# SAFETY DATA SHEET

**Creation Date** 17-Feb-2014 **Revision Date** 17-Feb-2014 **Revision Number** 1

## 1. Identification

**Product Name** **Methanol**

**Cat No. :** **9600-1, 9600-5, 9600-55, 9611, 9615**

**Synonyms** Carbbinol; Methyl, Alcohol; Methyl hydroxide; Monohydroxymethane; Wood alcohol; Wood naptha; Wood spirits; Columbian spirits

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

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

**Company**
Richard Allan Scientific
A Subsidiary of Thermo Fisher Scientific
4481 Campus Drive
Kalamazoo, MI 49008
Tel: (800) 522-7270

**Emergency Telephone Number**
Chemtrec US: (800) 424-9300
Chemtrec EU: 001 (202) 483-7616

## 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 - Dusts and Mists | Category 3 |
| Specific target organ toxicity (single exposure) | Category 1 |
| Target Organs - Respiratory system, Central nervous system (CNS), Optic nerve. | |
| Specific target organ toxicity - (repeated exposure) | Category 1 |
| Target Organs - Respiratory system, Skin, Gastrointestinal tract (GI), Kidney, Liver, spleen, Blood. | |

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
Highly flammable liquid and vapor
Toxic if swallowed
Toxic in contact with skin
Toxic if inhaled
May cause respiratory irritation
May cause drowsiness or dizziness
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! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

## 3. Composition / information on ingredients

**Haz/Non-haz**

| Component | CAS-No | Weight % |
|---|---|---|
| Methyl alcohol | 67-56-1 | >99 |

## 4. First-aid measures

**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 resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

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

**Most important symptoms/effects** Breathing difficulties. 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** $CO_2$, dry chemical, dry sand, alcohol-resistant foam. Use water spray to cool unopened containers.

**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.

**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 |
|---|---|---|---|
| 3 | 3 | 0 | N/A |

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing.

## 6. Accidental release measures

**Environmental Precautions** Should not be released into the environment. See Section 12 for additional ecological Information. Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up** Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

**Handling** Use only under a chemical fume hood. Use explosion-proof equipment. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing.

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

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|
| 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$^3$ |

| Component | Quebec | Mexico OEL (TWA) | Ontario TWAEV |
|---|---|---|---|
| Methyl alcohol | TWA: 200 ppm<br>TWA: 262 mg/m$^3$<br>STEL: 250 ppm<br>STEL: 328 mg/m$^3$<br>Skin | TWA: 200 ppm<br>TWA: 260 mg/m$^3$<br>STEL: 250 ppm<br>STEL: 310 mg/m$^3$ | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin |

***Legend***
***ACGIH*** *- American Conference of Industrial Hygiene*
***OSHA*** *- Occupational Safety and Health Administration*
***NIOSH IDLH:*** *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** Handle in accordance with good industrial hygiene and safety practice

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Colorless |
| **Odor** | Alcohol-like |
| **Odor Threshold** | No information available. |
| **pH** | No information available. |
| **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 = 1.0) |
| **Flammability (solid,gas)** | No information available. |
| **Flammability or explosive limits** | |
| **Upper** | 31.00 vol % |
| **Lower** | 6.0 vol % |
| **Vapor Pressure** | 128 hPa @ 20 °C |
| **Vapor Density** | 1.11 (Air = 1.0) |
| **Relative Density** | 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 H3 OH |
| **Molecular Weight** | 32.04 |

## 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.

**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**

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Methyl alcohol | 5628 mg/kg ( Rat ) | 15800 mg/kg ( Rabbit ) | 64000 ppm ( Rat ) 4 h<br>83.2 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** Irritating to eyes and skin

**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** Mutagenic effects have occurred in experimental animals.

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects** Developmental effects have occurred in experimental animals.

**Teratogenicity** Teratogenic effects have occurred in experimental animals..

**STOT - single exposure** Respiratory system, Central nervous system (CNS), Optic nerve.

**STOT - repeated exposure** Respiratory system, Skin, Gastrointestinal tract (GI), Kidney, Liver, spleen, Blood.

**Aspiration hazard** No information available.

**Symptoms / effects, both acute and delayed** 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.. See actual entry in RTECS for complete information.

## 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** No information available.

**Bioaccumulation/ Accumulation** No information available

**Mobility** .

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

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

| 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 | CHINA | 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 | >99 | 1.0 |

**SARA 311/312 Hazardous Categorization**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire Hazard** | Yes |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

**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

**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 does not contain any Proposition 65 chemicals.

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

**State Right-to-Know**

| 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

**Canada**
**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.**

**WHMIS Hazard Class** B2 Flammable liquid
D2A Very toxic materials
D1A Very toxic materials



## 16. Other information

| | |
|---|---|
| **Prepared By** | Regulatory Affairs<br>Richard Allan Scientific<br>A Subsidiary of Thermo Fisher Scientific<br>Tel: (800) 522-7270 |
| **Creation Date** | 17-Feb-2014 |
| **Revision Date** | 17-Feb-2014 |
| **Print Date** | 17-Feb-2014 |
| **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 on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.**

**End of SDS**