

# SAFETY DATA SHEET

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



## Adhesions promoter HMDS

Revision date: 21/4/2016  
Version: 6

Language: en-GB,IE

Date of print: 21/4/2016  
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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

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. 3; H331	Toxic if inhaled.
Acute Tox. 4; H302	Harmful if swallowed.
Skin Corr. 1B; H314	Causes severe skin burns and eye damage.
STOT RE 2; H373	May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 3; H412	Harmful to aquatic life with long lasting effects

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### 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.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
P310	Immediately call a POISON CENTER/doctor.
P370+P378	In case of fire: Use dry powder, foam or carbon dioxide for extinction.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to hazardous or special waste collection point.

#### Special labelling

Text for labelling:

Contains 1,1,1,3,3,3-Hexamethyldisilazane.

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### 2.3 Other hazards

Vapours can form explosive mixtures with air.

## SECTION 3: Composition / information on ingredients

### 3.1 Substances

Chemical characterisation:

$C_6 H_{19} N Si_2 = (CH_3)_3SiNHSi(CH_3)_3$ ,  
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: First aider: Pay attention to self-protection!  
Immediately remove any contaminated clothing, shoes or stockings.

In case of inhalation: Provide fresh air. If breathing becomes irregular or ceases, apply mouth-to-mouth resuscitation or artificial respiration immediately, where required supply oxygen.  
Immediately get medical attention.

Following skin contact: 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. Subsequently consult an ophthalmologist.

After swallowing: Rinse mouth. Drink one or two glasses of water.  
Do not induce vomiting. Risk of perforation! If you feel unwell, seek medical advice.

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

Systemic effects: After resorption: unconsciousness, tremors.  
In case of inhalation: Mucous membrane irritation, cough, shortage of breath.  
Long-term inhaling of separation products may cause pulmonary oedema.  
In case of ingestion:  
Nausea, vomiting, Burns in the mouth, pharynx, oesophagus, and gastrointestinal tract.  
Risk of perforation in the oesophagus and stomach.  
After contact with skin: Burns, pain  
After eye contact: Burns, Danger of loss of sight!

### 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

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Extinguishing media which must not be used for safety reasons:

water, foam

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

Highly flammable. The vapours of the product are heavier than air. Explosive mixtures with air may even form at room temperature. Beware of reignition.

In case of fire may be liberated: nitrogen oxides (NO<sub>x</sub>), carbon monoxide and carbon dioxide.

With exposure to Wasser, product will release Ammoniak.

### 5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus. Wear suitable protective clothing.

Additional information: Hazchem-Code: •3WE

Move container away or cool with water from a protected position. Do not allow fire water to penetrate into surface or ground water.

## SECTION 6: Accidental release measures

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

Avoid contact with the substance. Do not breathe vapour/aerosol.

Ensure adequate ventilation, especially in confined areas.

### 6.2 Environmental precautions

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

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

Soak up with absorbent materials such as sand, siliceus earth, acid- or universal binder.

Store in special closed containers and dispose of according to ordinance. Final cleaning.

### 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: Avoid contact with skin. Do not breathe vapours.

Avoid generation of vapours/aerosols. Execute works under fume hood.

The material is to be handled with extreme caution.

Precautions against fire and explosion:

Keep away from sources of ignition and heat. Take precautionary measures against static discharges.

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

Requirements for storerooms and containers:

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

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

Only trained personnel may be allowed to enter storage area.

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs.

Storage class:

3 = Flammable liquids

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### 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.

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

When aerosols and vapours form: Withdraw by suction.

### 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.

Hand protection:

Protective gloves according to EN 374.

Glove material: Nitrile rubber - Layer thickness: 0,40 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:

Immediately remove any contaminated clothing, shoes or stockings.

Wash hands before breaks and after work.

When using do not eat, drink or smoke.

