



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH) and Regulation (EU) No. 2015/830

Revision date: 17/1/2018  
Version: 8  
Language: en-GB,IE  
Date of print: 24/8/2018

## Adhesions promoter HMDS, MOS

Material number HMDS MOS

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

#### 1.1 Product identifier

Trade name: Adhesions promoter HMDS, MOS

CAS-Number: 999-97-3

EC-number: 213-668-5

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

General use: Intermediate for electronic industry

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

Company name: Allresist  
Gesellschaft für chemische Produkte zur Mikrostrukturierung mbH

Street/POB-No.: Am Biotop 14  
Postal Code, city: 15344 Strausberg  
Germany

WWW: [www.allresist.de](http://www.allresist.de)

E-mail: [info@allresist.de](mailto:info@allresist.de)

Telephone: +49 (0)33 41-35 93-0

Telefax: +49 (0)33 41-35 93-29

Dept. responsible for information:  
Frau Feldt, Email: [doerte.feldt@allresist.de](mailto:doerte.feldt@allresist.de)

#### 1.4 Emergency telephone number

Telephone: +49 (0)33 41-35 93-0  
Only available during office hours.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to EC regulation 1272/2008 (CLP)

Flam. Liq. 2; H225	Highly flammable liquid and vapour.
Acute Tox. 3; H311	Toxic in contact with skin.
Acute Tox. 4; H302	Harmful if swallowed.
Acute Tox. 4; H332	Harmful if inhaled.
Skin Corr. 1B; H314	Causes severe skin burns and eye damage.
Aquatic Chronic 3; H412	Harmful to aquatic life with long lasting effects.

#### 2.2 Label elements

##### Labelling (CLP)



Signal word: **Danger**

Hazard statements:	H225	Highly flammable liquid and vapour.
	H302	Harmful if swallowed.
	H311	Toxic in contact with skin.
	H314	Causes severe skin burns and eye damage.
	H332	Harmful if inhaled.
	H412	Harmful to aquatic life with long lasting effects.



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Precautionary statements: P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P370+P378	In case of fire: Use dry powder, foam or carbon dioxide for extinction.

### Special labelling

Text for labelling: Contains 1,1,1,3,3,3-Hexamethyldisilazane.

### 2.3 Other hazards

Potentially explosive mixtures may form if adequate ventilation is not provided.  
Inhaling can lead to irritations of the respiratory tract and mucous membrane.  
Higher doses may lead to a narcotic effect.  
Special danger of slipping by leaking/spilling product.

Results of PBT and vPvB assessment:

No data available

## SECTION 3: Composition / information on ingredients

### 3.1 Substances

Chemical characterisation:  $C_6H_{19}N_1Si_2 = (CH_3)_3SiNHSi(CH_3)_3$ ,  
1,1,1,3,3,3-Hexamethyldisilazane

CAS-Number: 999-97-3

EC-number: 213-668-5

RTECS-Number: JM9230000

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General information:	If medical advice is needed, have product container or label at hand. First aider: Pay attention to self-protection! Take off immediately all contaminated clothing and wash it before reuse.
In case of inhalation:	Provide fresh air. If breathing becomes irregular or ceases, apply rescue breathing or artificial respiration immediately, where required supply oxygen. Immediately get medical attention.
Following skin contact:	Immediately clean with water and soap followed by thorough rinsing. In case of skin reactions, consult a physician. Clean with plenty of water. If possible, also wash with polyethylene glycol 400. Immediately remove any contaminated clothing, shoes or stockings. Seek medical attention.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently seek the immediate attention of an ophthalmologist.



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After swallowing: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

### 4.2 Most important symptoms and effects, both acute and delayed

Harmful if inhaled. Harmful if swallowed. Toxic in contact with skin.  
Causes severe skin burns and eye damage.  
Higher doses may lead to a narcotic effect.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media:

extinguishing powder, carbon dioxide

Extinguishing media which must not be used for safety reasons:

Full water jet

### 5.2 Special hazards arising from the substance or mixture

Highly flammable liquid and vapour.  
With air, vapours form potentially explosive mixtures, which are heavier than air.  
Vapours may proceed on the ground over great distances and cause fire and backflashes.  
In case of fire may be liberated: nitrogen oxides (NO<sub>x</sub>), ammonia, carbon monoxide and carbon dioxide.

### 5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Hazchem-Code: •3WE

Heating will lead to pressure increase: Danger of bursting and explosion. Keep containers cool with water spray.

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Do not allow fire water to penetrate into surface or ground water.

Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with the substance. Do not breathe vapours.  
If possible, eliminate leakage. Provide adequate ventilation.  
Wear appropriate protective equipment. Keep unprotected people away.  
Cordon off downwind area at risk and warn inhabitants.

### 6.2 Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains. Danger of explosion!



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### 6.3 Methods and material for containment and cleaning up

Isolate leaked material using non-flammable absorption agent (e.g. sand, earth, vermiculit, diatomaceous earth) and collect it for disposal in appropriate containers in accordance with the local regulations (see section 13).

