

SAFETY DATA SHEET

Creation Date 27-Apr-2009

Revision Date 18-Dec-2025

Revision Number 13

This safety data sheet was created pursuant to the requirements of: US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

1. Identification

| | |
|---------------------|-----------------|
| Product Name | Methanol |
| Cat No. : | A411-4; A411-20 |
| CAS No | 67-56-1 |
| Synonyms | Methyl alcohol |

Recommended Use
Uses advised against

Laboratory chemicals.

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Details of the supplier of the safety data sheet

Company

Fisher Scientific Company
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 according to [US] OSHA (29 CFR 1910.1200, 2024)

| | |
|--|------------|
| 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) | Category 1 |
| Target Organs - Optic nerve, Central nervous system (CNS). | |
| Specific target organ toxicity - (repeated exposure) | Category 1 |
| Target Organs - Kidney, Liver, spleen, Blood. | |

Label Elements

Signal Word
Danger

Hazard Statements

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

**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, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground and bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Keep cool
Take action to prevent static discharges
Use non-sparking tools

Response

IF exposed: Call a POISON CENTER or doctor

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor

Skin

Call a POISON CENTER or doctor if you feel unwell
Take off contaminated clothing and wash before reuse
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor
Rinse mouth

Fire

In case of fire: Use CO₂, dry chemical, or foam to extinguish

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)**Hazards classified under paragraph (d)(1)(ii) of 1910.1200**

No information available

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 | Remove 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 | Difficulty in breathing. 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 | Water spray, carbon dioxide (CO ₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers. |
| Unsuitable Extinguishing Media | Water may be ineffective |
| Flash Point | 10 °C / 50 °F |
| Method - | CC (closed cup) Abel-Pensky (DIN 51755) Directive 84/449/EEC, A.9 |
| 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 |
|--------|--------------|-------------|------------------|
| 2 | 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 as required. 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/face protection. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not ingest. If swallowed then seek immediate medical assistance. 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. Incompatible Materials. Strong oxidizing agents. Strong acids. Acid anhydrides. Acid chlorides. Strong bases. Metals. Peroxides. |

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH | Mexico OEL (TWA) |
|----------------|---------------------------------------|--|--|-------------------------------|
| Methyl alcohol | TWA: 200 ppm STEL: 250 ppm Skin | (Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m ³ (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m ³ Skin TWA: 200 ppm TWA: 260 mg/m ³ | IDLH: 6000 ppm REL = 200 ppm (TWA) REL = 260 mg/m ³ (TWA) STEL: 250 ppm STEL: 325 mg/m ³ | TWA: 200 ppm STEL: 250 ppm |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH - National Institute for Occupational Safety and 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.

Recommended Filter type: low boiling organic solvent. Type AX. Brown. conforming to EN371.

Hygiene Measures

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

9. Physical and chemical properties

Appearance

| | | |
|--|---|---|
| Physical State | Liquid | |
| Color | Colorless | |
| Odor | Alcohol-like | |
| Odor Threshold | No information available | |
| Property | Values | Remarks |
| Melting Point/Range | -98 °C / -144.4 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 64.7 °C / 148.5 °F | @ 760 mmHg |
| Flash Point | 10 °C / 50 °F | Method - CC (closed cup) Abel-Pensky (DIN 51755) Directive 84/449/EEC, A.9 |
| Flammability (liquid) | Highly flammable | On basis of test data |
| Flammability (solid,gas) | Not applicable | |
| Explosion Limits | Lower 6 vol% Upper 31 vol% | Liquid |
| Autoignition Temperature | 455 °C / 851 °F | |
| Decomposition Temperature | No data available | |
| pH | No information available | |
| Viscosity | 0.55 cP at 20 °C | |
| Water Solubility | Miscible | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | log Pow | |
| Component | -0.74 | |
| Methyl alcohol | | |
| Vapor Pressure | 128 hPa @ 20 °C | |
| Density / Specific Gravity | 0.791 | |
| Bulk Density | Not applicable | Liquid |
| Vapor Density | 1.11 | (Air = 1.0) |
| Particle characteristics | Not applicable (liquid) | |
| Other Information | | |
| Molecular Formula | C H4 O | |
| Molecular Weight | 32.04 | |
| VOC Content(%) | 100 | |
| Explosive Properties | Not explosive Vapors may form explosive mixtures with air | |
| Evaporation Rate | 5.2 (ether = 1) | |
| 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

