



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 12.12.2021

Version number 10.2 (replaces version 10.1)

Revision: 12.12.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking**· 1.1 Product identifier****· Trade name:** HMDS**· Article number:** HMDS**· CAS Number:**

999-97-3

· EC number:

213-668-5

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

No further relevant information available.

· Application of the substance / the mixture

Intermediate product for the electronics industry. For industrial and commercial use only.

· 1.3 Details of the supplier of the safety data sheet**· Manufacturer/Supplier:**

Allresist GmbH

Am Biotop 14

15344 Strausberg

GERMANY

E-Mail: info@allresist.de

Tel.: +49 3341 35 93 0

· Further information obtainable from: Sales**· 1.4 Emergency telephone number:**

Poison center of the Charité Berlin:

+4930 30686700

E-Mail: giftnotruf@charite.de**SECTION 2: Hazards identification****· 2.1 Classification of the substance or mixture****· Classification according to Regulation (EC) No 1272/2008**

flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.



corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

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Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· 2.2 Label elements

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

The substance is classified and labelled according to the CLP regulation.

· Hazard pictograms



GHS02



GHS05



GHS06

· Signal word Danger

· Hazard-determining components of labelling:

1,1,1,3,3,3-hexamethyldisilazane

· Hazard statements

H225 Highly flammable liquid and vapour.

H302+H332 Harmful if swallowed or if inhaled.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P260 Do not breathe dusts or mists.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P310 Immediately call a POISON CENTER/doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

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.

P321 Specific treatment (see on this label).

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

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Trade name: HMDS· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
999-97-3 1,1,1,3,3,3-hexamethyldisilazane
- **Identification number(s)**
- **EC number:** 213-668-5

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Call for a doctor immediately.
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

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- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Recommended storage temperature:** 10-22°C
- **Storage class (TRGS):** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.

· DNELs

999-97-3 1,1,1,3,3,3-hexamethyldisilazane

Oral	DNEL Long-term - oral, systemic effects	1.1 mg/kg_bw/day (general public)
	DNEL Acute - oral, systemic effects	1.1 mg/kg bw/day (general public)
Dermal	DNEL Long-term – dermal, systemic effects	7.5 mg/kg_bw/day (Worker)
	DNEL Acute - dermal systemic effects	7.5 mg/kg bw/day (Worker)
Inhalative	DNEL long-term - inhalation local effects	133 mg/m ³ (Worker)
		1.7 mg/m ³ (general public)
	DNEL Long-term – inhalation, systemic effects	53 mg/m ³ /day (Worker)
		3.7 mg/m ³ /day (general public)
	DNEL Acute - inhalation, local effects	133 mg/m ³ (Worker)
	1.7 mg/m ³ (general public)	
	DNEL Acute inhalation systemic effects	53 mg/m ³ (Worker)
		3.7 mg/m ³ (general public)

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- **PNECs**

- 999-97-3 1,1,1,3,3,3-hexamethyldisilazane**

PNEC short term fresh water sediment	2 mg/kg (Aquatic organisms)
PNEC short term soil	0.25 mg/kg (terrestrial organisms)
PNEC short term sea water sediment	0.2 mg/kg (Aquatic organisms)

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see item 7.

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.

- Immediately remove all soiled and contaminated clothing

- Wash hands before breaks and at the end of work.

- Store protective clothing separately.

- Avoid contact with the eyes and skin.

- **Respiratory protection:**

- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye/face protection**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Physical state**

Fluid

- **Colour:**

Colourless

- **Odour:**

Amine-like

- **Odour threshold:**

Not determined.

- **Melting point/freezing point:**

-82 °C

- **Boiling point or initial boiling point and boiling range**

126 °C

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· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	1.5 Vol %
· Upper:	10.8 Vol %
· Flash point:	6 °C
· Auto-ignition temperature:	Not determined.
· Decomposition temperature:	Not determined.
· pH	Mixture reacts violently with water.
· Viscosity:	
· Kinematic viscosity at 20 °C	1.23 mm ² /s
· Dynamic:	Not determined.
· Solubility	
· water:	Not miscible or difficult to mix.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure:	Not determined.
· Density and/or relative density	
· Density at 20 °C:	0.77 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

· 9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Solvent content:	
· VOC (EC)	0.00 %
· Change in condition	
· Evaporation rate	Not determined.

· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Highly flammable liquid and vapour.
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

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

· Acute toxicity

Harmful if swallowed or if inhaled.

Toxic in contact with skin.

· LD/LC50 values relevant for classification:

Oral	Acute Toxicity Estimate of ingredient (ATE) oral	>5,000 mg/kg (Worker)
Dermal	Schätzwerte akuter Toxizität	>2,000 mg/kg (Worker)
Inhalative	Acute toxicity Estimate inhalative (4h)	>20 mg/l (Worker)

999-97-3 1,1,1,3,3,3-hexamethyldisilazane

Oral	LD50	847 mg/kg (rat)
Dermal	LD50	547 mg/kg (rabbit)

- **Skin corrosion/irritation** Causes severe skin burns and eye damage.

· 11.2 Information on other hazards

· Endocrine disrupting properties

Substance is not listed.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

999-97-3 1,1,1,3,3,3-hexamethyldisilazane

Inhalative	LC50 (4h)	1.516 mg/l (rat)
	LC50 (96h) mg/ltr.	56 mg/ltr (Fish)
	LC50 (48h) mg/ltr	80 mg/ltr (daphnia)
	EC50 (72h)	72 mg/l (algae)
	NOEC	2.7 mg/ml (algae)

· 12.2 Persistence and degradability

999-97-3	1,1,1,3,3,3-hexamethyldisilazane	15,3 %
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- **12.3 Bioaccumulative potential** No further relevant information available.

- **12.4 Mobility in soil** No further relevant information available.

· 12.5 Results of PBT and vPvB assessment

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

· 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

- **12.7 Other adverse effects** No further relevant information available.

- **Remark:** Harmful to fish

· Additional ecological information:

· General notes:

Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water

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Do not allow product to reach ground water, water course or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN number or ID number**
· **ADR, IMDG, IATA** UN3286
- **14.2 UN proper shipping name**
· **ADR** 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (1,1,1,3,3,3-hexamethyldisilazane)
· **IMDG, IATA** FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (1,1,1,3,3,3-hexamethyldisilazane)
- **14.3 Transport hazard class(es)**
- **ADR**

- **Class** 3 Flammable liquids.
· **Label** 3+6.1+8
- **IMDG**

- **Class** 3 Flammable liquids.
· **Label** 3/6.1/8
- **IATA**

- **Class** 3 Flammable liquids.
· **Label** 3 (6.1, 8)
- **14.4 Packing group**
· **ADR, IMDG, IATA** II
- **14.5 Environmental hazards:** Not applicable.

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<ul style="list-style-type: none"> · 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Stowage Code · Segregation Code 	<p>Warning: Flammable liquids. 368 F-E,S-C E SW2 Clear of living quarters. SG5 Segregation as for class 3 SG8 Stow "away from" class 4.1</p>
<ul style="list-style-type: none"> · 14.7 Maritime transport in bulk according to IMO instruments 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code 	
<p>IL Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 D/E</p>	
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	
<p>IL Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>	
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 3286 FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S. (1,1,1,3,3,3-HEXAMETHYLDISILAZANE), 3 (6.1+8), II</p>

SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture: (Substances not listed)**

Substance is not listed.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **National regulations:**
- **VOC (EU)** 0.0 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

- **Disclaimer**
This safety data sheet contains only safety relevant information. The information is based on the state of our knowledge at the time of revision, however, it does not constitute a guarantee of product properties, product information or product specifications and does not establish a contractual legal relationship. This document is only valid in its unchanged form. In the event of changes by third parties, the exhibitor accepts no responsibility for form and content or for any damages or claims arising from such changes. The information is not transferable to other products. If the product named in this safety data sheet is mixed, blended or processed with other materials or is subjected to processing, the information in this safety data sheet cannot

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be transferred to the new material produced in this way, unless expressly stated otherwise. The data sheet does not release the user from the obligation to ensure that he acts in accordance with all regulations in connection with his activity.

· **Department issuing SDS:** Quality Management department

· **Contact:** MSDS authorized Person

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· *** Data compared to the previous version altered.**