

Safety data sheet

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



1,1,1,3,3,3-Hexamethyldisilazane (HMDS), ≥98%, for gas chromatography

article number: **3840**
Version: **3.0 en**
Replaces version of: 13.05.2022
Version: (2)

date of compilation: 06.02.2018
Revision: 19.07.2022

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

1.1 Product identifier

| | |
|---------------------------------|--|
| Identification of the substance | 1,1,1,3,3,3-Hexamethyldisilazane (HMDS), ≥98%, for gas chromatography |
| Article number | 3840 |
| Registration number (REACH) | 01-2119438176-38-xxxx |
| EC number | 213-668-5 |
| CAS number | 999-97-3 |
| Alternative name(s) | Bis(trimethylsilyl)amine |

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). |

1.3 Details of the supplier of the safety data sheet

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

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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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

| Section | Hazard class | Cat-egory | Hazard class and category | Hazard statement |
|---------|---|-----------|---------------------------|------------------|
| 2.6 | Flammable liquid | 2 | Flam. Liq. 2 | H225 |
| 3.1O | Acute toxicity (oral) | 4 | Acute Tox. 4 | H302 |
| 3.1D | Acute toxicity (dermal) | 3 | Acute Tox. 3 | H311 |
| 3.1I | Acute toxicity (inhal.) | 4 | Acute Tox. 4 | H332 |
| 4.1C | Hazardous to the aquatic environment - chronic hazard | 3 | Aquatic Chronic 3 | H412 |

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For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word

Danger

Pictograms

GHS02, GHS06



Hazard statements

| | |
|-----------|---|
| H225 | Highly flammable liquid and vapour |
| H302+H332 | Harmful if swallowed or if inhaled |
| H311 | Toxic in contact with skin |
| H412 | Harmful to aquatic life with long lasting effects |

Precautionary statements

Precautionary statements - prevention

| | |
|------|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking |
| P260 | Do not breathe mist/vapours |
| P280 | Wear protective gloves/eye protection |

Precautionary statements - response

| | |
|-----------|--|
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water |
| P308 | IF exposed or concerned: |
| P310 | Immediately call a POISON CENTER/doctor |

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Symbol(s)



| | |
|-----------|--|
| H311 | Toxic in contact with skin. |
| H412 | Harmful to aquatic life with long lasting effects. |
| P280 | Wear protective gloves/eye protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of soap and water. |

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.

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SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|-------------------|---|
| Name of substance | 1,1,1,3,3,3-Hexamethyldisilazane |
| Molecular formula | C ₆ H ₁₉ NSi ₂ |
| Molar mass | 161,4 g/mol |
| REACH Reg. No | 01-2119438176-38-xxxx |
| CAS No | 999-97-3 |
| EC No | 213-668-5 |

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

| Specific Conc. Limits | M-Factors | ATE | Exposure route |
|-----------------------|-----------|---------------------------------------|--------------------------------------|
| - | - | 851 mg/kg 547 mg/kg >10 mg/l/4h | oral dermal inhalation: vapour |

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

After contact with skin, wash immediately with plenty of water.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth with water (only if the person is conscious). Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Vomiting, Irritant effects, Cough, Nausea, Unconsciousness, Dyspnoea

4.3 Indication of any immediate medical attention and special treatment needed

none

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SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings
dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

foam, water

5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours may form explosive mixtures with air.

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

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. Avoidance of ignition sources.

6.2 Environmental precautions

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

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.

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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

Provision of sufficient ventilation. Handle and open container with care. Clear contaminated areas thoroughly.

Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge. Due to danger of explosion, prevent leakage

of vapours into cellars, flues and ditches.

Advice on general occupational hygiene

Thorough skin-cleansing after handling the product. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

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

Incompatible substances or mixtures

Observe hints for combined storage.

Protect against external exposure, such as

high temperatures, humidity

Consideration of other advice:

Store locked up. Ground/bond container and receiving equipment.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

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)

This information is not available.