Information on expected route of exposure

| | |
|-------------------|--|
| Inhalation | Avoid breathing vapors or mists. Harmful by inhalation. |
| Ingestion | May be harmful if swallowed. |
| Eyes | Avoid contact with eyes. |
| Skin | Avoid contact with skin. Prolonged skin contact may defat the skin and produce dermatitis. Harmful in contact with skin. |

Toxicology data for the components

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|----------------|--------------------------------|-------------------------------|-------------------------------|
| Methyl alcohol | LD50 = 1187 – 2769 mg/kg (Rat) | LD50 = 17100 mg/kg (Rabbit) | LC50 = 128.2 mg/L (Rat) 4 h |

Toxicologically Synergistic Products Ethanol

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Based on available data, the classification criteria are not met

| Component | Test method | Test species | Study result |
|-----------------------------------|--|--------------|-----------------|
| Methyl alcohol 67-56-1 (>95) | OECD Test Guideline 406 Guinea Pig Maximisation Test (GPMT) | guinea pig | non-sensitising |

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

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 |

(g) reproductive toxicity; Based on available data, the classification criteria are not met

| Component | Test method | Test species / Duration | Study result |
|-----------------------------------|-------------------------|----------------------------------|-----------------------------|
| Methyl alcohol 67-56-1 (>95) | OECD Test Guideline 416 | Rat / Inhalation 2 Generation | NOAEC = 1.3 mg/l (air) |

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

(h) STOT-single exposure; Category 1

Results / Target organs Optic nerve, Central nervous system (CNS).

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

| | |
|---|---|
| Target Organs | None known. |
| (j) aspiration hazard; | Based on available data, the classification criteria are not met |
| Symptoms / effects, both acute and delayed | May cause blindness. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. |
| Other Adverse Effects | The toxicological properties have not been fully investigated. |
| Endocrine Disrupting Properties | This product does not contain any known or suspected endocrine disruptors. |

12. Ecological information

Ecotoxicity

| 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 EC50 = 40000 mg/L 15 min 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

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|----------------|---------|------|---|-----------------------------|
| Methyl alcohol | 67-56-1 | X | ACTIVE | - |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|----------------|---------|-----|------|-----------|-------|------|------|------|-------|----------|
| Methyl alcohol | 67-56-1 | X | - | 200-659-6 | X | X | X | X | X | KE-23193 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

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

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act) Not applicable

Clean Air Act

| Component | HAPS Data | Class 1 Ozone Depleters | Class 2 Ozone Depleters |
|----------------|-----------|-------------------------|-------------------------|
| 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) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

| Component | Hazardous Substances RQs | CERCLA Extremely Hazardous Substances RQs | SARA Reportable Quantity (RQ) |
|-----------|--------------------------|---|-------------------------------|
| | | | |

| | | | |
|----------------|---------|---|--------------------|
| Methyl alcohol | 5000 lb | - | 5000 lb 2270 kg |
|----------------|---------|---|--------------------|

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

Authorisation/Restrictions according to EU REACH

| Component | CAS No | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|----------------|---------|---|--|---|
| Methyl alcohol | 67-56-1 | - | Use restricted. See entry 69. (see link for restriction details) Use restricted. See entry 75. (see link for restriction details) | - |

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|----------------|---------|----------|------------------------------|---------------------------|--|
| Methyl alcohol | 67-56-1 | Listed | Not applicable | Not applicable | Not applicable |

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

| Component | CAS No | Seveso III Directive (2012/18/EC) - | Seveso III Directive (2012/18/EC) - | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------|--------|-------------------------------------|-------------------------------------|----------------------------|------------------------------------|
| | | | | | |

| | | Qualifying Quantities for Major Accident Notification | Qualifying Quantities for Safety Report Requirements | | |
|----------------|---------|---|--|----------------|----------------|
| Methyl alcohol | 67-56-1 | 500 tonne | 5000 tonne | Not applicable | Not applicable |

16. Other Information

| | |
|------------------|---|
| Prepared By | Product stewardship (Regulatory Affairs) Thermo Fisher Scientific email - begel.sdsdesk@thermofisher.com |
| Creation Date | 27-Apr-2009 |
| Revision Date | 18-Dec-2025 |
| Print Date | 18-Dec-2025 |
| Revision Summary | Updated to the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) which published its Final Rule in the Federal Register revising the Hazard Communication Standard (HCS/HazCom), 29 CFR 1910.1200 (2024) (HCS §1910.1200, 2024), May 20, 2024, effective July 19, 2024. |

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