

1,3,5-Trichlorobenzene Solution

Safety Data Sheet

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

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Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Product name : 1,3,5-Trichlorobenzene Solution
 Product code : AL0-180013

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Phenova
 6390 Joyce Dr. Suite 100
 Golden, CO 80403 - United States
 T 1-866-942-2978 - F 1-866-283-0269
info@phenova.com - www.phenova.com

1.4. Emergency telephone number

Emergency number : ChemTel Assistance (US/Canada) 1-800-255-3924
 ChemTel Assistance (International) +1 813-248-0585

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 vapour |
| Acute toxicity (oral) Category 3 | H301 | Toxic if swallowed |
| Acute toxicity (dermal) Category 3 | H311 | Toxic in contact with skin |
| Specific target organ toxicity (single exposure) Category 1 | H370 | Causes damage to organs |

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 vapour
 H301+H311 - Toxic if swallowed or in contact with skin
 H370 - Causes damage to organs

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.
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
 P264 - Wash hands, forearms and face thoroughly after handling.
 P270 - Do not eat, drink or smoke when using this product.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P301+P310 - If swallowed: Immediately call a poison center or doctor
 P302+P352 - If on skin: Wash with plenty of water
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.
 P370+P378 - In case of fire: Use media other than water to extinguish.
 P403+P235 - Store in a well-ventilated place. Keep cool.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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P308+P313 - If exposed or concerned: Get medical advice/attention.

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

Not applicable

3.2. Mixtures

| Name | Product identifier | Conc. |
|-------------------------|--------------------|-------|
| methanol (Component) | (CAS-No.) 67-56-1 | 99.8 |

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Allow affected person to breathe fresh air. Allow the victim to rest. |
| First-aid measures after skin contact | : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. |
| First-aid measures after eye contact | : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. |

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

| | |
|---|--|
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
| Symptoms/effects | : Not expected to present a significant hazard under anticipated conditions of normal use. |

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Foam. Dry powder. Carbon dioxide. Water spray. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective equipment and precautions for fire-fighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

| | |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Equip cleanup crew with proper protection. |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| 1,3,5-Trichlorobenzene Solution | | |
|---------------------------------|-------------------------------------|--|
| ACGIH | Local name | Methanol |
| ACGIH | ACGIH TWA (ppm) | 200 ppm |
| ACGIH | ACGIH STEL (ppm) | 250 ppm |
| ACGIH | Remark (ACGIH) | Headache; eye dam; dizziness; nausea |
| ACGIH | Regulatory reference | ACGIH 2018 |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 260 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |
| OSHA | Regulatory reference (US-OSHA) | OSHA |
| methanol (67-56-1) | | |
| ACGIH | Local name | Methanol |
| ACGIH | ACGIH TWA (ppm) | 200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| ACGIH | ACGIH STEL (ppm) | 250 ppm (Methanol; USA; Short time value; TLV - Adopted Value) |
| ACGIH | Remark (ACGIH) | Headache; eye dam; dizziness; nausea |
| ACGIH | Regulatory reference | ACGIH 2018 |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 260 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |
| OSHA | Regulatory reference (US-OSHA) | OSHA |

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or safety glasses

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Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---------------------|
| Physical state | : Liquid |
| | : Colorless |
| | : characteristic |
| Odor threshold | : No data available |
| pH | : No data available |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : No data available |
| Flash point | : No data available |
| Relative evaporation rate (butyl acetate=1) | : No data available |
| Flammability (solid, gas) | : Non flammable. |
| Vapor pressure | : No data available |
| Relative vapor density at 20 °C | : No data available |
| Relative density | : No data available |
| Solubility | : No data available |
| Log Pow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosion limits | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