Human health values

| Relevant DNELs and other threshold levels | | | | |
|---|-----------------------|------------------------------------|-------------------|----------------------------|
| Endpoint | Threshold level | Protection goal, route of exposure | Used in | Exposure time |
| DNEL | 53 mg/m ³ | human, inhalatory | worker (industry) | chronic - systemic effects |
| DNEL | 53 mg/m ³ | human, inhalatory | worker (industry) | acute - systemic effects |
| DNEL | 133 mg/m ³ | human, inhalatory | worker (industry) | chronic - local effects |
| DNEL | 133 mg/m ³ | human, inhalatory | worker (industry) | acute - local effects |
| DNEL | 7,5 mg/kg bw/day | human, dermal | worker (industry) | chronic - systemic effects |
| DNEL | 7,5 mg/kg bw/day | human, dermal | worker (industry) | acute - systemic effects |

Environmental values

| Relevant PNECs and other threshold levels | | | | |
|---|-----------------|-----------------------|---------------------------|------------------------------|
| End-point | Threshold level | Organism | Environmental compartment | Exposure time |
| PNEC | 2 mg/kg | aquatic organisms | freshwater sediment | short-term (single instance) |
| PNEC | 0,2 mg/kg | aquatic organisms | marine sediment | short-term (single instance) |
| PNEC | 0,25 mg/kg | terrestrial organisms | soil | short-term (single instance) |

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



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• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. 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

NBR (Nitrile rubber)

• material thickness

>0,3 mm

• breakthrough times of the glove material

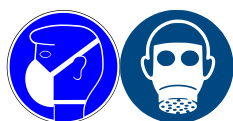
>480 minutes (permeation: level 6)

• other protection measures

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

Flame-retardant protective clothing.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C, 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 - light yellow |
| Odour | characteristic |
| Melting point/freezing point | -76,2 °C at 1.013 hPa (ECHA) |
| Boiling point or initial boiling point and boiling range | 125 °C at 1.013 hPa (ECHA) |
| Flammability | flammable liquid in accordance with GHS criteria |
| Lower and upper explosion limit | 0,8 vol% (LEL) - 31 vol% (UEL) |
| Flash point | 11,4 °C at 1.013 hPa (ECHA) |
| Auto-ignition temperature | 331 °C at 1.013 hPa (ECHA) |
| Decomposition temperature | not relevant |
| pH (value) | not determined |

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| | |
|---|---|
| Kinematic viscosity | 0,9 mm ² /s at 20 °C |
| Dynamic viscosity | 0,702 cP at 20 °C |
| <u>Solubility(ies)</u> | |
| Water solubility | (spontaneous decomposition) |
| <u>Partition coefficient</u> | |
| Partition coefficient n-octanol/water (log value): | 2,62 (TOXNET) |
| Vapour pressure | 19 hPa at 20 °C |
| <u>Density and/or relative density</u> | |
| Density | 0,78 g/cm ³ at 20 °C |
| Relative vapour density | information on this property is not available |
| Particle characteristics | not relevant (liquid) |
| <u>Other safety parameters</u> | |
| Oxidising properties | none |
| 9.2 Other information | |
| Information with regard to physical hazard classes: | There is no additional information. |
| Other safety characteristics: | |
| Temperature class (EU, acc. to ATEX) | T2 Maximum permissible surface temperature on the equipment: 300°C |

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. Risk of ignition. Vapours may form explosive mixtures with air.

If heated

Risk of ignition.

10.2 Chemical stability

Moisture-sensitive.

10.3 Possibility of hazardous reactions

Danger of explosion: Nitric acid, strong oxidiser,

Dangerous/dangerous reactions with: Reducing agents, Amines, Water, Alcohols, Metal hydride

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from moisture.

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10.5 Incompatible materials

different plastics

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5. Release of: Formaldehyde. Ammonia (NH₃).

