# SAFETY DATA SHEET

**Creation Date** 27-Apr-2009 **Revision Date** 18-Jan-2018 **Revision Number** 6

## 1. Identification

**Product Name** **Methanol**

**Cat No. :** **A408-1; A408-4; A408-4LC; A408SK-4**

**CAS-No** 67-56-1
**Synonyms** Methyl alcohol

**Recommended Use** Laboratory chemicals.
**Uses advised against** Not for food, drug, pesticide or biocidal product use

**Details of the supplier of the safety data sheet**

**Company**
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

**Classification**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Flammable liquids | Category 2 |
| Acute oral toxicity | Category 3 |
| Acute dermal toxicity | Category 3 |
| Acute Inhalation Toxicity - Vapors | Category 3 |
| Specific target organ toxicity (single exposure) Target Organs - Optic nerve. | Category 1 |
| Specific target organ toxicity - (repeated exposure) Target Organs - Kidney, Liver, spleen, Blood. | Category 1 |

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
Highly flammable liquid and vapor
Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
Causes damage to organs
Causes damage to organs through prolonged or repeated exposure

**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 electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep cool
**Response**
IF exposed: Call a POISON CENTER or doctor/physician
**Inhalation**
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician
**Skin**
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
**Ingestion**
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
**Fire**
In case of fire: Use CO2, dry chemical, or foam for extinction
**Storage**
Store locked up
Store in a well-ventilated place. Keep container tightly closed
**Disposal**
Dispose of contents/container to an approved waste disposal plant
**Hazards not otherwise classified (HNOC)**

**Other hazards**
Poison, may be fatal or cause blindness if swallowed. Vapor harmful. Cannot be made non-poisonous.
**WARNING.** Reproductive Harm - https://www.p65warnings.ca.gov/.

## 3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| Methyl alcohol | 67-56-1 | >95 |

## 4. First-aid measures

**General Advice** Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

**Ingestion** Do not induce vomiting. Call a physician or Poison Control Center immediately.

**Most important symptoms and effects** Breathing difficulties. May cause blindness: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

**Unsuitable Extinguishing Media** Water may be ineffective

**Flash Point** 12 °C / 53.6 °F

**Method -** No information available

**Autoignition Temperature** 455 °C / 851 °F

**Explosion Limits**

**Upper** 31.00 vol %

**Lower** 6.0 vol %

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

**Hazardous Combustion Products**

Carbon monoxide (CO) 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. Thermal decomposition can lead to release of irritating gases and vapors.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 1 | 3 | 0 | N/A |

## 6. Accidental release measures

**Personal Precautions** Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions** Should not be released into the environment. See Section 12 for additional ecological information.

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

**Handling**

Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

**Storage**

Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Flammables area.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|---|---|---|---|---|
| Methyl alcohol | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin | (Vacated) TWA: 200 ppm<br>(Vacated) TWA: 260 mg/m$^3$<br>(Vacated) STEL: 250 ppm<br>(Vacated) STEL: 325 mg/m$^3$<br>Skin<br>TWA: 200 ppm<br>TWA: 260 mg/m$^3$ | IDLH: 6000 ppm<br>TWA: 200 ppm<br>TWA: 260 mg/m$^3$<br>STEL: 250 ppm<br>STEL: 325 mg/m$^3$ | TWA: 200 ppm<br>TWA: 260 mg/m$^3$<br>STEL: 250 ppm<br>STEL: 310 mg/m$^3$ |

*Legend*

*ACGIH - American Conference of Governmental Industrial Hygienists*
*OSHA - Occupational Safety and Health Administration*
*NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health*

**Engineering Measures**

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment**

**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures**

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Colorless |
| **Odor** | Alcohol-like |
| **Odor Threshold** | No information available |
| **pH** | Not applicable |
| **Melting Point/Range** | -98 °C / -144.4 °F |
| **Boiling Point/Range** | 64.7 °C / 148.5 °F @ 760 mmHg |
| **Flash Point** | 12 °C / 53.6 °F |
| **Evaporation Rate** | 5.2 (ether = 1) |
| **Flammability (solid,gas)** | Not applicable |

| | |
|---|---|
| **Flammability or explosive limits** | |
| **Upper** | 31.00 vol % |
| **Lower** | 6.0 vol % |
| **Vapor Pressure** | 128 hPa @ 20 °C |
| **Vapor Density** | 1.11 |
| **Specific Gravity** | 0.791 |
| **Solubility** | Miscible with water |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | 455 °C / 851 °F |
| **Decomposition Temperature** | No information available |
| **Viscosity** | 0.55 cP at 20 °C |
| **Molecular Formula** | C H4 O |
| **Molecular Weight** | 32.04 |
| **VOC Content(%)** | 100 |
| **Surface tension** | 0.02255 N/m @ 20°C |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Incompatible products. Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition.

