

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name METHYL ALCOHOL, LOW WATER, REAGENT (ACS)
Synonym(s) METHANOL (METHYL ALCOHOL, WOOD ALCOHOL)
PVI Part Numbers: 2712802
2712803
2712805
Photovolt Information Photovolt Instruments, INC.
6323 Cambridge Street
Minneapolis, MN 55416
Phone 952-848-2000
Emergency Assistance 3E Company: 1-800-451-8346

2. Hazards Identification

Emergency overview WARNING
FLAMMABLE LIQUID AND VAPOR. Will be easily ignited by heat, spark or flames.
Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects
Routes of exposure Ingestion. Inhalation. Skin contact. Eye contact.
Eyes Contact with eyes may cause irritation.
Skin Contact with skin may cause irritation.
Inhalation Health injuries are not known or expected under normal use. Toxic: danger of very serious irreversible effects through inhalation.
Ingestion This product may be harmful or fatal if swallowed.
Potential environmental effects May cause long-term adverse effects in the environment.

3. Composition I Information on Ingredients

Components	CAS #	Percent
METHYL ALCOHOL	67-56-1	90 - 100

4. First Aid Measures

First aid procedures
Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists.
Skin contact Immediately take off all contaminated clothing. Rinse skin with water/shower.
Inhalation If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Ingestion Rinse mouth. If material is ingested, immediately contact a poison control center.
General advice If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties	Flammable by OSHA criteria. Containers may explode when heated. Runoff to sewer may cause fire or explosion hazard.
Extinguishing media	
Suitable extinguishing media	Water. Foam. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Protection of firefighters	
Protective equipment and precautions for firefighters	In the event of fire and/or explosion do not breathe fumes. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of tanks due to fire. Move containers from fire area if you can do it without risk. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out.
Specific methods	In the event of fire and/or explosion do not breathe fumes. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions	Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering. Keep unnecessary personnel away. Stay upwind. Keep out of low areas.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Should not be released into the environment. Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly. After removal flush contaminated area thoroughly with water. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	Vapors may form explosive mixtures with air. Do not handle or store near an open flame, heat or other sources of ignition. Do not smoke. All equipment used when handling the product must be grounded. Use only in area provided with appropriate exhaust ventilation. Wash thoroughly after handling. Avoid release to the environment. Handle and open container with care.
Storage	The pressure in sealed containers can increase under the influence of heat. Keep away from heat and sources of ignition. Store in cool place. Keep in a well-ventilated place. Keep container tightly closed. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Keep in an area equipped with sprinklers. Use care in handling/storage.

8. Exposure Controls I Personal Protection

Occupational exposure limits

ACGIH

Material	CAS #	Type	Value	Form
METHYL ALCOHOL	67-56-1	STEL	250 ppm	
		TWA	200 ppm	

U.S. - OSHA

Material	CAS #	Type	Value	Form
METHYL ALCOHOL	67-56-1	PEL	200 ppm	
			260 mg/m ³	
		STEL	325 mg/m ³	
			250 ppm	
		TWA	200 ppm	
260 mg/m ³				

Engineering controls Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Respiratory protection	Use an organic vapor respirator for concentrations exceeding the Occupational Exposure Limit.
Hand protection	Protective gloves.
Eye I face protection	Wear chemical goggles.
Skin protection	No special protective equipment required.
General hygiene considerations	When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.
General	Use personal protective equipment as required.

9. Physical & Chemical Properties

Appearance	Clear.
Color	Colorless.
Odor	Slight.
Odor threshold	Not available.
Physical state	Liquid.
Form	Liquid.
pH	Not available.
Melting point	-144.4 °F (-97.8 °C)
Freezing point	Not available.
Boiling point	149 °F (64.7 °C)
Flash point	53.6 °F (12 °C) estimated Closed Cup
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, by volume	36.5 %
Flammability limits in air, lower, by volume	6 %
Vapor pressure	16.9316 kPa at 25°C
Vapor density	Not available.
Specific gravity	0.79
Relative density	0.79 g/cm ³
Solubility (water)	Miscible
Partition coefficient	(n-octanol/water)

-0.77

Auto-ignition temperature	464 °F (240 °C) estimated
Decomposition temperature	Not available.
VOC	100 % estimated
Percent volatile	100 %
Molecular weight	32.0400 g/mol
Molecular formula	CH3OH

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of ignition.
Conditions to avoid	Heat, flames and sparks.
Hazardous decomposition products	May include oxides of carbon.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Sensitization

US ACGIH Threshold Limit Values: Skin designation

METHYL ALCOHOL 67-56-1 Can be absorbed through the skin.

Toxicology data for the preparation

Acute LD50: 5628 mg/kg, Rat, Oral

Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Further information	Danger of very serious irreversible effects.

12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns.
Invertebrate Toxicity: EC50 value	
METHYL ALCOHOL 67-56-1	Water flea (Daphnia magna) 20450 - 29350 mg/l 48 h Static Intoxication
Environmental effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence and degradability	Not available.
Partition coefficient	-0.77

13. Disposal Considerations

Waste codes	D001: Waste Flammable material with a flash point <140 F
US RCRA Hazardous Waste U List: Reference	
METHYL ALCOHOL 67-56-1	U154
Disposal instructions	Dispose of this material and its container at hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Do not allow this material to drain into sewers/water supplies. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Basic shipping requirements:

Proper shipping name	Methanol
Hazard class	3
UN number	UN1230
Packing group	II

Additional information:

Special provisions	IB2, T7, TP2
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242
ERG number	131



15. Regulatory Information

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

All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

METHYL ALCOHOL	67-56-1	1.0 %
----------------	---------	-------

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes
	Delayed Hazard - Yes
	Fire Hazard - Yes
	Pressure Hazard - No
	Reactivity Hazard - No

Section 302 extremely hazardous substance	Yes
---	-----

Section 311 hazardous chemical	Yes
--------------------------------	-----

Inventory status

Country(s) or region	Inventory name	On inventory (yes/Ino)*
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 New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

METHYL ALCOHOL 67-56-1 500 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance

METHYL ALCOHOL 67-56-1 Listed.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings

Health: 1*

Flammability: 3

Physical hazard: 0

NFPA ratings

Health: 1

Flammability: 3

Instability: 0

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.

Issue date

January 31, 2012

This data sheet contains changes from the previous version in section(s):

This document has undergone significant changes and should be reviewed in its entirety.