Beware of reignition. Thoroughly clean surrounding area.

In case of greater quantities: Collect mechanically (use only explosion-proof equipment when pumping out).

Additional information: Special danger of slipping by leaking/spilling product.

### 6.4 Reference to other sections

Refer additionally to section 8 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Do not get in eyes, on skin, or on clothing. Do not breathe vapours.

Avoid generation of vapours/aerosols. Wear appropriate protective equipment.

Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

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

Guarantee sufficient ventilation during and after use, in order to prevent vapour accumulation.

When handling large quantities, supply emergency spray.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking.

Take precautionary measures against static discharge.

Use only explosion-protected equipment/instruments. Do not weld.

In partially filled containers explosive mixtures may form.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

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

Keep container dry. Keep only in the original container.

Protect from heat and direct sunlight.

Store containers in upright position.

storage temperature: 10 °C up to 22 °C.

Only trained personnel may be allowed to enter storage area.

Hints on joint storage:

Do not store together with: oxidizing agents, strong acids, strong alkalis.

Keep away from food, drink and animal feedingstuffs.

### 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Additional information: Contains no substances with occupational exposure limit values.



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DNEL/DMEL: Systemic effects:  
DNEL workers, long-term, inhalative: 4,5 mg/m<sup>3</sup>  
DNEL workers, short-term, inhalative: 4,5 mg/m<sup>3</sup>  
DNEL workers, long-term, dermal: 0,64 mg/kg bw/d  
DNEL workers, short-term, dermal: 0,64 mg/kg bw/d  
DNEL consumers, short-term, oral: 0,31 mg/kg bw/d  
Local effects:  
DNEL workers, long-term, inhalative: 133 mg/m<sup>3</sup>  
DNEL workers, short-term, inhalative: 133 mg/m<sup>3</sup>

### 8.2 Exposure controls

Provide for good ventilation or exhaust system or work with completely self-contained equipment. Withdraw by suction. Explosion protection required.

### Personal protection equipment

#### Occupational exposure controls

Respiratory protection: Use a breathing protection against vapours/aerosol.  
Use filter type A (= against vapours of organic substances) according to EN 14387.  
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection: Protective gloves according to EN 374.  
Glove material: Fluororubber (Viton) - Layer thickness: 0.7 mm.  
Breakthrough time: >480 min.  
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection: Tightly sealed goggles according to EN 166.

Body protection: Wear suitable protective clothing.  
In case of handling larger quantities: Flame-resistant antistatic protective clothing.

General protection and hygiene measures:  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Avoid breathing vapours. Do not get in eyes, on skin, or on clothing.  
Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.  
When using do not eat or drink. Wash hands thoroughly after handling.  
When handling large quantities, supply emergency spray.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance: Physical state at 20 °C and 101.3 kPa: liquid  
Colour: colourless

Odour: amine-like  
Odour threshold: No data available

pH value: No data available

Melting point/freezing point: -80 °C  
Initial boiling point and boiling range: 126 °C (1013 hPa)  
Flash point/flash point range: 11 °C (DIN 51755)  
Evaporation rate: No data available

Flammability: Highly flammable liquid and vapour.  
Explosion limits: LEL (Lower Explosion Limit): 0.80 Vol-%  
UEL (Upper Explosive Limit): 25.90 Vol-%



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Vapour pressure:	at 50 °C: 100 hPa
Vapour density:	No data available
Density:	at 20 °C: approx. 0.77 g/mL
Water solubility:	at 20 °C: Reacts violently with water.
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	No data available
Explosive properties:	Vapours can form explosive mixtures with air.
Oxidizing characteristics:	No data available

### 9.2 Other information

Ignition temperature:	380 °C
Molecular weight	161.4 g/mol

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Highly flammable liquid and vapour. Vapours can form explosive mixtures with air.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Heating will lead to pressure increase: Danger of bursting and explosion.  
Reacts violently with water liberating ammonia.

### 10.4 Conditions to avoid

Keep away from heat sources, sparks and open flames.  
Protect from humidity and water. Protect against direct sunlight.

### 10.5 Incompatible materials

Water, oxidizing agents, strong acids, strong alkalis.

### 10.6 Hazardous decomposition products

Ammonia.  
Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition products: Nitrogen oxides (NO<sub>x</sub>), carbon monoxide and carbon dioxide.

