

Safety Data Sheet

Issue Date: 01-May-2011

Revision Date: 05-May-2014

Version 1

1. IDENTIFICATION

Product Identifier

Product Name Methyl Alcohol

Other means of identification

SDS # AHM-001

Synonyms Methanol, Wood Alcohol, Carbinol, Wood Naptha, Methyl Hydroxide, Monohydroxy Methane, CH₃OH.

UN/ID No UN1230

Recommended use of the chemical and restrictions on use

Recommended Use Booster liquid.

Details of the supplier of the safety data sheet

Supplier Address

Arizona Hydrogen Mtg. Inc.
4102 E Air Ln.
Phoenix, AZ 85034

Emergency Telephone Number

Company Phone Number 602-275-4126
Emergency Telephone (24 hr) INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Clear, colorless liquid **Physical State** Liquid **Odor** Characteristic alcohol odor

Classification

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Specific target organ toxicity (single exposure)	Category 1
Flammable Liquids	Category 2

Signal Word

Danger

Hazard Statements

Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
Causes damage to organs
Highly flammable liquid and vapor

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection
 Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Keep cool

Precautionary Statements - Response

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
 Rinse mouth
 IN CASE OF FIRE: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms

Methanol, Wood Alcohol, Carbinol, Wood Naptha, Methyl Hydroxide, Monohydroxy Methane, CH₃OH.

Chemical Name	CAS No	Weight-%
Methyl alcohol	67-56-1	100

4. FIRST-AID MEASURES

First Aid Measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash off immediately with plenty of water. Take off contaminated clothing. Wash contaminated clothing before reuse. Wash with soap and water. If skin irritation persists, call a physician.
Inhalation	Remove to fresh air. Oxygen or artificial respiration if needed. Call a physician.
Ingestion	Drink 3 to 4 glasses of water. Induce vomiting, but only if victim is fully conscious. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Most important symptoms and effects

Symptoms	Methanol is a poisonous narcotic chemical that may exert its effects through inhalation, skin absorption, or ingestion. Elimination of methanol from the body is slow, and the toxic effects can be compounded by repeated excessive exposures over several days. Toxic effects are exerted upon the CNS, especially the optic nerve and possibly the retinae. Symptoms of overexposure include dizziness, visual impairment, nausea, respiratory failure, muscular incoordination, and narcosis. Visual disturbances may clear temporarily, then reoccur and progress to blindness. Prolonged or repeated contact with the skin may cause dermatitis, erythema, and scaling. Vapors of methanol are mildly irritating to the eyes, while direct contact with the liquid may cause irritation, pain, and transient corneal opacity. Ingestion of methanol can cause blindness and death. The fatal dose is 100-250mL, although death from ingestion of less than 33 mL has been reported.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	Treat symptomatically.
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5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Carbon dioxide (CO₂). Dry chemical. Alcohol resistant foam.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical

Vapors are heavier than air and may spread along floors. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products Carbon oxides. Formaldehyde.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to keep fire-exposed containers cool.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Personal Precautions	Use personal protective equipment as required. Remove all sources of ignition. Evacuate unnecessary personnel.
Environmental Precautions	Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
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Methods for Clean-Up

Contain spill using noncombustible material such as vermiculite, sand or earth. Place in appropriate containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling**Advice on Safe Handling**

Wash thoroughly after handling. Use personal protection recommended in Section 8. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Use only in well-ventilated areas. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Use spark-proof tools and explosion-proof equipment. Ground/bond container and receiving equipment. Take precautionary measures against static discharges. Avoid contact with skin and eyes.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Store away from ignition sources and incompatible materials. Protect container from physical damage.

Incompatible Materials

Chromic anhydride. Iodine plus ethyl alcohol. Mercuric oxide. Lead perchlorate. Potassium hydroxide plus chloroform. Sodium hydroxide plus chloroform. Aluminum. Strong oxidizing agents. Reactive metals. Acetaldehyde. Ethylene oxide. Isocyanates. Beryllium dihydride. Chloroform. potassium tert-butoxide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methyl alcohol 67-56-1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m ³ (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m ³ (vacated) S*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m ³ STEL: 250 ppm STEL: 325 mg/m ³

Appropriate engineering controls**Engineering Controls**

Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment**Eye/Face Protection**

Splash goggles or safety glasses.

