

HALL CHEM MFG. INC.1270 rue Nobel
Boucherville Qc J4B 5H1

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MATERIAL SAFETY DATA SHEET**EMERGENCY : CANUTEC (613) 996-6666****MSDS : 500MH-2****PRODUCT IDENTIFICATION AND USE****NAME OF PRODUCT :** Methyl hydrate**USE OF PRODUCT :** Intermediary of chemical products, gas mixture**TRANSPORTATION OF DANGEROUS GOODS****SHIPPING NAME :** Methanol**WHMIS :** B2, D1B, D2A,D2B**P.N.I. :** UN 1230**PRIMARY CLASS :** 3 flammable liquid**PACKING GROUP :** II**SUBSIDIARY CLASS :** 6,1 toxic materials**COMPONENTS**

COMPOSITION	% V/V	CASE #	LD ₅₀ mg/kg Oral/rat	LC ₅₀ ppm	TLV ppm 8h
methanol	99,85	67-56-1	6200,0 to 13000,0	64000,0	200

PHYSICAL CHARACTERISTICS

PHYSICAL STATE : Liquid	APPEARANCE : Colorless, clear and fluid	ODOR : Mild alcohol	ODORTRESHOLD : Not available
VAPOR TENSION (20°C) : 96,0 mm Hg	VAPOR DENSITY (air = 1 at 20°C) : 1,11	EVAPORATING RATE (butyl acetate = 1) : 2,1	
BOILING RANGE : 64,5°C (148°F)	FREEZING POINT : -97,8°C (-144°C)	pH : N/A	
DENSITY (H₂O = 1 at 20°C) : 0,792	DISTRIBUTION FACTOR WATER/OIL : Not available	SOLUBILITY IN WATER (25°C) : 100%	

REACTIVITY DATA**CHEMICAL STABILITY :** Stable**INCOMPATIBILITY WITH OTHER PRODUCTS :** Avoid contact with oxidizing agents, strong bases and strong acids. Avoid using in presence of natural rubber. May corrode lead and aluminum.**REACTIVITY CONDITIONS :** Avoid excessive heat, flames and other ignition sources. No hazardous polymerization.**EXPLOSION AND FIRE RISKS****FLAMMABILITY :** High**EXTINGUISHING METHODS :** Water (4 : 1), dry chemical powder purple K,FAM resistant to alcohol with 6% foam or carbon dioxide.

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FLASH POINT : 11°C, Tag closed cup
15,6°C, Cleveland open cup

AUTO-IGNITION TEMPS. : 385°C

FLAMMABILITY (% per volume)

SUPERIOR LIMIT : 36,0

LOWER LIMIT : 6

HAZARDOUS COMBUSTION PRODUCT : Vapors forms a flammable/explosive mixture with air between upper and lower flammable limits. Combustion may produce carbon dioxide, carbon monoxide and formaldehyde.

EXPLOSIBILITY DATA :

TOXICOLOGICAL PROPERTIES

ABSORPTION WAYS			CONTACT						
SKIN	√	INHALATION	√	INGESTION	√	WITH SKIN	√	EYES	√

EFFECTS OF EXPOSURE TO PRODUCT : Swallowing even small amount of methanol can cause blindness and death other effects may be nausea, headache, abdominal pain, vomiting and visual disturbances ranging from blurred vision to light sensitivity. Inhalation of high airborne concentration can also irritate mucous membranes, cause sleepiness, confusion, loss of consciousness, digestive and visual disturbances and death. May be absorbed through the skin in toxic or lethal amounts. Causes mild irritation, redness, cracking and drying. Repeated exposure by inhalation or absorption may cause systemic poisoning, brain disorders, impaired vision and blindness. Inhalation may worsen conditions such as emphysema or bronchitis.

PREVENTIVE MEASURES

PROTECTIVE EQUIPMENT : Gloves, security glasses and protective apron.

GLOVES : Butyl and nitrile.

RESPIRATORY SYSTEM : Necessary over the permitted limit.

OCULAR INSTRUMENT : Security glasses and face shield.

CLOTHING : Apron, jacket

TECHNICAL CONTROL : Ventilation

PROCEDURE IN CASE OF LEAKS/SPILLS : Extremely flammable liquid. Eliminate all ignition sources, stop spill and use absorbent materials. Collect liquid with explosion proof pumps. For small spills, collect with a non-combustible absorbent. Recover methanol or dilute with water to reduce fire hazard. Do not throw in the sewers or garbage.

HANDLING : Handle and open the containers with precaution. Do not weld or cut the containers because they can contain residues from flammable vapors. Do not heat or pressurize containers. Do not put any non-combustible material in empty containers, violent chemical reactions can occur. Do not smoke, eat or drink on working areas. Respect a good personal hygiene after manipulation of the product. Keep containers electrically grounded specially during manipulation or while transferring. The material can accumulate static.

WASTE DISPOSAL : Incineration is the recommended disposal method. Biodegradation may be used on dilute aqueous waste methanol. Methanol wastes are not suitable for underground injection. Waste materials must be disposed of in accordance with municipal, state, provincial and federal regulations.

STORAGE : In a cool, dry and well ventilated area. Keep away from incompatible material and from sources of ignition (naked flames, sparks, electricity). Keep the containers grounded especially during pumping and transfer operations.



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FIRST AID

EYES : Remove contact lenses if present and easy to do so. In case of contact, immediately flush eyes with plenty of clean running water for at least 15 minutes, lifting the upper and lower eyelids occasionally. Obtain medical attention.

SKIN : If in skin or hair, remove immediately all contaminated clothing. Rinse skin with water/shower. In case of contact, remove contaminated clothing. In a shower, wash affected areas with soap and water for at least 15 minutes. Seek medical attention if irritation occurs or persists. Wash contaminated clothing before reuse. Prolonged contact with methanol may defat skin tissue, resulting in drying and cracking.

INGESTION : If swallowed immediately call a POISON CENTRE or doctor. Rinse mouth. Swallowing methanol is potentially life threatening. Onset of symptoms may be delayed for 18 to 24 hours after digestion. If conscious and medical aid is not immediately available, do not induce vomiting. In actual or suspected cases of ingestion, transport to medical facility immediately. (See note to physician)

INHALATION : If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTRE or doctor. Specific treatment is urgent (see note to physician).

NOTES TO THE ATTENTION OF THE DOCTOR : Acute exposure to methanol, either through ingestion or breathing high airborne concentrations can result in symptoms appearing between 40 minutes and 72 hours after exposure. Symptoms and signs are usually limited to the Central Nervous System (CNS), eyes and gastrointestinal tract. Because of the initial CNS's effects of headache, vertigo, lethargy and confusion, there may be an impression of ethanol intoxication. Blurred vision, decreased acuity and photophobia are common complaints. Treatment with ipecac or lavage is indicated in any patient presenting within two hours of ingestion. A profound metabolic acidosis occurs in severe poisoning and serum bicarbonate levels are a more accurate measure of severity than serum methanol levels. Treatment protocols are available from most major hospitals and early collaboration with appropriate hospitals is recommended. Ethanol significantly decreases the toxicity of methanol because it competes for the same metabolic enzymes, and has been used to treat methanol poisoning.

INFORMATION ON THE M.S.D.S. PREPARATION

PREPARED BY :
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NOTE :

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