



METANOL DE ORIENTE, METOR, S.A.

MATERIAL SAFETY DATA SHEET

HAZARD RATING NFPA 704

0.- least 1.- slight 3.- High
2.- Moderate 4.- Extreme

1 HEALTH
3 FIRE
0 REACTIVITY

FOR YOUR
SAFETY
READ OUR
M.S.D.S.

SECTION I - PRODUCT IDENTIFICATION

Product name and synonyms: Methanol, Methyl Alcohol, Wood Alcohol, Colombian Spirits, Carbinol.

Chemical Family: Aliphatic alcohol

Chemical Formula: CH₃OH

Manufacturer's name and address: Metanol de Oriente, Metor, S.A.
Complejo Petroquímico e Industrial
"General José Antonio Anzoátegui"
Jose Edo. Anzoátegui - Venezuela

Emergency Telephone: 58-4148182665(24 hours)
58-281-4208810 (24 hours)

SECTION II - HAZARDOUS INGREDIENTS

COMPONENT:	%	ACGIH TWA (UNITS)	ACGIH STEL (UNITS)	OSHA TWA (UNITS)
Methyl Alcohol	99,9	200ppm (skin)*	250ppm (skin)*	200ppm

(skin)* Notation indicates that absorption through the skin can contribute significantly to overall exposure.



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SECTION III - PHYSICAL PROPERTIES

Appearance and odor:	Clear, colorless liquid with a characteristic pungent alcohol odor.
Molecular Weight:	32,05
Boiling point (degrees Fahrenheit):	148
Melting point (degrees Fahrenheit):	-144
Vapor pressure (mm of mercury):	97@ 68°F
Specific Gravity (water = 1):	0,791
Vapor density (air = 1):	1.1
Percent volatile (By weight):	99.9
pH:	N/A
Solubility in water:	Totally miscible
Evaporation rate (butyl acetate = 1):	5.9
Ethanol (ppm):	< 2.0
Iron+Sodium+Copper (ppm)	<0.5

SECTION IV - FIRE AND EXPLOSION DATA

Flash point: 52°F (closed cup)

Fire extinguishing media: Carbon dioxide, dry chemical, alcohol foam, and water mist or fog. Use a blanketing effect to smother fire.

	Lower	Upper
Flammable limits (percent by volume):	6,7	36.5

Special fire fighting procedures and equipment: Firefighters should use self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode, and wear full protective clothing.

Unusual fire and explosion hazards: Moderate explosion hazard and dangerous fire hazard when exposed to heat, sparks or open flames and can react vigorously with oxidizing agents. May burn with and invisible flame.



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SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to avoid: Heat, sparks, open flames and oxidizing conditions.

Incompatibility (materials to avoid): Strong oxidizing agents such as nitrates, perchlorates, sulfuric acid, aluminum, zinc and reactive metals.

Hazardous Polymerization: Will not occur.

SECTION VI - HEALTH HAZARD

Effects of overexposure: Methanol is a poisonous, narcotic chemical that can affect the body through inhalation, ingestion and perhaps prolonged or repeated skin contact. Absorption by inhalation or ingestion is rapid and excretion is much slower than for ethyl alcohol, resulting in delayed effects or compounding of effects by repeated exposure. It is important to be aware that after ingestion or inhalation, initial symptoms may be only that of mild intoxication, but may become severe after 12 to 18 hours. Toxic effects are exerted upon the central nervous system, especially the optic nerve.

Ingestion can produce blindness; 100-250 ml can be fatal. Symptoms of overexposure include dizziness, visual impairment, nausea, respiratory failure, muscular incoordination and narcosis. Prolonged or repeated skin contact may cause dermatitis, erythema, scaling, and possibly systemic effects.



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SECTION VII - EMERGENCY AND FIRST AID PROCEDURES

Eye contact: Wash eyes immediately with running water, lifting the lower and upper lids occasionally. Get medical attention as soon as possible.

Skin Contact: Remove contaminated clothing. Wash affected area with soap and water; apply skin lotions. If skin irritation persists, get medical attention.

