## SECTION 1: Identification

### 1.1. Identification

Product form : Substance
Trade name : Methanol

### 1.2. Recommended use and restrictions on use

Recommended use : Solvents, Fuels, Feedstock
Restrictions on use : None known

### 1.3. Supplier

Southern Chemical Corporation
2 Northpoint Drive
Houston, TX 77060 - United States
T +1-832-448-7100

### 1.4. Emergency telephone number

Emergency number : Chemtrec (800) 424-9300

## SECTION 2: Hazard(s) identification

### 2.1. Classification of the substance or mixture

#### GHS US classification

| | | |
|---|---|---|
| Flammable liquids Category 2 | H225 | Highly flammable liquid and vapor |
| Acute toxicity (oral) Category 3 | H301 | Toxic if swallowed |
| Acute toxicity (dermal) Category 3 | H311 | Toxic in contact with skin |
| Acute toxicity (inhalation:vapor) Category 3 | H331 | Toxic if inhaled |
| Specific target organ toxicity (single exposure) Category 1 | H370 | Causes damage to organs (optic nerve) (oral) |

Full text of H statements : see section 16

### 2.2. GHS Label elements, including precautionary statements

#### GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : H225 - Highly flammable liquid and vapor
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled
H370 - Causes damage to organs (optic nerve) (oral)
Precautionary statements (GHS US) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment.
P241 - Use explosion-proof electrical, lighting, ventilating equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P260 - Do not breathe mist, spray, vapors.

P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear eye protection, protective gloves.
P301+P310 - If swallowed: Immediately call a poison center or doctor.
P330 - Rinse mouth.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P312 - Call a poison center or doctor if you feel unwell.
P363 - Wash contaminated clothing before reuse.
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
P311 - Call a poison center or doctor.
P308+P311 - If exposed or concerned: Call a poison center or doctor.
P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO2), dry extinguishing powder, Water spray to extinguish.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name : Methanol

| Name | Product identifier | % |
|---|---|---|
| Methanol | CAS-No.: 67-56-1 | 100 |

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Take off contaminated clothing. Wash skin with plenty of water. Call a poison center or a doctor if you feel unwell. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse eyes with water as a precaution. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth. Call a doctor immediately, even if there are no immediate symptoms. Symptoms may be delayed.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Toxic if inhaled. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. Toxic in contact with skin. Symptoms similar to those listed under ingestion. Toxic if swallowed. Causes damage to organs (optic nerve) (Ingestion). If swallowed there is a risk of blindness. Ingestion may cause nausea, vomiting and diarrhea. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. May cause eye irritation.

Inhalation : Toxic if inhaled. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness.

Skin : Toxic in contact with skin. Symptoms similar to those listed under ingestion.

Eyes : May cause eye irritation.

Ingestion : Toxic if swallowed. If swallowed there is a risk of blindness. Ingestion may cause nausea, vomiting and diarrhea. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination.

### 4.3. Immediate medical attention and special treatment, if necessary

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Immediate specific treatment is necessary in case of poisoning.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).

Unsuitable extinguishing media : Use of heavy stream of water may spread fire.

### 5.2. Specific hazards arising from the chemical

Fire hazard : Highly flammable liquid and vapor. A methanol fire may not be visible to the naked eye. At or above flash point, vapors present may burn in open or explode if confined when mixed with air and exposed to ignition source. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. Special attention should be given to low areas/pits where flammable vapors can accumulate. On combustion, forms: carbon oxides (CO and CO2).

### 5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. On heating, there is a risk of bursting due to internal pressure build-up. Cool down the containers exposed to heat with a water spray. Fight fire from safe distance and protected location.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Eliminate all ignition sources. Ventilate area. Wear suitable protective clothing. Do not get in eyes, on skin, or on clothing. Do not breathe vapors. Stop leak if safe to do so.

#### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate unnecessary personnel. No flames, no sparks. Eliminate all sources of ignition. Ventilate spillage area. Do not breathe vapors. Do not get in eyes, on skin, or on clothing. Wear suitable protective clothing.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Avoid release to the environment. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

### 6.3. Methods and material for containment and cleaning up

For containment : Ventilate spillage area. Remove all sources of ignition. Use non-sparking tools. Absorb with an inert material and place in an appropriate waste disposal container. Recover large spills by pumping (use an explosion proof or hand pump). Control the vapors with a fine water spray. Do not flush down sewers.