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed. Toxic in contact with skin. Harmful if inhaled.

| Acute toxicity | | | | | |
|----------------|----------|-----------------|---------|--------|--------|
| Exposure route | Endpoint | Value | Species | Method | Source |
| oral | LD50 | 851 mg/kg | rat | | ECHA |
| dermal | LD50 | 547 - 589 mg/kg | rabbit | | ECHA |

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

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

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

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

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 slight to moderate irritation

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- **If inhaled**

cough, Dyspnoea

- **If on skin**

irritant effects, risk of absorption via the skin

- **Other information**

Other adverse effects: Dizziness, Unconsciousness

11.2 Endocrine disrupting properties

Not listed.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

| Aquatic toxicity (acute) | | | | |
|--------------------------|----------|--------------------------|--------|---------------|
| Endpoint | Value | Species | Source | Exposure time |
| EC50 | 186 mg/l | daphnia magna | ECHA | 48 h |
| LC50 | 88 mg/l | zebra fish (Danio rerio) | ECHA | 96 h |

Biodegradation

Not readily biodegradable.

12.2 Process of degradability

Theoretical Oxygen Demand with nitrification: 2,33 mg/mg

Theoretical Oxygen Demand: 1,983 mg/mg

Theoretical Carbon Dioxide: 1,636 mg/mg

| Process of degradability | | |
|--------------------------|------------------|------|
| Process | Degradation rate | Time |
| oxygen depletion | 15,3 % | 28 d |

12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

| | |
|---------------------------|---------------|
| n-octanol/water (log KOW) | 2,62 (TOXNET) |
|---------------------------|---------------|

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Not listed.

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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. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

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. Waste catalogue ordinance (Germany).

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.

SECTION 14: Transport information

14.1 UN number or ID number

| | |
|-----------|---------|
| ADR | UN 1992 |
| IMDG-Code | UN 1992 |
| ICAO-TI | UN 1992 |

14.2 UN proper shipping name

| | |
|----------------|----------------------------------|
| ADR | FLAMMABLE LIQUID, TOXIC, N.O.S. |
| IMDG-Code | FLAMMABLE LIQUID, TOXIC, N.O.S. |
| ICAO-TI | Flammable liquid, toxic, n.o.s. |
| Technical name | 1,1,1,3,3,3-Hexamethyldisilazane |

14.3 Transport hazard class(es)

| | |
|-----------|---------|
| ADR | 3 (6.1) |
| IMDG-Code | 3 (6.1) |
| ICAO-TI | 3 (6.1) |

14.4 Packing group

| | |
|-----------|----|
| ADR | II |
| IMDG-Code | II |
| ICAO-TI | II |

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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

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

| | |
|---------------------------------------|---|
| Proper shipping name | FLAMMABLE LIQUID, TOXIC, N.O.S. |
| Particulars in the transport document | UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S., (1,1,1,3,3,3-Hexamethyldisilazane), 3 (6.1), II, (D/E) |
| Classification code | FT1 |
| Danger label(s) | 3+6.1 |
| | |
| Special provisions (SP) | 274, 802(ADN) |
| Excepted quantities (EQ) | E2 |
| Limited quantities (LQ) | 1 L |
| Transport category (TC) | 2 |
| Tunnel restriction code (TRC) | D/E |
| Hazard identification No | 336 |

International Maritime Dangerous Goods Code (IMDG) - Additional information

| | |
|--|---|
| Proper shipping name | FLAMMABLE LIQUID, TOXIC, N.O.S. |
| Particulars in the shipper's declaration | UN1992, FLAMMABLE LIQUID, TOXIC, N.O.S., (1,1,1,3,3,3-Hexamethyldisilazane), 3 (6.1), II, 11,4°C c.c. |
| Marine pollutant | - |
| Danger label(s) | 3+6.1 |
| | |
| Special provisions (SP) | 274 |
| Excepted quantities (EQ) | E2 |
| Limited quantities (LQ) | 1 L |
| EmS | F-E, S-D |
| Stowage category | B |

