

## SAFETY DATA SHEET

Creation Date 21-Apr-2009

Revision Date 25-Dec-2021

Revision Number 6

### 1. Identification

**Product Name** Chloroform-d

**Cat No. :** AC351420000; AC351420250; AC351421000; AC351425000

**CAS No** 865-49-6

**Synonyms** Methane Trichloride-D; Formyl Trichloride-D; Methane-D, Trichloro-

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

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

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number** For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**: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)

|  |            |
|--|------------|
| Acute oral toxicity                                  | Category 4 |
| Acute Inhalation Toxicity - Vapors                   | Category 3 |
| Skin Corrosion/Irritation                            | Category 2 |
| Serious Eye Damage/Eye Irritation                    | Category 2 |
| Carcinogenicity                                      | Category 2 |
| Reproductive Toxicity                                | Category 2 |
| Specific target organ toxicity (single exposure)     | Category 3 |
| Target Organs - Central nervous system (CNS).        |            |
| Specific target organ toxicity - (repeated exposure) | Category 1 |
| Target Organs - Kidney, Liver, Heart.                |            |

#### Label Elements

**Signal Word**

Danger

**Hazard Statements**

Toxic if inhaled  
May cause drowsiness or dizziness  
Suspected of causing cancer  
Harmful if swallowed  
Causes skin irritation  
Causes serious eye irritation  
Suspected of damaging the unborn child  
Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Use only outdoors or in a well-ventilated area  
Wear eye/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray

**Response**

IF exposed or concerned: Get medical attention/advice

**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**

IF ON SKIN: Wash with plenty of soap and water  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash before reuse

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**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)**

None identified

WARNING. Cancer and Reproductive Harm - <https://www.p65warnings.ca.gov/>.

### 3. Composition/Information on Ingredients

| Component             | CAS No   | Weight % |
|-----------------------|----------|----------|
| Methane-d, trichloro- | 865-49-6 | >95      |

|            |         |   |
|------------|---------|---|
| Chloroform | 67-66-3 | - |
|------------|---------|---|

#### 4. First-aid measures

|  |  |
|--|--|
| <b>General Advice</b>                      | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.  |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.   |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.  |
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. 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. |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Call a physician or poison control center immediately.   |
| <b>Most important symptoms and effects</b> | . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting  |
| <b>Notes to Physician</b>                  | Treat symptomatically  |

#### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | No information available  |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | 982 °C / 1799.6 °F  |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | No data available   |
| <b>Lower</b>                            | No data available   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

#### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Phosgene. Chlorine. Hydrogen chloride gas.

#### 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

|               |                     |                    |                         |
|---------------|---------------------|--------------------|-------------------------|
| <b>Health</b> | <b>Flammability</b> | <b>Instability</b> | <b>Physical hazards</b> |
| 3             | 1                   | 1                  | N/A                     |

#### 6. Accidental release measures

|                             |   |
|-----------------------------|---|
| <b>Personal Precautions</b> | Ensure adequate ventilation. Use personal protective equipment as required. Keep people |
|-----------------------------|---|

**Environmental Precautions** away from and upwind of spill/leak. Evacuate personnel to safe areas.  
Should not be released into the environment.

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

**Handling** Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

**Storage.** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from direct sunlight. Protect from moisture. Store under an inert atmosphere. Incompatible Materials. Strong oxidizing agents.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component  | ACGIH TLV   | OSHA PEL   | NIOSH IDLH   | Mexico OEL (TWA)  |
|------------|-------------|--|--|---|
| Chloroform | TWA: 10 ppm | (Vacated) TWA: 2 ppm<br>(Vacated) TWA: 9.78 mg/m <sup>3</sup><br>Ceiling: 50 ppm<br>Ceiling: 240 mg/m <sup>3</sup> | IDLH: 500 ppm<br>STEL: 2 ppm<br>STEL: 9.78 mg/m <sup>3</sup> | TWA: 10 ppm<br>TWA: 50 mg/m <sup>3</sup><br>STEL: 50 ppm<br>STEL: 225 mg/m <sup>3</sup> |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** Use only under a chemical fume hood. 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. Tight sealing safety goggles. Face protection shield.