Inhalation: Remove victim to fresh air at once. Restore and or support breathing as required. Keep victim warm and at rest. Get medical attention as soon as possible. Prevent exposure to methanol for seven (7) days.

Ingestion: Get medical attention immediately. Induce vomiting with one (1) table spoon of ipecac or by touching the back of the trout (only if conscious). Once vomiting milk or sodium bicarbonate in water to dilute material in stomach.

SECTION VIII - TOXICITY DATA

Oral: Human LD_{LO} : 340 mg/Kg Dermal: Monkey LD_{LO} : 500 mg/Kg

Inhalation: Human TC_{LO} : 86.000 mg/m³ - Lacrimation; cough; other changes to lungs, thorax or respiration.

Carcinogenicity: Not listed



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SECTION IX - SPECIAL PROTECTION INFORMATION

Personal Protective Equipment: Rubber gloves, boots and protective aprons should be used to prevent skin contact. Goggles and face shield should be used to protect face and eyes from splashing liquid.

Respiratory Protection: Air supplied or self contained breathing equipment recommended for exposures above 2000 ppm. Organic vapor cartridge respirators may be use for up to 100 ppm exposure.

Other Protective Measures: Eye wash and safety shower recommended in area of use. Wash with soap and water immediately after skin contact.

SECTION X - ENVIRONMENTAL PROTECTION

Steps to be taken in case material is released or spilled.

- 1.- Remove all ignition sources.
- 2.- Provide adequate ventilation.
- 3.- Small quantities may be absorbed on paper towels. Evaporate in a safe place. Burn paper in an approved incinerate or open pit away from buildings and people. Large quantities can be collected and atomized in a suitable combustion chamber. Spills in sensitive areas may be diluted and flushed to ground with a water spray. Do not flush to sewer or other confined space.

Waste Disposal Methods: Absorb in a vermiculite, dry sand, earth or a similar material and dispose in a secured sanitary landfill. Atomize in a suitable combustion chamber; dispose of by a licensed waste solvent disposal company, waste liquid may be burned in an approved incinerator. Follow federal, state and local regulations for disposal.

Methanol is a hazardous waste and considered a toxic waste.



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SECTION XI - REGULATORY INFORMATION

FDA: Regulated under 21 CFR 176.20 (d) (3) as a component of defoaming agents which may be safely used as components of articles intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food. Also regulated under S176.210 as a component of defoaming agents used in the manufacture of paper and paperboard. Approved as component of paper and paperboard in contact with dry food. (See S176.180 (b) (2).) Listed under S175.105 for use as component of adhesives.

USDA: N/A

CPSC: Label required - DANGER: POISON. FLAMMABLE. VAPOR HARMFUL. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. CANNOT BE MADE NON-POISONOUS. CONTAINS ___% METHANOL.

(See hazardous substances labeling guides - S9010.125.)

TSCA: Cas # 67-56-1

DOT

Shipping name: Methyl Alcohol

Hazard Class: Flammable liquid

Label Required: Flammable liquid

Identification Number: UN 1230

Other Pertinent Information: See 45 FR 172.101, page 34625



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SECTION XII - SPECIAL PRECAUTIONS AND COMMENTS

Precautions To Be Taken In Handling And Storing: Ground and electrically interconnect containers for transfer. Use spark-proof tools. No smoking in areas of use or storage. Avoid prolonged or repeated breathing of vapor or contact with skin. Avoid contact with eyes. Contact lenses should not be worn while handling methanol. Eye wash stations and safety showers should be available in areas of use. Do not ingest. Store in a well ventilated, fireproof area, away from sources of heat, open flame, and ignition.

Other Precautions: Provide periodical medical exams for industrially exposed workers, with emphasis on neurological and visual functions, liver and kidney systems. Provide suitable training to those working with methanol. Monitor the workplace. Keep records.

IMPORTANT:

The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. METOR, S.A. MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION AND DATA HEREIN will not be liable for claims relating to any party's use for or reliance on information and data contained herein regardless of whether it is claimed that the information relates to the material designated and may not be valid for such material used in combination with any other materials or in any process.

Prepared at Metanol de Oriente, Metor, S.A. on January, 2008.