# 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


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

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td></td>
<td>67-56-1</td>
<td>99 - 100%</td>
</tr>
</tbody>
</table>

* 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**

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

**Biological Limit Values**

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>15 mg/l (Urine)</td>
<td>ACGIH BEL (03 2013)</td>
</tr>
</tbody>
</table>
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

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.


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

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):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>5000 lbs.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
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</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>5000 lbs.</td>
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</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>10000 lbs.</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reporting threshold for other users</th>
<th>Reporting threshold for manufacturing and processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>10000 lbs.</td>
<td>25000 lbs.</td>
</tr>
</tbody>
</table>

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.

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:** On or 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**

<table>
<thead>
<tr>
<th>Flammability</th>
<th>Health</th>
<th>Reactivity</th>
<th>Special hazard.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

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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