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| 1,3,5-Trichlorobenzene Solution | |
|--|--|
| ATE US (oral) | 100.2 mg/kg body weight |
| ATE US (dermal) | 300.601 mg/kg body weight |
| methanol (67-56-1) | |
| LD50 oral rat | > 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence) |
| LD50 dermal rabbit | 15800 mg/kg (Rabbit; Literature study) |
| LC50 inhalation rat (mg/l) | 85 mg/l/4h (Rat; Literature study) |
| LC50 inhalation rat (ppm) | 64000 ppm/4h (Rat; Literature study) |
| ATE US (oral) | 100 mg/kg body weight |
| ATE US (dermal) | 300 mg/kg body weight |
| ATE US (gases) | 700 ppmV/4h |
| ATE US (vapors) | 3 mg/l/4h |
| ATE US (dust, mist) | 0.5 mg/l/4h |

| | |
|---|--|
| 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 |
| STOT-single exposure | : Causes damage to organs. |
| STOT-repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
| Symptoms/effects | : Not expected to present a significant hazard under anticipated conditions of normal use. |

SECTION 12: Ecological information

12.1. Toxicity

| methanol (67-56-1) | |
|---------------------------|--|
| LC50 fish 1 | 15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value) |
| EC50 Daphnia 1 | > 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value) |
| LC50 fish 2 | 10800 mg/l (LC50; 96 h; Salmo gairdneri) |

12.2. Persistence and degradability

| 1,3,5-Trichlorobenzene Solution | |
|--|---|
| Persistence and degradability | Not established. |
| methanol (67-56-1) | |
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. |
| Biochemical oxygen demand (BOD) | 0.6 - 1.12 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 1.42 g O ₂ /g substance |
| ThOD | 1.5 g O ₂ /g substance |
| BOD (% of ThOD) | 0.8 (Literature study) |

12.3. Bioaccumulative potential

| 1,3,5-Trichlorobenzene Solution | |
|--|-----------------------------------|
| Bioaccumulative potential | Not established. |
| methanol (67-56-1) | |
| BCF fish 1 | < 10 (BCF; 72 h; Leuciscus idus) |
| Log Pow | -0.77 (Experimental value; Other) |

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| methanol (67-56-1) | |
|---------------------------|--|
| Bioaccumulative potential | Low potential for bioaccumulation (BCF < 500). |

12.4. Mobility in soil

| methanol (67-56-1) | |
|--------------------|---|
| Surface tension | 0.023 N/m (20 °C) |
| Log Koc | Koc,PCKOCWIN v1.66; 1; Calculated value |

12.5. Other adverse effects

| 1,3,5-Trichlorobenzene Solution | |
|---------------------------------|--|
| | |
| methanol (67-56-1) | |
| | |

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1230 Methanol (methanol), 3 (6.1), II
UN-No.(DOT) : UN1230
Proper Shipping Name (DOT) : Methanol
methanol
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT) : II - Medium Danger
Subsidiary risk (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Hazard labels (DOT) : 3 - Flammable liquid
6.1 - Poison



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Symbols : + - Fixes (cannot be altered) proper shipping name, hazard class, and packing group, I - Proper shipping name appropriate for international and domestic transportation
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 Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L

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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"

Emergency Response Guide (ERG) Number : 131

Other information : No supplementary information available.

Transportation of Dangerous Goods

Not applicable

Transport by sea

Transport document description (IMDG) : UN 1230 METHANOL (methanol), 3 (6.1), II (12°C c.c.)

UN-No. (IMDG) : 1230

Proper Shipping Name (IMDG) : METHANOL

Class (IMDG) : 3 - Flammable liquids

Packing group (IMDG) : II - substances presenting medium danger

Subsidiary risks (IMDG) : 6.1 - Toxic substances

Limited quantities (IMDG) : 1 L

Air transport

Transport document description (IATA) : UN 1230 Methanol (methanol), 3 (6.1), II

UN-No. (IATA) : 1230

Proper Shipping Name (IATA) : Methanol

Class (IATA) : 3 - Flammable Liquids

Packing group (IATA) : II - Medium Danger

Subsidiary hazards (IATA) : 6.1 - Toxic substances

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)

EU-Regulations

No additional information available

National regulations

methanol (67-56-1)

Listed on EPA Hazardous Air Pollutant (HAPS)

15.3. US State regulations

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| 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) |

SECTION 16: Other information

Revision date : 12/12/2019

Other information : None.

Full text of H-phrases:

| | |
|------|------------------------------------|
| H225 | Highly flammable liquid and vapour |
| H301 | Toxic if swallowed |
| H311 | Toxic in contact with skin |
| H370 | Causes damage to organs |

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