**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

|                            |                          |
|----------------------------|--------------------------|
| <b>Physical State</b>      | Liquid                   |
| <b>Appearance</b>          | Colorless                |
| <b>Odor</b>                | aromatic                 |
| <b>Odor Threshold</b>      | No information available |
| <b>pH</b>                  | No information available |
| <b>Melting Point/Range</b> | -64 °C / -83.2 °F        |
| <b>Boiling Point/Range</b> | 60 °C / 140 °F @ 760mmHg |
| <b>Flash Point</b>         | No information available |

|  |                           |
|--|---------------------------|
| Evaporation Rate                       | No information available  |
| Flammability (solid,gas)               | Not applicable            |
| Flammability or explosive limits       |                           |
| Upper                                  | No data available         |
| Lower                                  | No data available         |
| Vapor Pressure                         | 211 mbar @ 20 °C          |
| Vapor Density                          | No information available  |
| Specific Gravity                       | 1.500                     |
| Solubility                             | Slightly soluble in water |
| Partition coefficient; n-octanol/water | No data available         |
| Autoignition Temperature               | 982 °C / 1799.6 °F        |
| Decomposition Temperature              | No information available  |
| Viscosity                              | No information available  |
| Molecular Formula                      | C Cl <sub>3</sub> D       |
| Molecular Weight                       | 120.39                    |

## 10. Stability and reactivity

|                                  |   |
|----------------------------------|---|
| Reactive Hazard                  | None known, based on information available  |
| Stability                        | Light sensitive. Hygroscopic.   |
| Conditions to Avoid              | Incompatible products. Excess heat. Exposure to moist air or water. Protect from light. Keep away from open flames, hot surfaces and sources of ignition. |
| Incompatible Materials           | Strong oxidizing agents   |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Phosgene, Chlorine, Hydrogen chloride gas  |
| Hazardous Polymerization         | Hazardous polymerization does not occur.  |
| Hazardous Reactions              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information

|                              |            |
|------------------------------|------------|
| LD50 Oral VALUE              | 695 mg/kg  |
| LC50 Inhalation (DUST) VALUE | 47 mg/L/4h |

#### Component Information

| Component  | LD50 Oral  | LD50 Dermal               | LC50 Inhalation              |
|------------|--|---------------------------|------------------------------|
| Chloroform | LD50 = 908 mg/kg (rat)<br>LD50 = 695 mg/kg ( Rat )<br>LD50 = 450 mg/kg ( Rat ) | LD50 > 20 g/kg ( Rabbit ) | LC50 = 10.5 mg/L ( Rat ) 4 h |

|                                      |                          |
|--------------------------------------|--------------------------|
| Toxicologically Synergistic Products | No information available |
|--------------------------------------|--------------------------|

### 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 | Limited evidence of a carcinogenic effect. The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component             | CAS No   | IARC       | NTP                    | ACGIH      | OSHA       | Mexico     |
|-----------------------|----------|------------|------------------------|------------|------------|------------|
| Methane-d, trichloro- | 865-49-6 | Not listed | Not listed             | Not listed | Not listed | Not listed |
| Chloroform            | 67-66-3  | Group 2B   | Reasonably Anticipated | A3         | X          | A3         |

IARC (International Agency for Research on Cancer)

NTP: (National Toxicity Program)

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

A1 - Confirmed Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Confirmed Animal Carcinogen

A4 - Not Classifiable as a Human Carcinogen

A5 - Not Suspected as a Human Carcinogen

**Mutagenic Effects**

Not mutagenic in AMES Test

**Reproductive Effects**

Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects**

No information available.

**Teratogenicity**

Teratogenic effects have occurred in experimental animals.

**STOT - single exposure**

Central nervous system (CNS)

**STOT - repeated exposure**

Kidney Liver Heart

**Aspiration hazard**

No information available

**Symptoms / effects, both acute and delayed**

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information**

No information available

**Other Adverse Effects**

Tumorigenic effects have been reported in experimental animals.

## 12. Ecological information

**Ecotoxicity**

| Component             | Freshwater Algae    | Freshwater Fish   | Microtox   | Water Flea                       |
|-----------------------|---------------------|---|--|----------------------------------|
| Methane-d, trichloro- | Not listed          | Lepomis macrochirus: LC50: 18 mg/L/96h<br>Pimephales promelas: LC50: 71 mg/L/96h  | Not listed   | Daphnia magna: EC50: 79 mg/LL48h |
| Chloroform            | EC50 = 560 mg/L/48h | LC50: = 300 mg/L, 96h static (Poecilia reticulata)<br>LC50: = 18 mg/L, 96h flow-through (Lepomis macrochirus)<br>LC50: = 18 mg/L, 96h flow-through (Oncorhynchus mykiss)<br>LC50: = 71 mg/L, 96h flow-through (Pimephales promelas) | Photobacterium phosphoreum: EC50 = 520 mg/L/5 min<br>Photobacterium phosphoreum: EC50 = 670 mg/L/15 min<br>Photobacterium phosphoreum: EC50 = 670 mg/L/30min | EC50 = 28.9 mg/L/48h             |