Thermal decomposition: No data available

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity:	LD50 Rat, oral: 847 mg/kg
	LD50 Rabbit, dermal: 547 mg/kg
	LC50 Rat, inhalative: 1516 ppm /6h



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Toxicological effects: Acute toxicity (oral): Acute Tox. 4; H302 = Harmful if swallowed.  
Acute toxicity (dermal): Acute Tox. 3; H311 = Toxic in contact with skin.  
Acute toxicity (inhalative): Acute Tox. 4; H332 = Harmful if inhaled.  
Skin corrosion/irritation: Skin Corr. 1B; H314 = Causes severe skin burns and eye damage.  
Specific symptoms in animal studies (Rabbit): Causes severe burns.  
Serious eye damage/irritation: Lack of data.  
Sensitisation to the respiratory tract: Lack of data.  
Skin sensitisation: Lack of data.  
Germ cell mutagenicity/Genotoxicity: Lack of data.  
Carcinogenicity: Lack of data.  
Reproductive toxicity: Based on available data, the classification criteria are not met.  
Effects on or via lactation: Lack of data.  
Specific target organ toxicity (single exposure): Lack of data.  
Specific target organ toxicity (repeated exposure): Lack of data.  
Aspiration hazard: Lack of data.

### Symptoms

After eye contact: Upon direct contact with eyes may cause burning, tearing, redness.

## SECTION 12: Ecological information

### 12.1 Toxicity

Aquatic toxicity: Harmful to aquatic life with long lasting effects.

Algae toxicity:  
EC50: 50 mg/L/72h (OECD 201)  
Daphnia toxicity:  
LC50: 80 mg/L/48h (OECD 201)  
Fish toxicity:  
LC50: 56 mg/L/96h (OECD 203)

### 12.2 Persistence and degradability

Further details: Biodegradability: 15.3 %/28 d. Not easily bio-degradable (OECD 301 D).

### 12.3 Bioaccumulative potential

Bioconcentration factor (BCF):  
no data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

No data available

### 12.6 Other adverse effects

General information: Do not allow to enter into ground-water, surface water or drains.



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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

##### Product

Waste key number: 07 01 04\* = Organic solvents, halogen-free  
\* = Evidence for disposal must be provided.

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

##### Contaminated packaging

Recommendation: Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Handle empty containers with care. Incineration may cause explosion.  
Non-contaminated packages may be recycled.

### SECTION 14: Transport information

#### 14.1 UN number

ADR/RID, IMDG, IATA-DGR:  
UN 3286

#### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:  
UN 3286, FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.  
(1,1,1,3,3,3-Hexamethyldisilazane)

#### 14.3 Transport hazard class(es)

ADR/RID: Class 3, Code: FTC  
IMDG: Class 3, Subrisk 6.1/8  
IATA-DGR: Class 3, Subrisk 6.1 8



#### 14.4 Packing group

ADR/RID, IMDG, IATA-DGR:  
II



#### 14.5 Environmental hazards

Marine pollutant: no

#### 14.6 Special precautions for user

##### Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 368, UN number UN 3286  
Hazard label: 3+6.1+8  
Special provisions: 274  
Limited quantities: 1 L  
EQ: E2  
Contaminated packaging - Instructions: P001 IBC02  
Special provisions for packing together: MP19  
Portable tanks - Instructions: T11  
Portable tanks - Special provisions: TP2 TP27  
Tank coding: L4BH  
Tunnel restriction code: D/E







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### Sea transport (IMDG)

EmS:	F-E, S-C
Special provisions:	274
Limited quantities:	1 L
Excepted quantities:	E2
Contaminated packaging - Instructions:	P001
Contaminated packaging - Provisions:	-
IBC - Instructions:	IBC99
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	T11
Tank instructions - Provisions:	TP2, TP13, TP27
Stowage and handling:	Category B. SW2
Segregation:	SG5 SG8
Properties and observations:	Flammable, toxic, corrosive liquid. Toxic if swallowed, by skin contact or by inhalation. Causes burns to skin, eyes and mucous membranes.
Segregation group:	none

### Air transport (IATA)

Hazard label:	Flamm. liquid & Toxic & Corrosive
Excepted Quantity Code:	E2
Passenger and Cargo Aircraft: Ltd.Qty.:	Pack.Instr. Y340 - Max. Net Qty/Pkg. 0.5 L
Passenger and Cargo Aircraft:	Pack.Instr. 352 - Max. Net Qty/Pkg. 1 L
Cargo Aircraft only:	Pack.Instr. 363 - Max. Net Qty/Pkg. 5 L
Emergency Response Guide-Code (ERG):	3CP

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No data available

## SECTION 15: Regulatory information

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

#### National regulations - Great Britain

Hazchem-Code: •3WE  
No data available

#### National regulations - EC member states

Volatile organic compounds (VOC):  
100 % by weight



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### Labelling of packaging with <= 125mL content



Signal word:

**Danger**

Hazard statements:

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:

P260

Do not breathe vapours.

P280

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

P301+P330+P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310

Immediately call a POISON CENTER/doctor.

### 15.2 Chemical Safety Assessment

No data available

## SECTION 16: Other information

### Further information

Reason of change: Changes in section 2: Labelling (P-phrases: EU, ATP 8)

Date of first version: 25/8/2010

### Department issuing data sheet

Contact person: see section 1: Dept. responsible for information

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.