**Incompatible Materials** Strong oxidizing agents, Strong acids, Acid anhydrides, Acid chlorides, Strong bases, Metals, Peroxides

**Hazardous Decomposition Products** Carbon monoxide (CO), Formaldehyde

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

**Acute Toxicity**

**Product Information**

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Methyl alcohol | **Calc. ATE 60 mg/kg**<br>LD50 > 1187 – 2769 mg/kg ( Rat ) | **Calc. ATE 60 mg/kg**<br>LD50 = 17100 mg/kg ( Rabbit ) | **Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists)**<br>LC50 = 128.2 mg/L ( Rat ) 4 h |

**Toxicologically Synergistic Products** Carbon tetrachloride

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

**Irritation** May cause skin and eye irritation

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Methyl alcohol | 67-56-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** Component substance is listed on California Proposition 65 as a developmental hazard.

**Teratogenicity** No information available.

**STOT - single exposure** Optic nerve
**STOT - repeated exposure** Kidney Liver spleen Blood

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** May cause blindness: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

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| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Methyl alcohol | Not listed | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 = 39000 mg/L 25 min<br>EC50 = 40000 mg/L 15 min<br>EC50 = 43000 mg/L 5 min | EC50 > 10000 mg/L 24h |

**Persistence and Degradability** Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its volatility.

| Component | log Pow |
|---|---|
| Methyl alcohol | -0.74 |

## 13. Disposal considerations

**Waste Disposal Methods** Should not be released into the environment.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|---|---|---|
| Methyl alcohol - 67-56-1 | U154 | - |

## 14. Transport information

**DOT**

**UN-No** UN1230
**Proper Shipping Name** METHANOL
**Hazard Class** 3
**Packing Group** II

**TDG**

**UN-No** UN1230
**Proper Shipping Name** METHANOL
**Hazard Class** 3
**Subsidiary Hazard Class** 6.1
**Packing Group** II

**IATA**

**UN-No** UN1230
**Proper Shipping Name** METHANOL
**Hazard Class** 3
**Subsidiary Hazard Class** 6.1
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1230
**Proper Shipping Name** METHANOL

| | |
|---|---|
| **Hazard Class** | 3 |
| **Subsidiary Hazard Class** | 6.1 |
| **Packing Group** | II |

## 15. Regulatory information

**International Inventories**

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methyl alcohol | X | X | - | 200-659-6 | - | | X | X | X | X | X |

**Legend:**
**X - Listed**
**E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.**
**F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.**
**N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.**
**P - Indicates a commenced PMN substance**
**R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.**
**S - Indicates a substance that is identified in a proposed or final Significant New Use Rule**
**T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.**
**XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).**
**Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.**
**Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.**

**U.S. Federal Regulations**

**TSCA 12(b)** Not applicable

**SARA 313**

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|---|---|---|
| Methyl alcohol | 67-56-1 | >95 | 1.0 |

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)** Not applicable

**Clean Air Act**

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|---|---|---|---|
| Methyl alcohol | X | | - |

**OSHA** Occupational Safety and Health Administration
Not applicable

**CERCLA** This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|---|---|---|
| Methyl alcohol | 5000 lb | - |

**California Proposition 65** This product contains the following proposition 65 chemicals

| Component | CAS-No | California Prop. 65 | Prop 65 NSRL | Category |
|---|---|---|---|---|
| Methyl alcohol | 67-56-1 | Developmental | - | Developmental |

**U.S. State Right-to-Know Regulations**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Methyl alcohol | X | X | X | X | X |

**U.S. Department of Transportation**

| | |
|---|---|
| Reportable Quantity (RQ): | Y |
| DOT Marine Pollutant | N |
| DOT Severe Marine Pollutant | N |

**U.S. Department of Homeland Security**
This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** Serious risk, Grade 3

## 16. Other information

**Prepared By**
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

| | |
|---|---|
| **Creation Date** | 27-Apr-2009 |
| **Revision Date** | 18-Jan-2018 |
| **Print Date** | 18-Jan-2018 |
| **Revision Summary** | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). |

**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 SDS**