Safety Data Sheet

Methanol

1. Identification of the substance or mixture and of the supplier

Material Name	:	Methanol
Chemical Formula	:	CH3OH
Molecular Weight	:	32.04
Material Uses	:	As a solvent for industrial manufacturing Processes
Supplier	:	SP PETROCHEMICAL SOLUTION CO.,LTD.
Address	:	440/4-6 Prachacheun Rd. Bangsue Bangkok 10800 Thailand Telephone : +66 2 913 7999 Fax : +66 2 586 0990-4 Website : www.srithanaperfect.com E-mail : info@srithanaperfect.com

2. Composition / Information on Ingredients

Synonyms	:	Methyl Hydroxide
CAS No.	:	67-56-1
UN No.	:	1230
INDEX No.	:	601-021-00-3
EINECS No.	:	200-659-6

3. Hazards identification

Safety Hazards	:	Highly Flammable
Human Health Hazards	:	Toxic by inhalation, in contact with skin And if swallowed. Vapours may cause eye Irritation.
Environmental Hazards	:	Toxic to aquatic organisms. Toxic effect on Fish and plankton. Forms toxic mixtures in Water, dilution measures notwithstanding. When used properly, no impairments in the function of waste-water-treatment plantsare to be expected.

4. First-aid measures

Inhalation	:	Remove to fresh air. If the victim has difficulty breathing or tightness of the chest, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.
Skin Contact	:	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.
Eye Contact	:	Immediately flush eyes with large amounts of water for at least 10 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.
Ingestion	:	Immediately make victim drink plenty of water. Do not induce vomiting; Do not eat milk and castor oil, transport to nearest medical facility for additional treatment.

5. Fire-fighting measures

Clear fire area of all non-emergency personnel.

Extinguishing Media
Water spray or fog, Dry chemical powder, Alcohol- resistant foam and carbon dioxide

Protective Equipment
Wear full protective clothing and self-contained breathing apparatus

Additional Advice
Keep adjacent containers cool by spraying with water

6. Accidental Release Measures

Protective Measures :
- Observe all relevant local and international regulations.
- Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see chapter 8 this Material Safety Data Sheet. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
- Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Clean-Up Methods

- Small spillage (< 200 LT) : Transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate orsoak up with an appropriate absorbent material and dispose ofsafely. Remove contaminated soil and dispose of safely.

- large spillage (> 200 LT) : Transfer by mechanical means such as vacuum truck to a salvagetank 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.

Other Information	:	Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

7. Handling And Storage

Handling	:	Avoid contact with skin, eyes, and clothing. Do not breathe vapours. Extinguish any naked flame. Remove ignition sources. Avoid sparks. Do not smoke. The vapour is heavier than air spreads along the ground and distant ignition is possible. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Do not use compressed air for filling, discharging, or handling operations. Handle and open container with care in well-ventilated area. Do not empty into drains.
Storage	:	Must be stored in a diked (bunded) well ventilated area, away from sunlight, ignition sources and other sources of heat. Bulk storage tanks should be diked (bunded). Keep away from aerosols, flammables, oxidizing agents, corrosives. Storage Temperature: Ambient.
Product Transfer	:	Keep containers closed when not in use. Do not use compressed air for filling, discharging, or handling operations. If positive displacement pumps are used, these must be fitted with a nonintegral pressure relief valve. Ensure electrical continuity by bonding and grounding (earthing) all equipment.
Recommended Materials	:	For containers, or container linings use mild steel, stainless steel.
Additional 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.

8. Exposure Controls and Personal Protection

Engineering Controls Workplace	:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value.
Respiratory Protection	:	Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hand Protection	:	Butyl rubber gloves, Nature rubber gloves, Neoprene rubber gloves, Nitrile rubber gloves.
Eye Protection	:	Chemical splash goggles
Protective Clothing	:	Use protective clothing which is chemical resistant to this material. Safety shoes and boots should also be chemical resistant.

9. Physical and Chemical Properties

Appearance	:	Clear liquid.
Odour	:	Acetone-like odour.
Boiling Point (oC)	:	64.4 degree Celsius
Melting Point (oC)	:	-97.8 degree Celsius
Vapour Pressure (mmHg)	:	96 mmHg @ 20 degree Celsius
Vapour Density	:	1.1 @ 20 degree Celcius(air=1)
Solubility in Water	:	Soluble complete @ 20 ºC degree Celsius
pH Value	:	Data not available

10. Stability and Reactivity

Stability	:	Stable under normal conditions.
Conditions to Avoid	:	Heat, flame, spark and other ignition sources.
Materials to Avoid	:	Strong oxidizing agents, alkaline agent, and strong reducing agent.
Hazardous Decomposition Products	:	Thermal decomposition is highly dependent on conditions. Carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation. May form explosive peroxides

11. Toxicological Information

Acute Toxicity

●LD50 Acute oral toxicity	:	2,737 mg/kg (rat)
●LD50 Acute dermal Toxicity	:	13,000 mg/kg (rabbit)
●LC50 Acute Inhalation Toxicity	:	23,500 mg/m3 8 hours (rat)
Skin Irritation	:	Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis.
Eye Irritation	:	Irritating to eyes. Inflammation of the eye is characterized by redness, pain and itching.
Respiratory Irritation	:	Inhalation of vapours or mists may cause irritation to the respiratory system and may cause drowsiness and dizziness.
Carcinogenicity	:	No data available.

12. Ecological Information

Acute Toxicity

●Fish	:	Low toxicity : LC50 >10,000 mg/l
●Daphnia	:	Low toxicity : EC50 >10,000 mg/l/24h.
Mobility	:	Dissolves in water. If product enters soil, it will highly mobile and may contaminate groundwater.
Persistence / Degradability	:	Readily biodegradable.
Bio-accumulation	:	Not expected to bioaccumulate significantly

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 classifications 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. Refer to Section 7 before handling the product or containers. Residues may cause an explosion hazard. Do not puncture, cut or weld unclenaed drums. Send to drum recoverer or metal reclaimer.
Local Legislation	:	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

14. Transport Information

Road/Rail Transport ADR/RID

- UN. Number : 1230
- Class/Item : 3/3 (b)
- Hazard Symbol : Flammable Liquid
- Proper Shipping Name : Methanol

Maritime Transport IMO

- UN. Number : 1230
- Class : 3.2
- Packing Group : II
- Hazard Symbol : Flammable Liquid
- Proper Shipping Name : Methanol
- Marine Pollutant : No

Air Transport IATA/ICAO

- UN. Number : 1230
- Class : 3
- Packing Group : II
- Hazard Symbol : Flammable Liquid
- Proper Shipping Name : Methanol

15. Regulatory Information

EC Label Name	:	Methanol
EC Classification	:	Highly Flammable
EC Symbol	:	F T

EC Risk Phrases

R 11	Highly Flammable
R23/25	Toxic by inhalation and if swallowed

EC Safety Phrases

S7	Keep container tightly closed
S 16	Keep away from sources of ignition- No smoking
S24	Avoid contact with skin
S45	In case of accident of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

16. Other Information

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

Disclaimer :
The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. No warranty of guarantee is expressed or implied regarding the accuracy of these data or the results to be obtained from the use of the product.