Other information : Ensure all national/local regulations are observed.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of contaminated materials refer to section 13 : "Disposal considerations".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure adequate ventilation. Do not breathe vapors. Avoid contact with eyes, skin and clothing. Wear personal protective equipment. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Flammable vapors can accumulate in head space of closed systems. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof equipment. Take precautionary measures against static discharge. Ground/bond container and receiving equipment. Use only non-sparking tools. Keep container closed when not in use. Do not re-use empty containers. Empty containers retain product residue and can be hazardous. Flammable vapors may accumulate in the container.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed. Store in a well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Methanol (67-56-1) | |
|---|---|
| **USA - ACGIH - Occupational Exposure Limits** | |
| Local name | Methanol |
| ACGIH OEL TWA [ppm] | 200 ppm |
| ACGIH OEL STEL [ppm] | 250 ppm |
| Remark (ACGIH) | TLV® Basis: Headache; eye dam; dizziness; nausea. Notations: Skin; BEI |
| Regulatory reference | ACGIH 2021 |
| **USA - ACGIH - Biological Exposure Indices** | |
| Local name | METHANOL |
| BEI (BLV) | 15 mg/l Parameter: Methanol - Medium: urine - Sampling time: End of shift - Notations: B, Ns |
| Regulatory reference | ACGIH 2021 |
| **USA - OSHA - Occupational Exposure Limits** | |
| Local name | Methyl alcohol |

| Methanol (67-56-1) | |
|---|---|
| OSHA PEL (TWA) | 260 mg/m³ |
| OSHA PEL (TWA) | 200 ppm |
| Regulatory reference (US-OSHA) | OSHA Annotated Table Z-1 |

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure adequate ventilation. Do not exceed the occupational exposure limits (OEL). Use spark-/explosionproof appliances and lighting system. Use explosion-proof equipment.

### 8.3. Individual protection measures/Personal protective equipment

**Hand protection:**

Wear Neoprene or nitrile rubber gloves. Consult supplier for specific recommendations.

**Skin and body protection:**

Use chemically protective clothing. Wear impervious rubber safety shoes

**Respiratory protection:**

In operations where exposure limits are exceeded or exposure levels are excessive, an approved respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Liquid |
| Appearance | : | Clear, colorless liquid. |
| Color | : | Colorless |
| Odor | : | Alcohol |
| Odor threshold | : | 59 ppm |
| pH | : | No data available |
| Melting point | : | -144 °F Not applicable |
| Freezing point | : | -144 °F |
| Boiling point | : | 148.1 °F |
| Flash point | : | 51.8 °F |
| Relative evaporation rate (butyl acetate=1) | : | 5.9 |
| Relative evaporation rate (ether=1) | : | 5.3 |
| Flammability (solid, gas) | : | Not applicable. |
| Vapor pressure | : | 12.8 kPa |
| Relative vapor density at 20 °C | : | 1.11 |
| Relative density | : | 0.791 – 0.793 |
| Molecular mass | : | 32.04 g/mol |
| Solubility | : | Soluble in water. Soluble in acetone. Soluble in chloroform. Soluble in ether. |
| Partition coefficient n-octanol/water (Log Pow) | : | -0.82 – -0.66 |
| Auto-ignition temperature | : | 725 °F |
| Decomposition temperature | : | No data available |
| Viscosity, kinematic | : | No data available |
| Viscosity, dynamic | : | 0.55 cP |
| Explosion limits | : | Lower explosive limit (LEL): 6 vol %<br>Upper explosive limit (UEL): 36.5 vol % |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |

### 9.2. Other information

VOC content : 100 %

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Reacts with (strong) oxidizers. Fire and explosion hazards.

### 10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

### 10.5. Incompatible materials

Keep away from oxidizers, strong acids and strong bases. Hydrocarbons, halogenated.

