Material Safety Data Sheet

Revision Date: 14.10.2020

METHANOL

1. PRODUCT AND COMPANY IDENTIFICATION

Product: **Methanol**
Shipping Name/Number(s): UN1230 ; Methanol
CAS #: 67-56-1
Synonyms: Methyl alcohol, methyl hydrate, wood spirit, methyl hydroxide

Supplier:
Novichem Co.
Tehran 15886-13941
IRAN
Ph: (98) 21 88329799 (Hunting)

2. HAZARDS IDENTIFICATION

Emergency Overview: DANGER! POISON! FLAMMABLE LIQUID AND VAPOR. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. CANNOT BE MADE NONPOISONOUS. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. CAUSES IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. HIGH VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS. MAY CAUSE HARM TO THE UNBORN CHILD. PROLONGED EXPOSURE MAY CAUSE CHRONIC EFFECTS.

Safety Ratings:	Health: 3, Severe	Reactivity: 1, Slight
	Flammability: 3, Severe	Contact: 3, Severe

OSHA Regulatory Status: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Acute Health Effects:

Routes of Exposure: Inhalation, ingestion, skin contact, eye contact

Inhalation: May cause irritation of respiratory tract. Toxic effects exerted upon nervous system, particularly the optic nerve. Once absorbed into the body, it is very slowly eliminated. Symptoms of overexposure may include headache, drowsiness, nausea, vomiting, blurred vision, blindness, coma and death. A person may get better but then worse again up to 30 hours later.

Ingestion: Poison - may be fatal if swallowed. Even small amounts (30-250 ml methanol) may be fatal. Symptoms are stomach ache, nausea, vomiting, dullness, visual disorder and blindness.

Skin Contact: Causes irritation. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Skin absorption can occur, symptoms may parallel ingestion exposure.

Eye Contact: Causes irritation.

Target Organs: Skin, central nervous system, liver, reproductive system, eyes

Chronic Health Effects: In serious cases absorption of methanol in the body may lead to damage to the eyesight. May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility based on animal data. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Potential Environmental Effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS#	Chemical Formula	Formula Weight	Hazardous	% by Weight
Methanol	67-56-1	CH_4O	32.04	Yes	>99.85

4. FIRST AID MEASURES

First Aid Procedures:

Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen. If the victim is not breathing, provide artificial respiration. Get medical attention.

Ingestion: Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. GET MEDICAL ATTENTION IMMEDIATELY.

Skin Contact: Wash affected area with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

General Advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Notes to Physician: Treat symptomatically. Symptoms may be delayed.

5. FIRE FIGHTING MEASURES

NFPA Ratings: Health: 2 Flammability: 3 Reactivity: 0

Flammable Properties:	HIGHLY FLAMMABLE! Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Heat may cause sealed containers to explode.
Flash Point:	12° C (53.6° F)
Auto-ignition Temp:	464° C (867° F)
Flammable Limits in Air (% by volume):	Lower Explosion Limit: 6% Upper Explosion Limit 36.5%
Suitable Extinguishing Media:	Water spray, dry powder, alcohol resistant foam, carbon dioxide
Hazardous Combustion Products:	Carbon monoxide, carbon dioxide
Specific Hazards:	Can be ignited easily by heat, sparks, or flame and burns vigorously. Material may burn with an invisible flame. Sealed containers may explode when heated or involved in fire. Material is sensitive to static discharge. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard.
Special Protective Equipment For Firefighters:	As in any fire, wear MSHA/NIOSH approved (or equivalent) self-contained positive pressure or pressure-demand breathing apparatus and full protective gear.
Specific Methods:	Use water spray to cool unopened containers. Move containers from fire area if you can do so without risk. Some of these materials, if spilled, may evaporate leaving a flammable residue. In the event of fire and/or explosion do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Keep out of low areas. Wear appropriate personal protective equipment as specified in the Exposure Control and Personal Protection Section 8. Avoid contact with eyes, skin, and clothing. Pay attention to flashback. Take precautionary measures against static discharges.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. In case of large spill, dike if needed.
Methods for Containment:	Eliminate all sources of ignition. Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Dike the spilled material, where this is possible. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.
Methods for Cleaning Up:	Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, fleece), and place in a suitable container for reclamation or disposal. Do not use combustible materials, such as sawdust. Clean contaminated surface thoroughly. Never return spills in original containers for re-use. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Do not handle or open near flame, sources of heat, or sources of ignition. Wear personal protective equipment (see section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Do not ingest. When using, do not smoke. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids). Observe all warnings and precautions listed for the product

Storage: Store in a cool, dry, ventilated area. Store in a segregated and approved area away from flame, sources of ignition, heat, and incompatible materials. Store in original container. Keep containers tightly closed and upright. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limits:

ACGIH:	TWA:	200 ppm
	STEL:	250 ppm
	BEL:	15 mg/L
OSHA:	PEL:	200 ppm
		260 mg/m^3

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Explosion proof exhaust ventilation should be used.

