data Sheet. Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.

HANDLING : Avoid inhaling vapour and/or mists. Avoid contact with skin, eyes, and clothing. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling. Do not use compressed air for filling, discharging, or handling operations. Handling Temperature: Ambient.

STORAGE : Bulk storage tanks should be diked (bunded). Vapours from tanks should not be released to atmosphere. Breathing losses during storage should be controlled by a suitable vapour treatment system. Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources and other sources of heat. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable product which are not harmful or toxic to man or to the environment. The vapour is heavier than air. Beware of accumulation in pits and confined spaces. Storage Temperature: Ambient.

PRODUCT TRANSFER : Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). Avoid splash filling Do NOT use compressed air for



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

filling, discharging, or handling operations. Keep containers closed when not in use. Do not use compressed air for filling, discharging or handling.

RECOMMENDED : For containers, or container linings use mild steel, stainless steel.

MATERIALS

CONTAINER ADVICE : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform similar operations on or near containers.

ADDITIONAL : Ensure that all local regulations regarding handling and storage facilities are
INFORMATION followed

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

SAFETY STANDARDS : Environmental
TLV-TWA = 200 ppm (262 mg/m³)
TLV-STEL = 250 ppm (328 mg/m³)

EXPOSURE CONTROLS : The level of protection and type of controls necessary will vary dependent upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed system as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Firewater monitors and deluge systems are recommended. Eye washes and showers for emergency use.

PERSONAL PROTECTIVE : Personal protective equipment (PPE) should meet recommended national
EQUIPMENT standards. Check with PPE suppliers.

RESPIRATORY : If engineering controls do not maintain airborne concentrations to a level which
PROTECTION is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. Select a filter suitable for organic gases and vapour [boiling point > 65 C (149 F)] meeting EN371. Where respiratory protective equipment is required, use a full-face mask.



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

Where air-filtering respirators are unsuitable (e.g., airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure

HAND PROTECTION : Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739, AS/NZS: 216) made from the following materials may provide suitable chemical protection: Longer term protection: Viton. Incidental contact/Splash protection: Nitrile rubber. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

EYE PROTECTION : Chemical splash goggles (chemical monogoggles).

PROTECTIVE CLOTHING : Chemical resistant gloves/gauntlets, boots, and apron. Where risk of splashing or in spillage clean up chemical resistant one-piece overall with integral hood.

MONITORING METHODS : Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Odour : Specific odor
pH : -
Boiling point : 64.6°C
Flash point : 11°C (Abel)
Ignition temperature : 455°C
Vapor pressure : 96 mmHg at 20°C
Density : 791 - 793 kg/m³ at 20°C (ASTM D-4052)
Solubility in water : at 20°C This substance can be mixed well.



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

Vapor density : 1.1 at 20°C (air= 1)

Evaporation rate (nBuAc=1) : 2.1

10. STABILITY AND REACTIVITY

STABILITY : Stable under normal conditions of use.

CONDITIONS TO AVOID : Avoid heat, spark, open flames and other ignition sources

MATERIALS TO AVOID : Strong oxidizing agents.

HAZARDOUS : Don't expect to have anything in common, but will be carbon

DECOMPOSITION dioxide and carbon oxide when the combustion is incomplete.

PRODUCT

11. TOXICOLOGICAL INFORMATION

Basis for Assessment : Information given is based on product.

Acute Oral Toxicity : Low toxicity: LD50> 5,628 mg / kg, rat
to breathe into the lungs during swallowed or vomited may cause lung inflammation due to chemicals that may be harmful to life.

Acute Skin Toxicity : Expected to be of low toxicity: LD50> 15,800 mg / kg. rabbit

Acute Inhalation Toxicity : Expected to have low toxicity: Lc50> 64,000 mg/l/4 hours. rat
High concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

Irritant to the skin : Does not cause skin irritation often exposed for long periods of time can cause the skin to become fat and lack of skin diseases.

Eye irritation : Irritant to eye

Respiratory : Inhalation vapours may cause irritating to respiratory system.

Make a venom allergy : Not a substance that causes an allergic reaction of the skin.

Toxicity of continuous exposure : Low toxicity for body systems when contact/get a long time.

Genetic toxicity : The characteristics of gene don't change.

Toxicity Carcinogenicity : Not expected to be carcinogenic.

Toxins that cause embryo abnormalities : Not expected to result in reduced ability to have children.
or affect succession interbreeding



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

INFORMATION : Exposure / gain may enhance the toxicity of other compounds.

12. ECOLOGICAL INFORMATION

Acute toxicity

Fish : Expected to be of low toxicity: LC/EC/IC50 > 10,000 mg/l

Water flea : to be of low toxicity: LC/EC/IC50 > 10,000 mg/l

Mobility : If product leaks, it will leak into the soil and can contaminate groundwater is highly soluble in water.

Persistence / degradability of the substance: Decompose quickly

Accumulation of substances in the organism: Not expected to accumulate in living organisms.

13. DISPOSAL CONSIDERATIONS

MATERIAL DISPOSAL : Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water courses. Waste product should not be allowed to contaminate soil or water.

CONTAINER DISPOSAL : Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recover or metal reclaimer.

LOCAL LEGISLATION : Disposal should be in accordance with applicable regional, national, and local laws and regulations.

14. TRANSPORT INFORMATION

IMDG

Identification number : UN 1230

Proper shipping name : Methanol

Class/ Division : 3

Packing group : II

Marine pollutant : No

IATA (Country variations may apply)



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

UN No. : 1230
Proper shipping name : Methanol
Class / Division : 3
Packing group : II

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

EC Label Name : Methanol
EC label/EC Number : 200-659-6
EC Classification : Flammable. Toxic
EC Annex I Number : 601-021-00-3
EC Symbols : F Flammable.
T Toxic
EC Risk Phrases : R11 Highly Flammable.
R23/25 Toxic by inhalation and if swallowed.
EC Safety Phrases : S7 Keep container sealed
S16 Keep away from source of ignition
S24 Avoid contact with skin
S45 In case of accident or if you feel unwell. Should seek medical advice immediately and show this container or label Chem.
MITI (Japan) : 2-201

16. OTHER INFORMATION

National Fire Protection
Association (USA)



■ Health
■ Fire Hazard
■ Reactivity
□ Specific Hazard

MSDS DISTRIBUTION : The information in the this document should be made available to all who may handle the product

DISCLAIMER : This information is based on our current knowledge and is intended to describe



Material Safety Data Sheet

METHYL ALCOHOL

V1.0

the product for the purposes of health, safety and environment requirements only.
It should not therefore be construed as guaranteeing any specific property of the product.