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International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

| | |
|---|--|
| Proper shipping name | Flammable liquid, toxic, n.o.s. |
| Particulars in the shipper's declaration | UN1992, Flammable liquid, toxic, n.o.s., (1,1,1,3,3,3-Hexamethyldisilazane), 3 (6.1), II |
| Danger label(s) | 3+6.1 |
|   | |
| Special provisions (SP) | A3 |
| Excepted quantities (EQ) | E2 |
| Limited quantities (LQ) | 1 L |

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)

Restrictions according to REACH, Annex XVII

| Dangerous substances with restrictions (REACH, Annex XVII) | | | | |
|--|--|--------|-------------|----|
| Name of substance | Name acc. to inventory | CAS No | Restriction | No |
| 1,1,1,3,3,3-Hexamethyldisilazane | this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC | | R3 | 3 |
| 1,1,1,3,3,3-Hexamethyldisilazane | flammable / pyrophoric | | R40 | 40 |

Legend

- R3
- Shall not be used in:
 - ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
 - tricks and jokes,
 - games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
 - Articles not complying with paragraph 1 shall not be placed on the market.
 - Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
 - can be used as fuel in decorative oil lamps for supply to the general public, and
 - present an aspiration hazard and are labelled with H304.
 - Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
 - Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even sucking the wick of lamps – may lead to life-threatening lung damage";
 - grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter fluid may lead to life threatening lung damage";
 - lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;

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Legend

- R40
1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following:
 - metallic glitter intended mainly for decoration,
 - artificial snow and frost,
 - 'whoopie' cushions,
 - silly string aerosols,
 - imitation excrement,
 - horns for parties,
 - decorative flakes and foams,
 - artificial cobwebs,
 - stink bombs.
 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:
'For professional users only'.
 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).
 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

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

Not listed.

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 |
| P5c | flammable liquids (cat. 2, 3) | 5.000 50.000 | 51) |

Notation

51) Flammable liquids, categories 2 or 3 not covered by P5a and P5b

Deco-Paint Directive

| | |
|-------------|------------------|
| VOC content | 100 % 780 g/l |
|-------------|------------------|

Industrial Emissions Directive (IED)

| | |
|-------------|---------|
| VOC content | 100 % |
| VOC content | 780 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)

not listed

Water Framework Directive (WFD)

not listed

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed

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Regulation on substances that deplete the ozone layer (ODS)

not listed

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

not listed

Regulation on persistent organic pollutants (POP)

not listed

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.

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 |
| TW | TCSI | substance is listed |
| US | TSCA | substance is listed |

Legend

| | |
|------------|---|
| AIIC | Australian Inventory of Industrial Chemicals |
| 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 |
| 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.

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SECTION 16: Other information

Indication of changes (revised safety data sheet)

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

Restructuring: section 9, section 14

| Section | Former entry (text/value) | Actual entry (text/value) | Safety-relevant |
|---------|---------------------------|--|-----------------|
| 2.1 | | Classification according to Regulation (EC) No 1272/2008 (CLP): change in the listing (table) | yes |
| 2.2 | | Hazard statements: 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 |

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|-----------|---|
| ADN | Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways) |
| 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) |
| CLP | Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| 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) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| 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 |

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| Abbr. | Descriptions of used abbreviations |
|-------|---|
| 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 |
| LEL | Lower explosion limit (LEL) |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No-Effect Concentration |
| 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) |
| SVHC | Substance of Very High Concern |
| UEL | Upper explosion limit (UEL) |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative |

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). 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 |
|------|--|
| H225 | Highly flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H332 | Harmful if inhaled. |
| H412 | Harmful to aquatic life with long lasting effects. |

Disclaimer

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