Personal Protective Equipment:

Eye/Face Protection: Wear goggles or safety glasses with side shields and a face shield.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

General Hygiene Considerations: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Appearance:	Transparent
Color:	Colorless
Odor:	Alcoholic, pungent, characteristic
Molecular Formula:	CH_4O
Molecular Weight:	32.04
pH:	No information found
Specific Gravity:	0.79
Freezing/Melting Point:	-97.8 °C (-144 °F)
Boiling Point:	64.7 °C (149 °F)
Flash Point:	12 °C (53.6 °F)
Auto Ignition Temperature:	464 °C (867 °F)
Solubility:	Miscible with water
Vapor Pressure:	16.9 kPa at 25 °C 1.1

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions.
Conditions to Avoid:	Heat, flames, sparks, ignition sources, incompatibles.
Incompatible Materials:	Oxidizing agents, metals, acids, alkali metals
Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide, irritants, toxic gas, formaldehyde
Possibility of Hazardous Reactions:	Can react vigorously, violently or explosively with the incompatible materials listed above.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Oral Rat LD50:	5628 mg/kg
Inhalation Rat LC50:	87.5 mg/L 6 H
Dermal Rabbit LD50:	15800 mg/kg

Acute Effects: May be fatal or cause blindness if swallowed. Cannot be made nonpoisonous. Harmful if inhaled or absorbed through skin.

Local Effects: Causes eye irritation. Prolonged or repeated skin contact may cause drying, cracking, or irritation. High vapor concentrations may cause drowsiness and irritation of the eyes or respiratory tract.

Chronic Effects: May cause central nervous system effects. In serious cases methanol absorption into the body may lead to damage to eyesight. Prolonged or repeated skin contact may cause dermatitis and defatting, dryness, and cracking of the skin.

Carcinogenic Effects: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Skin Corrosion/Irritation: Irritation, defatting, drying, and cracking of skin.

Epidemiology: No epidemiological data is available for this product.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Neurological Effects: High vapor/aerosol concentrations (attainable only at elevated temperatures) may cause central nervous system effects such as dizziness, drowsiness or headaches. May cause central and or peripheral nervous system damage.

Reproductive Effects: May cause adverse reproductive effects. Suspected of damaging fertility.

Teratogenic Effects: May cause birth defects (teratogenic effects) based on animal test data.

Target Organs and Symptoms: Skin, central nervous system, nervous system, liver, kidneys, eyes, optic nerve. Irritation, drowsiness, dizziness, blindness, cough, shortness of breath, unconsciousness.

12. ECOLOGICAL INFORMATION

Ecotoxicological Data:

EC50 Water flea (Daphnia magna):	> 10000 mg/L 48 H
LC50 Fathead minnow (Pimephales promelas):	> 100 mg/L 96 H

Ecotoxicity: This product is not expected to be harmful to aquatic organisms.

Environmental Effects: This product is not expected to be harmful to the environment.

Persistence and Degradability: Expected to be readily biodegradable.

Partition Coefficient (n-octanol/water): -0.77

13. DISPOSAL INFORMATION

Disposal Instructions: All wastes must be handled in accordance with local, state and federal regulations.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container. Offer rinsed packaging material to local recycling facilities.

Waste Codes: U154 (US RCRA Hazardous Waste U List)

14. TRANSPORT INFORMATION

DOT:

UN Number: UN1230

Proper Shipping Name: Methanol

Hazard Class: 3

Packaging Group: II

ERG Number: 131

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: Methanol

U.S. EPCRA (SARA Title III):

Sections 311/312:

Hazard Categories	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	Yes
Pressure Hazard	No
Reactivity Hazard	No

Section 313: Toxic Chemical or Category: Methanol

De Minimis Concentration: 1.0%

CERCLA: Methanol: 5000 lbs

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
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

16. OTHER INFORMATION

Information contained herein is provided in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.