Have eye wash bottle or eye rinse ready at work place.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance:

Form: liquid

Colour: colourless

Odour:

characteristic

Odour threshold:

no data available

pH value:

no data available

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Melting point/freezing point:	-82 °C
Initial boiling point and boiling range:	126 °C (1013 hPa)
Flash point/flash point range:	15 °C (c.c.)
Evaporation rate:	no data available
Flammability:	no data available
Explosion limits:	LEL (Lower Explosion Limit): 0.80 Vol-% UEL (Upper Explosive Limit): 25.90 Vol-%
Vapour pressure:	at 20 °C: 20 hPa
Vapour density:	no data available
Density:	at 20 °C: 0.78 g/mL
Water solubility:	at 20 °C: Decomposition
Partition coefficient: n-octanol/water:	2.62 log P(o/w) Appreciable bio-accumulation is not to be expected (log P(o/w) 1-3).
Auto-ignition temperature:	no data available
Thermal decomposition:	no data available
Viscosity, dynamic:	no data available
Viscosity, kinematic:	at 25 °C: 0.9 mm <sup>2</sup> /s
Explosive properties:	no data available
Oxidizing characteristics:	no data available

### 9.2 Other information

Ignition temperature:	325 °C
Additional information:	Molar mass: 161,4 g/mol

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Highly flammable. Vapours can form explosive mixtures with air.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Exothermic reactions with water: Release of: ammonia.

### 10.4 Conditions to avoid

Keep away from heat sources, sparks and open flames.

### 10.5 Incompatible materials

Acids, strong oxidizing agents, strong alkalis, methanol (Danger of explosion/ignition hazard).

### 10.6 Hazardous decomposition products

In case of fire may be liberated: nitrogen oxides (NO<sub>x</sub>), carbon monoxide and carbon dioxide.

Thermal decomposition: no data available

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Acute toxicity:

LD50 Rat, oral: 847 mg/kg (IUCLID)

LD50 Rabbit, dermal: 550 mg/kg (RTECS)

LC50 Rat, inhalative: 8.7 mg/L/4h (RTECS)

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. 3; H331 = Toxic if inhaled.

Skin corrosion/irritation, eye damage/irritation: Skin Corr. 1B; H314 = Causes severe skin burns and eye damage.

Specific symptoms in animal studies (Rabbit): Causes severe burns.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

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): STOT RE 2; H373 = May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Inconclusive data.

#### Symptoms

Systemic effects: After resorption: unconsciousness, tremors.

In case of inhalation: Mucous membrane irritation, cough, shortage of breath.

Long-term inhaling of separation products may cause pulmonary oedema.

In case of ingestion:

Nausea, vomiting, Burns in the mouth, pharynx, oesophagus, and gastrointestinal tract.

Risk of perforation in the oesophagus and stomach.

After contact with skin: Burns, pain

After eye contact: Burns, Danger of loss of sight!

#### General remarks

Further hazardous properties cannot be excluded.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Aquatic toxicity:

Bacterial toxicity:

EC50 bacteria: 1700 mg/L

Daphnia toxicity:

EC50 Daphnia magna: 186 mg/L/48h

Fish toxicity:

LC50 Phoxinus phoxinus (fathead minnow): 167 mg/L/96h  
source: IUCLID

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### 12.2. Persistence and degradability

Further details: no data available

### 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.

## 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. Non-contaminated packages may be recycled.

## SECTION 14: Transport information

### 14.1 UN number

ADR/RID, IMDG, IATA: UN 3286

### 14.2 UN proper shipping name

ADR/RID, IMDG, IATA: 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: Class 3, Subrisk 6.1, 8



### 14.4 Packing group

ADR/RID, IMDG, IATA: II

### 14.5 Environmental hazards

Marine pollutant: No



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### 14.6 Special precautions for user

#### Land transport (ADR/RID)

Warning board: ADR/RID: Kemmler-number 368, UN number 3286  
Hazard label: 3+6.1+8  
Special provisions: 274  
Limited quantities: 1L  
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

#### Sea transport (IMDG)

EmS: F-E, S-C  
Special provisions: 274  
Limited quantities: 1L  
EQ: 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.

#### Air transport (IATA)

Hazard: Flammable liquid & Toxic & Corrosive  
EQ: E2  
Passenger Ltd.Qty.: Pack.Instr. Y340 - Max. Net Qty/Pkg. 0.5 L  
Passenger: Pack.Instr. 352 - Max. Net Qty/Pkg. 1 L  
Cargo: Pack.Instr. 363 - Max. Net Qty/Pkg. 5 L  
ERG: 3CP

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 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

#### 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:

H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H314 Causes severe skin burns and eye damage.  
H331 Toxic if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.  
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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.  
P310 Immediately call a POISON CENTER/doctor.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

### 15.2 Chemical Safety Assessment

no data available

## SECTION 16: Other information

### Further information

Reason of change: General revision (Regulation (EU) Nr. 2015/830)

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.