### 10.6. Hazardous decomposition products

Thermal decomposition may produce : Carbon oxides (CO, CO2). Formic acid. Formaldehyde.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) : Toxic if swallowed.
Acute toxicity (dermal) : Toxic in contact with skin.
Acute toxicity (inhalation) : Toxic if inhaled.

| Methanol | |
|---|---|
| ATE US (oral) | 100 mg/kg body weight |
| ATE US (dermal) | 300 mg/kg body weight |
| ATE US (vapors) | 3 mg/l/4h |
| LD50 oral rat | 1187 – 2769 mg/kg body weight Animal: rat |
| LD50 dermal rat | 17100 mg/kg |

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

| Methanol (67-56-1) | |
|---|---|
| NOAEL (animal/male, F0/P) | < 1000 mg/kg body weight |

STOT-single exposure : Causes damage to organs (optic nerve) (oral).
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

Viscosity, kinematic : No data available

Symptoms/effects : Toxic if inhaled. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness. Toxic in contact with skin. Symptoms similar to those listed under ingestion. Toxic if swallowed. Causes damage to organs (optic nerve) (Ingestion). If swallowed there is a risk of blindness. Ingestion may cause nausea, vomiting and diarrhea. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination. May cause eye irritation.

Inhalation : Toxic if inhaled. Inhalation may affect the nervous system causing headache, possibly dizziness, nausea, weakness, loss of coordination and unconsciousness.

Skin : Toxic in contact with skin. Symptoms similar to those listed under ingestion.

Eyes : May cause eye irritation.

Ingestion : Toxic if swallowed. If swallowed there is a risk of blindness. Ingestion may cause nausea, vomiting and diarrhea. Depression of the central nervous system, headaches, dizziness, drowsiness, loss of coordination.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

| Methanol (67-56-1) | |
|---|---|
| LC50 - Fish [1] | 15400 mg/l Test organisms (species): Lepomis macrochirus |
| EC50 - Crustacea [1] | 18260 mg/l Daphnia magna (Water flea) |
| NOEC (chronic) | 208 mg/l Test organisms (species): Daphnia magna Duration: '21 d' |

### 12.2. Persistence and degradability

| Methanol (67-56-1) | |
|---|---|
| Persistence and degradability | Readily biodegradable. |
| ThOD | 0 |

### 12.3. Bioaccumulative potential

| Methanol | |
|---|---|
| BCF - Fish [1] | 1 mg/l |
| Partition coefficient n-octanol/water (Log Pow) | -0.82 – -0.66 |
| Bioaccumulative potential | No bioaccumulation. |

### 12.4. Mobility in soil

| Methanol | |
|---|---|
| Mobility in soil | Expected to be highly mobile in soil |

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional legislation (waste) : Dispose in a safe manner in accordance with local/national regulations.

## SECTION 14: Transport information

In accordance with Department of Transport / Transportation of Dangerous Goods / IMDG / IATA

| DOT | TDG | IMDG | IATA |
|---|---|---|---|
| **14.1. UN number** | | | |
| 1230 | Not applicable | 1230 | 1230 |
| **14.2. Proper Shipping Name** | | | |
| Methanol | Not applicable | METHANOL | Methanol |
| **14.3. Transport hazard class(es)** | | | |
| 3 | Not applicable | 3 (6.1) | 3 (6.1) |
|   Not applicable | |   |   |
| **14.4. Packing group** | | | |
| II | Not applicable | II | II |
| **14.5. Environmental hazards** | | | |
| Dangerous for the environment: No | Not applicable | Dangerous for the environment: No<br>Marine pollutant: No | Dangerous for the environment: No |
| No supplementary information available | | | |

### 14.6. Special precautions for user

**DOT**

UN-No.(DOT) : UN1230

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L

| | | |
|---|---|---|
| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) | : | 60 L |
| DOT Vessel Stowage Location | : | B - (i) The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) ‘‘On deck only’’ on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded. |
| DOT Vessel Stowage Other | : | 40 - Stow ‘‘clear of living quarters’’ |