Skin and Body Protection

Rubber gloves. Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn.

Respiratory Protection

If engineering controls do not keep airborne concentrations below acceptable levels, wear a NIOSH-approved respirator.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid	Odor	Characteristic alcohol odor
Appearance	Clear, colorless liquid	Odor Threshold	53.3 ppm
Color	Colorless		
Property	Values	Remarks • Method	
pH	Not determined		
Melting Point/Freezing Point	-97.8 °C / -144 °F		
Boiling Point/Boiling Range	64.7 °C / 148.5 °F		
Flash Point	12 °C / 60.8 °F		
Evaporation Rate	5.9		(butyl acetate = 1)
Flammability (Solid, Gas)	n/a-liquid		
Upper Flammability Limits	36.5%		
Lower Flammability Limit	6%		
Vapor Pressure	100 mm Hg		@ 21 ° C (70 ° F) (Air=1)
Vapor Density	1.11		
Specific Gravity	0.791		
Water Solubility	Completely soluble		
Solubility in other solvents	Not determined		
Partition Coefficient	Not determined		
Auto-ignition Temperature	385 °C / 725 °F		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	0.59 cps		@ 68°F (20°C)
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Will attack some forms of plastic, rubber, and coatings.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Chromic anhydride. Iodine plus ethyl alcohol. Mercuric oxide. Lead perchlorate. Potassium hydroxide plus chloroform. Sodium hydroxide plus chloroform. Aluminum. Strong oxidizing agents. Reactive metals. Acetaldehyde. Ethylene oxide. Isocyanates. Beryllium dihydride. Chloroform. potassium tert-butoxide.

Hazardous Decomposition Products

Carbon oxides. Formaldehyde.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Avoid contact with eyes.

Skin Contact	Toxic in contact with skin.
Inhalation	Toxic if inhaled.
Ingestion	Toxic if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Methyl alcohol 67-56-1	= 5628 mg/kg (Rat)	= 15800 mg/kg (Rabbit)	= 83.2 mg/L (Rat) 4 h = 64000 ppm (Rat) 4 h

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

STOT - single exposure Causes damage to organs.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Methyl alcohol 67-56-1		28200: 96 h Pimephales promelas mg/L LC50 flow-through 100: 96 h Pimephales promelas mg/L LC50 static 19500 - 20700: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 18 - 20: 96 h Oncorhynchus mykiss mL/L LC50 static 13500 - 17600: 96 h Lepomis macrochirus mg/L LC50 flow-through		

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Methyl alcohol 67-56-1	-0.77

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

US EPA Waste Number

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl alcohol 67-56-1		Included in waste stream: F039		U154

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Methyl alcohol 67-56-1	Toxic Ignitable

14. TRANSPORT INFORMATION

Note Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN1230
Proper Shipping Name	Methanol
Hazard Class	3
Packing Group	II

IATA

UN/ID No	UN1230
Proper Shipping Name	Methanol
Hazard Class	3
Subsidiary Hazard Class	6.1
Packing Group	II

IMDG

UN/ID No	UN1230
Proper Shipping Name	Methanol
Hazard Class	3
Subsidiary Hazard Class	6.1
Packing Group	II
Marine Pollutant	This material may meet the definition of a marine pollutant

15. REGULATORY INFORMATION

International Inventories

Not determined

Legend:*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS - Japan Existing and New Chemical Substances**IECSC - China Inventory of Existing Chemical Substances**KECL - Korean Existing and Evaluated Chemical Substances**PICCS - Philippines Inventory of Chemicals and Chemical Substances***US Federal Regulations****CERCLA**

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methyl alcohol 67-56-1	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Methyl alcohol - 67-56-1	67-56-1	100	1.0

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Methyl alcohol - 67-56-1	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Methyl alcohol 67-56-1	X	X	X

16. OTHER INFORMATION**NFPA****Health Hazards**

Not determined

Flammability

Not determined

Instability

Not determined

Special Hazards

Not determined

HMIS**Health Hazards**

Not determined

Flammability

Not determined

Physical Hazards

Not determined

Personal Protection

Not determined

Issue Date: 01-May-2011**Revision Date:** 05-May-2014**Revision Note:** New format**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet