

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Trichloromethane ≥99 %, for synthesis

article number: **Y015**
Version: **5.0 en**
Replaces version of: 2021-09-10
Version: (4)

date of compilation: 2018-08-22
Revision: 2024-02-19

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

| | |
|---------------------------------|--|
| Identification of the substance | Trichloromethane ≥99 %, for synthesis |
| Article number | Y015 |
| Index No (GB CLP) | 602-006-00-4 |
| EC number | 200-663-8 |
| CAS number | 67-66-3 |
| Alternative name(s) | Trichloro-methane |

1.2 Relevant identified uses of the substance or mixture and uses advised against

| | |
|---------------------------|--|
| Relevant identified uses: | Laboratory chemical Laboratory and analytical use |
| Uses advised against: | Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs. |

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0

Telefax: +49 (0) 721 - 56 06 149

e-mail: sicherheit@carlroth.de

Website: www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number

| Name | Street | Postal code/city | Telephone | Website |
|---|-----------|----------------------|--------------|---------|
| National Poisons Information Service City Hospital | Dudley Rd | B187QH Birmingham | 844 892 0111 | |

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SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class | Cat-egory | Hazard class and category | Hazard statement |
|---------|--|-----------|---------------------------|------------------|
| 3.10 | Acute toxicity (oral) | 4 | Acute Tox. 4 | H302 |
| 3.11 | Acute toxicity (inhal.) | 3 | Acute Tox. 3 | H331 |
| 3.2 | Skin corrosion/irritation | 2 | Skin Irrit. 2 | H315 |
| 3.3 | Serious eye damage/eye irritation | 2 | Eye Irrit. 2 | H319 |
| 3.6 | Carcinogenicity | 2 | Carc. 2 | H351 |
| 3.7 | Reproductive toxicity | 2 | Repr. 2 | H361d |
| 3.9 | Specific target organ toxicity - repeated exposure | 1 | STOT RE 1 | H372 |

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

2.2 Label elements

Labelling

Signal word

Danger

Pictograms

GHS06, GHS08



Hazard statements

| | |
|-------|--|
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |
| H351 | Suspected of causing cancer |
| H361d | Suspected of damaging the unborn child |
| H372 | Causes damage to organs (liver, kidney) through prolonged or repeated exposure |

Precautionary statements

Precautionary statements - prevention

| | |
|------|--|
| P202 | Do not handle until all safety precautions have been read and understood |
| P260 | Do not breathe mist/vapours/spray |

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Precautionary statements - response

P302+P352 IF ON SKIN: Wash with plenty of water
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 IF exposed or concerned: Get medical advice/attention

For professional users only

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|-------------------|-------------------|
| Name of substance | Trichloromethane |
| Molecular formula | CHCl ₃ |
| Molar mass | 119,4 g/mol |
| CAS No | 67-66-3 |
| EC No | 200-663-8 |
| Index No (GB CLP) | 602-006-00-4 |

To stabilise:

| Name of substance | Identifier | Wt% |
|-------------------|--|---------|
| Amylene | CAS No 513-35-9 EC No 208-156-3 | < 0,015 |

Substance, Specific Conc. Limits, M-factors, ATE

| Specific Conc. Limits | M-Factors | ATE | Exposure route |
|-----------------------|-----------|------------------------|----------------------------|
| - | - | 908 mg/kg 3 mg/l/4h | oral inhalation: vapour |

Remarks

For full text of abbreviations: see SECTION 16

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SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Self-protection of the first aider.

Following inhalation

Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.

Following skin contact

Rinse skin with water/shower. In case of skin irritation, consult a physician.

Following eye contact

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion

Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Cough, Dyspnoea, Spasms, Nausea, Vomiting, Headache, Vertigo, Dizziness, Unconsciousness, Loss of righting reflex, and ataxia

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Non-combustible.

Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen chloride (HCl), Hydrogen halides (HX)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Provide adequate ventilation.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use extractor hood (laboratory). Avoid exposure. When not in use, keep containers tightly closed.

Advice on general occupational hygiene

Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Store locked up.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/m ³] | STEL [ppm] | STEL [mg/m ³] | Ceiling-C [ppm] | Ceiling-C [mg/m ³] | Notation | Source |
|---------|---------------|---------|------------|-----------|--------------------------|------------|---------------------------|-----------------|--------------------------------|----------|------------|
| EU | chloroform | 67-66-3 | IOELV | 2 | 10 | | | | | H | 2000/39/EC |
| GB | chloroform | 67-66-3 | WEL | 2 | 9,9 | | | | | | EH40/2005 |

Notation

| | |
|-----------|--|
| Ceiling-C | Ceiling value is a limit value above which exposure should not occur |
| H | Absorbed through the skin |
| STEL | Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified) |
| TWA | Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |

Human health values

| Relevant DNELs and other threshold levels | | | | |
|---|-----------------------|------------------------------------|-------------------|----------------------------|
| Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| DNEL | 2,5 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| DNEL | 333 mg/m ³ | human, inhalatory | worker (industry) | acute - systemic effects |
| DNEL | 2,5 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| DNEL | 0,94 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |

Environmental values

| Relevant PNECs and other threshold levels | | | | |
|---|-----------------|-----------------------|------------------------------|------------------------------|
| Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| PNEC | 0,146 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| PNEC | 0,015 mg/l | aquatic organisms | marine water | short-term (single instance) |
| PNEC | 0,048 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| PNEC | 0,45 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| PNEC | 0,09 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| PNEC | 0,56 mg/kg | terrestrial organisms | soil | short-term (single instance) |

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| Relevant PNECs of components | | | | | | |
|------------------------------|----------|-----------|-----------------|-----------------------|------------------------------|------------------------------|
| Name of substance | CAS No | End-point | Threshold level | Organism | Environmental compartment | Exposure time |
| Amylene | 513-35-9 | PNEC | 0,37 mg/l | aquatic organisms | freshwater | short-term (single instance) |
| Amylene | 513-35-9 | PNEC | 0,37 mg/l | aquatic organisms | marine water | short-term (single instance) |
| Amylene | 513-35-9 | PNEC | 5,77 mg/l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| Amylene | 513-35-9 | PNEC | 8,1 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| Amylene | 513-35-9 | PNEC | 8,1 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| Amylene | 513-35-9 | PNEC | 1,44 mg/kg | terrestrial organisms | soil | short-term (single instance) |

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggles with side protection.

Skin protection



• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

FKM (fluoro rubber)

• material thickness

≥0,4 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

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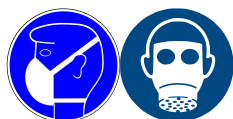
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• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: AX (gas filters and combined filters against low-boiling point organic compounds, colour code: Brown).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|----------------------------------|
| Physical state | liquid |
| Colour | colourless |
| Odour | characteristic |
| Odour threshold | 85 – 202 ppm |
| Melting point/freezing point | -63 °C |
| Boiling point or initial boiling point and boiling range | 61 °C at 1.013 hPa |
| Flammability | non-combustible |
| Lower and upper explosion limit | not determined |
| Flash point | not determined |
| Auto-ignition temperature | not determined |
| Decomposition temperature | not relevant |
| pH (value) | not determined |
| Kinematic viscosity | 0,38 mm ² /s at 20 °C |
| Dynamic viscosity | 0,56 mPa s at 20 °C |
| <u>Solubility(ies)</u> | |
| Water solubility | 8,7 g/l at 23 °C (ECHA) |
| <u>Partition coefficient</u> | |
| Partition coefficient n-octanol/water (log value): | 1,97 (25 °C) (Experimental data) |
| Soil organic carbon/water (log KOC) | 1,8 – 2,6 (ECHA) |
| Vapour pressure | 211 hPa at 20 °C |

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Density and/or relative density

Density 1,48 g/cm³ at 20 °C

Relative vapour density 4,25 (air = 1)

Particle characteristics not relevant (liquid)

Other safety parameters

Oxidising properties none

9.2 Other information

Information with regard to physical hazard classes: hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics: There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: strong oxidiser, Acetone, Alkali metals, Alkaline earth metal, Mineral acids, Strong alkali, Metal powder, Nitro compound, Peroxides,
=> Explosive properties

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

different plastics, Rubber articles, Light metals

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Harmful if swallowed. Toxic if inhaled.

| Acute toxicity | | | | | |
|----------------|----------|-----------|---------|--------|--------|
| Exposure route | Endpoint | Value | Species | Method | Source |
| oral | LD50 | 908 mg/kg | rat | | ECHA |

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Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Suspected of damaging the unborn child.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Causes damage to organs (liver, kidney) through prolonged or repeated exposure.

| Hazard category | Target organ | Exposure route |
|-----------------|--------------|----------------|
| 1 | liver | if exposed |
| 1 | kidney | if exposed |

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea

• If in eyes

Causes serious eye irritation

• If inhaled

vertigo, dizziness, deficits in perception and coordination, reaction time, or sleepiness, loss of righting reflex, and ataxia, cough, headache, poisoning effect on central nervous system can cause convulsions, laboured breathing and loss of consciousness

• If on skin

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation), causes skin irritation

• Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

11.3 Information on other hazards

There is no additional information.

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SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

| Aquatic toxicity (acute) | | | | |
|--------------------------|------------|-----------------------|--------|---------------|
| Endpoint | Value | Species | Source | Exposure time |
| EC50 | 152,5 mg/l | aquatic invertebrates | ECHA | 48 h |
| ErC50 | 13,3 mg/l | algae | ECHA | 72 h |

| Aquatic toxicity (acute) of components | | | | | |
|--|----------|----------|-----------|-----------------------|---------------|
| Name of substance | CAS No | Endpoint | Value | Species | Exposure time |
| Amylene | 513-35-9 | LC50 | 4,99 mg/l | fish | 96 h |
| Amylene | 513-35-9 | EC50 | 3,84 mg/l | aquatic invertebrates | 48 h |
| Amylene | 513-35-9 | ErC50 | 12 mg/l | algae | 72 h |

| Aquatic toxicity (chronic) | | | | |
|----------------------------|-----------|----------------|--------|---------------|
| Endpoint | Value | Species | Source | Exposure time |
| EC50 | 0,48 mg/l | microorganisms | ECHA | 24 h |

12.2 Persistence and degradability

Theoretical Oxygen Demand: 0,134 mg/mg
Theoretical Carbon Dioxide: 0,3686 mg/mg

Biodegradation

Not readily biodegradable.

| Process of degradability | | |
|--------------------------|------------------|------|
| Process | Degradation rate | Time |
| biotic/abiotic | 0 % | 14 d |

| Degradability of components | | | | | | |
|-----------------------------|----------|------------------|------------------|------|--------|--------|
| Name of substance | CAS No | Process | Degradation rate | Time | Method | Source |
| Amylene | 513-35-9 | oxygen depletion | 7 % | 28 d | | ECHA |

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

| | |
|---------------------------|----------------------------------|
| n-octanol/water (log KOW) | 1,97 (25 °C) (Experimental data) |
|---------------------------|----------------------------------|

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12.4 Mobility in soil

| | |
|--|-------------------------------|
| Henry's law constant | 14.084 Pa m ³ /mol |
| The Organic Carbon normalised adsorption coefficient | 1,8 – 2,6 (ECHA) |

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous

- HP 4** irritant - skin irritation and eye damage
- HP 5** specific target organ toxicity (STOT)/aspiration toxicity
- HP 6** acute toxicity
- HP 7** carcinogenic
- HP 10** toxic for reproduction

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

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SECTION 14: Transport information

14.1 UN number or ID number

| | |
|-----------|---------|
| ADRRID | UN 1888 |
| IMDG-Code | UN 1888 |
| ICAO-TI | UN 1888 |

14.2 UN proper shipping name

| | |
|-----------|------------|
| ADRRID | CHLOROFORM |
| IMDG-Code | CHLOROFORM |
| ICAO-TI | Chloroform |

