

OXFORD LAB FINE CHEM LLP

ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

1,1,1,3,3,3-HEXAMETHYL DISILAZANE 98% (For Synthesis) (HMDS)

MSDS CAS: 999-97-3

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: Hexamethyldisilazane

CAS#: 999-97-3

Synonym:

Chemical Name: Not available.

Chemical Formula:

Molecular Weight:

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet:

Company identification: OXFORD LAB FINE CHEM LLP
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Hexamethyldisilazane	999-97-3	100

Toxicological Data on Ingredients: Not available.

Section 3: Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 3), H311

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

Other hazards

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

Section 4: First Aid Measures

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Section 4: First Aid Measures (continued)

Indication of any immediate medical attention and special treatment needed

No data available

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire and Explosion Data

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NO_x), silicon oxides

Flash back possible over considerable distance., Container explosion may occur under fire conditions.

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Handle under nitrogen, protect from moisture. Store under nitrogen. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Hydrolyses readily.

Storage class (TRGS 510): Flammable liquids

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

Control parameters

Components with workplace control parameters

Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 480 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 30 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,

test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Section 8: Exposure Controls/Personal Protection (continued)

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

- a) **Appearance Form:** liquid, clear
Colour: colourless
- b) **Odour** No data available
- c) **Odour Threshold** No data available
- d) **pH** > 7,0
- e) **Melting point/freezing point**
Melting point/range: -76,19 °C at 1.013 hPa
- f) **Initial boiling point and boiling range** 125 °C
- g) **Flash point** 11,4 °C - closed cup
- h) **Evaporation rate** No data available
- i) **Flammability (solid, gas)** No data availabl

Section 9: Physical and Chemical Properties (continued)

- j) Upper/lower flammability or explosive limits
Upper explosion limit: 16,3 %(V)
Lower explosion limit: 0,8 %(V)
- k) Vapour pressure 19 hPa at 20 °C
- l) Vapour density No data available
- m) Relative density 0,774 g/mL at 25 °C
- n) Water solubility insoluble
- o) Partition coefficient: noctanol/ water log Pow: 2,62
- p) Auto-ignition temperature 380,0 °C
- q) Decomposition temperature : No data available
- r) Viscosity 0,9 mm²/s at 20 °C -
- s) Explosive properties No data available
- t) Oxidizing properties No data available

Other safety information

No data available

Section 10: Stability and Reactivity Data

Reactivity

No data available

Chemical stability

Hydrolyses readily.

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Ammonia is formed upon contact with water or humid air.

Heat, flames and sparks.

Section 10: Stability and Reactivity Data (continued)

Incompatible materials

Strong oxidizing agents, Strong acids

Hazardous decomposition products

Other decomposition products - No data available

In the event of fire: see section 5

Section 11: Toxicological Information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 851 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 6 h - 10 mg/l

(OECD Test Guideline 403)

LD50 Dermal - Rabbit - male and female - 547 - 589 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Ames test

S. typhimurium

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Reproductive toxicity - Rat - male and female - inhalation (vapour)

No adverse effect has been observed in chronic toxicity tests.

Section 11: Toxicological Information (continued)

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Additional Information

Repeated dose toxicity

Rat - male and female - inhalation (vapour) - NOAEL : 2.640 mg/m³ - OECD Test Guideline 413

RTECS: JM9230000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

Toxicity

**Toxicity to fish semi-static test LC₅₀ - Danio rerio (zebra fish) - 88 mg/l - 96 h
(Directive 67/548/EEC, Annex V, C.1.)**

Toxicity to daphnia and

other aquatic invertebrates

static test EC₅₀ - Daphnia magna (Water flea) - 80 mg/l - 48 h

(Directive 67/548/EEC, Annex V, C.2.)

Toxicity to algae EC₅₀ - Desmodesmus subspicatus (green algae) - 19,00 mg/l - 72 h

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 15,3 % - Not readily biodegradable.

(Directive 67/548/EEC Annex V, C.4.E.)

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Section 12: Ecological Information (continued)

Bio accumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

Harmful to aquatic life with long lasting effects

Section 13: Disposal Considerations

Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

UN number

ADR/RID: 1992 IMDG: 1992 IATA: 1992

UN proper shipping name

ADR/RID: FLAMMABLE LIQUID, TOXIC, N.O.S. (1,1,1,3,3,3-Hexamethyldisilazane)

IMDG: FLAMMABLE LIQUID, TOXIC, N.O.S. (1,1,1,3,3,3-Hexamethyldisilazane)

IATA: Flammable liquid, toxic, n.o.s. (1,1,1,3,3,3-Hexamethyldisilazane)

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Section 14: Transport Information (continued)

Transport hazard class(es)

ADR/RID: 3 (6.1) IMDG: 3 (6.1) IATA: 3 (6.1)

Packaging group

ADR/RID: II IMDG: II IATA: II

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user

No data available

Section 15: Other Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

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