**TDG**

| | | |
|---|---|---|
| Emergency Response Guide (ERG) Number | : | 131 |

**IMDG**

| | | |
|---|---|---|
| Special provision (IMDG) | : | 279 |
| Limited quantities (IMDG) | : | 1 L |
| Excepted quantities (IMDG) | : | E2 |
| Packing instructions (IMDG) | : | P001 |
| IBC packing instructions (IMDG) | : | IBC02 |
| Tank instructions (IMDG) | : | T7 |
| Tank special provisions (IMDG) | : | TP2 |
| EmS-No. (Fire) | : | F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS |
| EmS-No. (Spillage) | : | S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS |
| Stowage category (IMDG) | : | B |
| Flash point (IMDG) | : | 12°C c.c. |
| Properties and observations (IMDG) | : | Colourless, volatile liquid. Flashpoint: 12°C c.c. Explosive limits: 6% to 36.5% Miscible with water.Toxic if swallowed; may cause blindness. Avoid skin contact. |

**IATA**

| | | |
|---|---|---|
| PCA Excepted quantities (IATA) | : | E2 |
| PCA Limited quantities (IATA) | : | Y341 |
| PCA limited quantity max net quantity (IATA) | : | 1L |
| PCA packing instructions (IATA) | : | 352 |
| PCA max net quantity (IATA) | : | 1L |
| CAO packing instructions (IATA) | : | 364 |
| CAO max net quantity (IATA) | : | 60L |
| Special provision (IATA) | : | A113 |
| ERG code (IATA) | : | 3L |

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

**Methanol (67-56-1)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313
Listed on EPA Hazardous Air Pollutant (HAPS)

| | |
|---|---|
| CERCLA RQ | 5000 lb |

## 15.2. International regulations

### CANADA

| Methanol (67-56-1) |
|---|
| Listed on the Canadian DSL (Domestic Substances List) |

### National regulations

No additional information available

## 15.3. US State regulations

| Methanol (67-56-1) | | | | | |
|---|---|---|---|---|---|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significant risk level (NSRL) | Maximum allowable dose level (MADL) |
| No | Yes | No | No | | 47000 µg/day (inhalation); 23,000 µg/day (oral) |

| Component | State or local regulations |
|---|---|
| Methanol(67-56-1) | U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities; U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List |

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

| **Full text of H-phrases** | |
|---|---|
| H225 | Highly flammable liquid and vapor |
| H301 | Toxic if swallowed |
| H311 | Toxic in contact with skin |
| H331 | Toxic if inhaled |
| H370 | Causes damage to organs |

| **Abbreviations and acronyms** | |
|---|---|
| ADN | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | Acute Toxicity Estimate |
| BCF | Bioconcentration factor |
| BLV | Biological limit value |
| BOD | Biochemical oxygen demand (BOD) |
| COD | Chemical oxygen demand (COD) |
| DMEL | Derived Minimal Effect level |

| Abbreviations and acronyms | |
|---|---|
| DNEL | Derived-No Effect Level |
| EC-No. | European Community number |
| EC50 | Median effective concentration |
| EN | European Standard |
| IARC | International Agency for Research on Cancer |
| IATA | International Air Transport Association |
| IMDG | International Maritime Dangerous Goods |
| LC50 | Median lethal concentration |
| LD50 | Median lethal dose |
| LOAEL | Lowest Observed Adverse Effect Level |
| NOAEC | No-Observed Adverse Effect Concentration |
| NOAEL | No-Observed Adverse Effect Level |
| NOEC | No-Observed Effect Concentration |
| OECD | Organisation for Economic Co-operation and Development |
| OEL | Occupational Exposure Limit |
| PBT | Persistent Bioaccumulative Toxic |
| PNEC | Predicted No-Effect Concentration |
| RID | Regulations concerning the International Carriage of Dangerous Goods by Rail |
| SDS | Safety Data Sheet |
| STP | Sewage treatment plant |
| ThOD | Theoretical oxygen demand (ThOD) |
| TLM | Median Tolerance Limit |
| VOC | Volatile Organic Compounds |
| CAS-No. | Chemical Abstract Service number |
| N.O.S. | Not Otherwise Specified |
| vPvB | Very Persistent and Very Bioaccumulative |
| ED | Endocrine disrupting properties |

Safety Data Sheet (SDS), USA

The information and recommendations herein are taken from data contained in independent industry-recognized references and are believed to be accurate and represent the best information currently available to us. Southern Chemical Corporation makes no representation or warranties, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein to the product to which the information refers. Users should conduct their own investigations to determine the suitability of the information to their particular purpose. Accordingly, Southern Chemical Corporation will not be responsible for loss or damages resulting from use of or reliance upon this information.