

SAFETY DATA SHEET

1. Identification

Product identifier: Methanol

Other means of identification

Synonyms: Methyl Alcohol

Product No.: 3042, 9124, 3292, 3290, 6290, 8820, 9424, 9423, 9098, 9097, 9077, 9076, 9073, 9070, 9069, 9067, 9066, 9063, 9049, 8888, 8818, 8814, 9093, 9065, V184, 3041, 3017, 3004, H603, H488, H080, 5842, 3016, 9863, 9830, 5595, 5370, 9263, 72690, 12210

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Details of the supplier of the safety data sheet

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034
Telephone:
Customer Service: 855-282-6867
Fax:
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 2

Health Hazards

Acute toxicity (Oral) Category 3
Acute toxicity (Dermal) Category 3
Acute toxicity (Inhalation - vapor) Category 3
Skin Corrosion/Irritation Category 2
Serious Eye Damage/Eye Irritation Category 2A
Toxic to reproduction Category 2
Specific Target Organ Toxicity -
Single Exposure Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Toxic in contact with skin.
Toxic if inhaled.
Toxic if swallowed.
Highly flammable liquid and vapor.
Causes skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
Causes damage to organs.

Precautionary Statement

Prevention: Obtain special instructions before use. Do not breathe dust/fume/gas/mist/vapors/spray. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Response: IF exposed or concerned: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
METHYL ALCOHOL		67-56-1	99 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion:	Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Inhalation:	Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.
Skin Contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: Toxic if inhaled. Toxic if swallowed. Toxic in contact with skin. Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Can be ignited easily and burns vigorously. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard. Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Static charges generated by emptying package in or near flammable vapor may cause flash fire.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

Methods and material for containment and cleaning up:

Eliminate all ignition sources if safe to do so. Use only non-sparking tools. All equipment used when handling the product must be grounded. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures:

Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental Precautions:

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling:

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharge. Use only non-sparking tools. Use personal protective equipment as required. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities:

Keep away from food, drink and animal feeding stuffs. Keep out of reach of children. Keep container tightly closed in a cool, well-ventilated place. Store in a dry place. 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 controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
METHYL ALCOHOL	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	325 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	260 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	260 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	260 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	325 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
METHYL ALCOHOL (methanol: Sampling time: End of shift.)	15 mg/l (Urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. 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. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection: Chemical goggles and face shield are recommended.

Skin Protection

Hand Protection: Chemical resistant gloves

Other: Wear suitable protective clothing and gloves.

Respiratory Protection: In case of inadequate ventilation use suitable respirator.

Hygiene measures: Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash contaminated clothing before reuse.

9. Physical and chemical properties
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Appearance

Physical state: liquid

Form: liquid

Color: Colorless

Odor: Characteristic, Pungent

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: -97.8 °C

Initial boiling point and boiling range: 64 °C (101.3 kPa)

Flash Point: 11 - 12 °C (Closed Cup)

Evaporation rate: No data available.

Flammability (solid, gas): Class IB Flammable Liquid

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): 36 %(V)

Flammability limit - lower (%): 6 %(V)

Explosive limit - upper (%): No data available.

Explosive limit - lower (%): No data available.

Vapor pressure: 16.9 kPa (25 °C)

Vapor density: 1.11 AIR=1

Relative density: 0.8 (20 °C)

Solubility(ies)

Solubility in water: 1,000 g/l Miscible with water.

Solubility (other): No data available.

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

Auto-ignition temperature: 464 °C

Decomposition temperature: No data available.

Viscosity: No data available.

Other information

Molecular weight: 32.04 g/mol (CH4O)

10. Stability and reactivity

Reactivity: Contact with metals may evolve flammable hydrogen gas.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur.

Conditions to Avoid: Heat, sparks, flames. Sunlight.

Incompatible Materials: Oxidizing agents. Strong oxidizing agents. Acids.

Hazardous Decomposition Products: Thermal decomposition may release oxides of carbon. Formaldehyde. Toxic gas

11. Toxicological information

Information on likely routes of exposure

Ingestion: Toxic if swallowed.

Inhalation: Toxic by inhalation.

Skin Contact: Toxic in contact with skin.

Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: LD 50 (Rat): 5,628 mg/kg
LD 50 (Mouse): 7,300 mg/kg
LD 50 (Rabbit): 14,300 mg/kg

Dermal

Product: LD 50 (Rabbit): 15,800 mg/kg

Inhalation

Product: LC 50 (Rat, 1 h): > 145000 ppm
LC 50 (Rat, 4 h): 64000 ppm

Repeated dose toxicity

Product: In serious cases absorption of methanol in the body may lead to damage to the eyesight.

Skin Corrosion/Irritation

Product: Causes skin irritation.

Serious Eye Damage/Eye Irritation

Product: Causes eye irritation.

Respiratory or Skin Sensitization

Product: Not a skin sensitizer.

Carcinogenicity**Product:** This substance has no evidence of carcinogenic properties.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity**In vitro****Product:** No mutagenic components identified**In vivo****Product:** No mutagenic components identified**Reproductive toxicity****Product:** Suspected of damaging fertility or the unborn child.**Specific Target Organ Toxicity - Single Exposure****Product:** Central nervous system. Eyes.**Specific Target Organ Toxicity - Repeated Exposure****Product:** None known.**Aspiration Hazard****Product:** No data available.**Other effects:** None known.**12. Ecological information****Ecotoxicity:****Acute hazards to the aquatic environment:****Fish****Product:** LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): > 100 mg/l**Aquatic Invertebrates****Product:** EC 50 (Water flea (*Daphnia magna*), 48 h): > 10,000 mg/l**Chronic hazards to the aquatic environment:****Fish****Product:** No data available.**Aquatic Invertebrates****Product:** No data available.**Toxicity to Aquatic Plants****Product:** No data available.**Persistence and Degradability****Biodegradation****Product:** Expected to be readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: May accumulate in soil and water systems.

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: -0.77

Mobility in Soil: No data available.

Other Adverse 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.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated Packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN Number: UN 1230
 UN Proper Shipping Name: Methanol
 Transport Hazard Class(es)
 Class(es): 3
 Label(s): 3
 Packing Group: II
 Marine Pollutant: Not a Marine Pollutant
 Special precautions for user: -

IMDG

UN Number: UN 1230
 UN Proper Shipping Name: METHANOL
 Transport Hazard Class(es)
 Class(es): 3, 6.1
 Label(s): 3, 6.1
 EmS No.: F-E, S-D
 Packing Group: II
 Marine Pollutant: Not a Marine Pollutant
 Special precautions for user: -

IATA

UN Number: UN 1230
 Proper Shipping Name: Methanol
 Transport Hazard Class(es)
 Class(es): 3, 6.1
 Label(s): 3, 6.1
 Marine Pollutant: Not a Marine Pollutant
 Packing Group: II
 Special precautions for user: -

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
 None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<u>Chemical Identity</u>	<u>Reportable quantity</u>
METHYL ALCOHOL	5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute (Immediate)
 Chronic (Delayed)
 Fire

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<u>Chemical Identity</u>	<u>Reportable quantity</u>
METHYL ALCOHOL	5000 lbs.

SARA 311/312 Hazardous Chemical

<u>Chemical Identity</u>	<u>Threshold Planning Quantity</u>
METHYL ALCOHOL	10000 lbs

SARA 313 (TRI Reporting)

<u>Chemical Identity</u>	<u>Reporting threshold for other users</u>	<u>Reporting threshold for manufacturing and processing</u>
METHYL ALCOHOL	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

METHYL ALCOHOL	Developmental toxin. WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
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US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
 METHYL ALCOHOL

US. Massachusetts RTK - Substance List

Chemical Identity
 METHYL ALCOHOL

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
 METHYL ALCOHOL

US. Rhode Island RTK

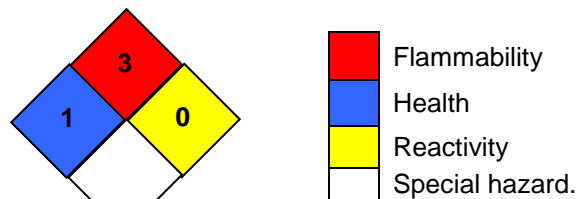
Chemical Identity
 METHYL ALCOHOL

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date:	04-02-2015
Revision Date:	No data available.
Version #:	1.3
Further Information:	No data available.

Disclaimer:

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