14.3 Transport hazard class(es)

| | |
|-----------|-----|
| ADRRID | 6.1 |
| IMDG-Code | 6.1 |
| ICAO-TI | 6.1 |

14.4 Packing group

| | |
|-----------|-----|
| ADRRID | III |
| IMDG-Code | III |
| ICAO-TI | III |

14.5 Environmental hazards

non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) Additional information

| | |
|---------------------------------------|-----------------------------------|
| Proper shipping name | CHLOROFORM |
| Particulars in the transport document | UN1888, CHLOROFORM, 6.1, III, (E) |
| Classification code | T1 |
| Danger label(s) | 6.1 |



| | |
|--------------------------|----------|
| Special provisions (SP) | 802(ADN) |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| Transport category (TC) | 2 |




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| | |
|---|--------------------------------------|
| Tunnel restriction code (TRC) | E |
| Hazard identification No | 60 |
| Emergency Action Code | 2Z |
| Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information | |
| Classification code | T1 |
| Danger label(s) | 6.1 |
|  | |
| Special provisions (SP) | 802(ADN) |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| Transport category (TC) | 2 |
| Hazard identification No | 60 |
| International Maritime Dangerous Goods Code (IMDG) - Additional information | |
| Proper shipping name | CHLOROFORM |
| Particulars in the shipper's declaration | UN1888, CHLOROFORM, 6.1, III |
| Marine pollutant | - |
| Danger label(s) | 6.1 |
|  | |
| Special provisions (SP) | - |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 5 L |
| EmS | F-A, S-A |
| Stowage category | A |
| Segregation group | 10 - Liquid halogenated hydrocarbons |
| International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information | |
| Proper shipping name | Chloroform |
| Particulars in the shipper's declaration | UN1888, Chloroform, 6.1, III |
| Danger label(s) | 6.1 |
|  | |
| Excepted quantities (EQ) | E1 |
| Limited quantities (LQ) | 2 L |

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SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

| 2012/18/EU (Seveso III) | | | |
|-------------------------|---------------------------------------|---|-------|
| No | Dangerous substance/hazard categories | Qualifying quantity (tonnes) for the application of lower and upper-tier requirements | Notes |
| H2 | acute toxic (cat. 2 + cat. 3, inhal.) | 50 200 | 41) |

Notation

- 41) - Category 2, all exposure routes
- category 3, inhalation exposure route

Deco-Paint Directive

| | |
|-------------|-----------|
| VOC content | 100 % |
| VOC content | 1.480 g/l |

Industrial Emissions Directive (IED)

| | |
|-------------|-----------|
| VOC content | 100 % |
| VOC content | 1.480 g/l |

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

| Pollutant release and transfer registers (PRTR) | | | |
|---|---------|---------|---|
| Name of substance | CAS No | Remarks | Threshold for releases to air (kg/year) |
| Trichloromethane | 67-66-3 | | 500 |

Water Framework Directive (WFD)

| List of pollutants (WFD) | | | | |
|--------------------------|---|---------|-----------|---------|
| Name of substance | Name acc. to inventory | CAS No | Listed in | Remarks |
| Trichloromethane | trichloromethane (chloroform) | 67-66-3 | b) | |
| Trichloromethane | trichloromethane | 67-66-3 | c) | |
| Trichloromethane | Organohalogen compounds and substances which may form such compounds in the aquatic environment | | a) | |

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| List of pollutants (WFD) | | | | |
|--------------------------|---|--------|-----------|---------|
| Name of substance | Name acc. to inventory | CAS No | Listed in | Remarks |
| Trichloromethane | Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment | | a) | |

Legend

- a) Indicative list of the main pollutants
- b) List of priority substances in the field of water policy
- c) Environmental Quality Standards for Priority Substances and certain other pollutants

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed

Regulation on substances that deplete the ozone layer (ODS)

not listed

Regulation concerning the export and import of hazardous chemicals (PIC)

chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

| Name of substance | Name acc. to inventory | CAS No | Wt% | Category / subcategory | Use limitation |
|-------------------|------------------------|---------|-----|------------------------|----------------|
| Trichloromethane | chloroform | 67-66-3 | 100 | i(2) | b |

Legend

- b Use limitation: ban (for the sub-category or sub-categories concerned) according to Union legislation
- i(2) Sub-category: i(2) - industrial chemical for public use

Regulation on persistent organic pollutants (POP)

not listed

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

not listed

Restrictions according to GB REACH, Annex 17

| Dangerous substances with restrictions (GB REACH, Annex 17) | | | |
|---|--|---------|----|
| Name of substance | Name acc. to inventory | CAS No | No |
| Trichloromethane | Chloroform | 67-66-3 | 32 |
| Trichloromethane | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC | | 3 |

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

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National inventories

| Country | Inventory | Status |
|---------|------------|------------------------------|
| AU | AIIC | substance is listed |
| CA | DSL | substance is listed |
| CN | IECSC | substance is listed |
| EU | ECSI | substance is listed |
| EU | REACH Reg. | substance is listed |
| JP | CSCL-ENCS | substance is listed |
| KR | KECI | substance is listed |
| MX | INSQ | substance is listed |
| NZ | NZIoC | substance is listed |
| PH | PICCS | substance is listed |
| TR | CICR | substance is listed |
| TW | TCSI | substance is listed |
| US | TSCA | substance is listed (ACTIVE) |
| VN | NCI | substance is listed |

Legend

| | |
|------------|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| KECI | Korea Existing Chemicals Inventory |
| NCI | National Chemical Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---|---|-----------------|
| 2.2 | | Hazard statements: change in the listing (table) | yes |
| 2.2 | Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger | | yes |
| 2.2 | | Labelling of packages where the contents do not exceed 125 ml: change in the listing (table) | yes |

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|--|--|-----------------|
| 2.2 | | Labelling of packages where the contents do not exceed 125 ml: change in the listing (table) | yes |
| 2.2 | | Labelling of packages where the contents do not exceed 125 ml: change in the listing (table) | yes |
| 2.3 | | Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%. | yes |
| 14.8 | | Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information | yes |
| 14.8 | | Classification code: T1 | yes |
| 14.8 | | Danger label(s): 6.1 | yes |
| 14.8 | | Danger label(s): change in the listing (table) | yes |
| 14.8 | | Special provisions (SP): 802(ADN) | yes |
| 14.8 | | Excepted quantities (EQ): E1 | yes |
| 14.8 | | Limited quantities (LQ): 5 L | yes |
| 14.8 | | Transport category (TC): 2 | yes |
| 14.8 | | Hazard identification No: 60 | yes |
| 15.1 | Restrictions according to REACH, Annex XVII | | yes |
| 15.1 | | Dangerous substances with restrictions (REACH, Annex XVII): change in the listing (table) | yes |
| 15.1 | List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list: Not listed. | | yes |
| 15.1 | VOC content: 100 % , 1.480 g/l | VOC content: 100 % | yes |
| 15.1 | | VOC content: 1.480 g/l | yes |
| 15.1 | | Regulation concerning the export and import of hazardous chemicals (PIC): change in the listing (table) | yes |
| 15.1 | | National regulations(GB) | yes |
| 15.1 | | List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list: not listed | yes |
| 15.1 | | Restrictions according to GB REACH, Annex 17 | yes |

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Trichloromethane $\geq 99\%$, for synthesis

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| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---------------------------|---|-----------------|
| 15.1 | | Dangerous substances with restrictions (GB REACH, Annex 17): change in the listing (table) | yes |
| 15.1 | | National inventories: change in the listing (table) | yes |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|------------|---|
| 2000/39/EC | Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC |
| ADR | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road) |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| DNEL | Derived No-Effect Level |
| EC50 | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| ED | Endocrine disruptor |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| ErC50 | \equiv EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control |
| GB CLP | The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended) |
| GB REACH | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended) |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |

Safety data sheet Safety data sheet

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Trichloromethane ≥99 %, for synthesis

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| Abbr. | Descriptions of used abbreviations |
|----------|---|
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| IOELV | Indicative occupational exposure limit value |
| LC50 | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LD50 | Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|-------|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H351 | Suspected of causing cancer. |
| H361d | Suspected of damaging the unborn child. |
| H372 | Causes damage to organs (liver, kidney) through prolonged or repeated exposure. |

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.