**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 |
|-----------------------|---------|
| Methane-d, trichloro- | 2       |
| Chloroform            | 2       |

### 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 |
|----------------------|------------------------|------------------------|
| Chloroform - 67-66-3 | U044                   | -                      |

### 14. Transport information

#### DOT

UN-No UN1888  
 Proper Shipping Name CHLOROFORM  
 Hazard Class 6.1  
 Packing Group III

#### TDG

UN-No UN1888  
 Proper Shipping Name CHLOROFORM  
 Hazard Class 6.1  
 Packing Group III

#### IATA

UN-No UN1888  
 Proper Shipping Name Chloroform  
 Hazard Class 6.1  
 Packing Group III

#### IMDG/IMO

UN-No UN1888  
 Proper Shipping Name Chloroform  
 Hazard Class 6.1  
 Packing Group III

### 15. Regulatory information

#### United States of America Inventory

| Component             | CAS No   | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|-----------------------|----------|------|---|-----------------------------|
| Methane-d, trichloro- | 865-49-6 | -    | -   | -                           |
| Chloroform            | 67-66-3  | X    | ACTIVE  | -                           |

#### **Legend:**

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

X - Listed

'-' - Not Listed

**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 |
|-----------------------|----------|-----|------|-----------|-------|------|------|------|-------|------|
| Methane-d, trichloro- | 865-49-6 | X   | -    | 212-742-4 | X     | -    |      | X    | X     | -    |
| Chloroform            | 67-66-3  | X   | -    | 200-663-8 | X     | X    | X    | X    | X     | X    |

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

### U.S. Federal Regulations

#### SARA 313

| Component  | CAS No  | Weight % | SARA 313 - Threshold Values % |
|------------|---------|----------|-------------------------------|
| Chloroform | 67-66-3 | -        | 0.1                           |

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

#### CWA (Clean Water Act)

| Component  | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Chloroform | X                          | 10 lb                       | X                      | X                         |

#### Clean Air Act

| Component  | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|------------|-----------|-------------------------|-------------------------|
| Chloroform | X         |                         | -                       |

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

**CERCLA** Not applicable

| Component  | Hazardous Substances RQs | CERCLA EHS RQs |
|------------|--------------------------|----------------|
| Chloroform | 10 lb 1 lb               | 10 lb          |

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

| Component  | CAS No  | California Prop. 65         | Prop 65 NSRL           | Category                    |
|------------|---------|-----------------------------|------------------------|-----------------------------|
| Chloroform | 67-66-3 | Carcinogen<br>Developmental | 20 µg/day<br>40 µg/day | Developmental<br>Carcinogen |

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

| Component  | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|------------|---------------|------------|--------------|----------|--------------|
| Chloroform | 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 contains the following DHS chemicals:  
**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

| Component  | DHS Chemical Facility Anti-Terrorism Standard |
|------------|---|
| Chloroform | Release STQs - 20000lb                        |

#### Other International Regulations

**Mexico - Grade** No information available

#### Authorisation/Restrictions according to EU REACH

| Component  | 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) |
|------------|---|---|---|
| Chloroform | -   | Use restricted. See item 32.  | -   |



|  |  |  |  |
|--|--|--|--|
|  |  | (see<br><a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006R1907:EN:NOT</a> for restriction details) |  |
|--|--|--|--|

<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) |
|-----------------------|----------|----------------|------------------------------|---------------------------|--|
| Methane-d, trichloro- | 865-49-6 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |
| Chloroform            | 67-66-3  | Listed         | Not applicable               | Not applicable            | Not applicable                             |

| Component             | CAS No   | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------------------|----------|---|--|----------------------------|------------------------------------|
| Methane-d, trichloro- | 865-49-6 | Not applicable  | Not applicable   | Not applicable             | Not applicable                     |
| Chloroform            | 67-66-3  | Not applicable  | Not applicable   | Not applicable             | Annex I - Y45                      |

## 16. Other information

|                         |   |
|-------------------------|---|
| <b>Prepared By</b>      | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com  |
| <b>Creation Date</b>    | 21-Apr-2009   |
| <b>Revision Date</b>    | 25-Dec-2021   |
| <b>Print Date</b>       | 25-Dec-2021   |
| <b>Revision Summary</b> | 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**