

## Material Safety Data Sheet

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Version 1.5

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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1 - Product and Company Information

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Product Name	1,1,1,3,3,3-HEXAMETHYLDISILAZANE, REAGENTPLUSTM, 99.9%
Product Number	379212
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
Technical Phone #	+61 2 9841 0555 (1800 800 097)
Fax	+61 2 9841 0500 (1800 800 096)
Emergency Phone #	+44 8701906777 (1800 448 465)

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
1,1,1,3,3,3-HEXAMETHYLDISILAZANE	999-97-3	213-668-5	None
Formula	C6H19NSi2		
Molecular Weight	161.4 AMU		
Synonyms	Bis(trimethylsilyl)amine * Hexamethyldisilazane * 1,1,1,3,3,3-Hexamethyldisilazane * HMDS * OAP * Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)- (9CI) * SZ 6079 * 1,1,1-Trimethyl-N-(trimethylsilyl)silanamine * Tri-Sil * TSL 8802		

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3 - Hazards Identification

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## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Causes burns.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

## AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of

water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

#### AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting.

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### 5 - Fire Fighting Measures

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#### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

#### SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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### 6 - Accidental Release Measures

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#### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

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### 7 - Handling and Storage

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#### HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Conditions of Storage: Keep tightly closed. Keep away from heat, sparks, and open flame. Handle and store under nitrogen.

SPECIAL REQUIREMENTS: Readily hydrolyzed.

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### 8 - Exposure Controls / Personal Protection

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Use only in a chemical fume hood.

#### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

## PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

Special Protective Measures: Faceshield (8-inch minimum).

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## 9 - Physical and Chemical Properties

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Appearance	Physical State: Clear liquid Color: Colorless	
Property	Value	At Temperature or Pressure
pH	> 7	
BP/BP Range	124 - 127 °C	
MP/MP Range	N/A	
Flash Point	14 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	380 °C	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 0.8 % Upper: 16.3 %	
Vapor Pressure	15 mmHg	20 °C
SG/Density	0.774 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	4.6 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: Insoluble. Other Solvents: MOSTCOMMON ORGANIC SOLVENTS	

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Conditions of Instability: Readily hydrolyzed.

Conditions to Avoid: Ammonia is formed upon contact with water or humid air.

Materials to Avoid: Strong oxidizing agents, Strong acids.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Silicon oxide, Nitrogen oxides, Formaldehyde.

Hazardous Decomposition Products Formed Upon Contact with Water: Ammonia

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## 11 - Toxicological Information

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RTECS NUMBER: JM9230000

## ACUTE TOXICITY

LD50

Oral

Rat

850 mg/kg

Remarks: Behavioral:General anesthetic. Cardiac:Pulse rate.  
Lungs, Thorax, or Respiration:Respiratory depression.

LC50

Inhalation

Rat

8,700 mg/m3

4H

Remarks: Behavioral:General anesthetic. Cardiac:Pulse rate.  
Lungs, Thorax, or Respiration:Respiratory depression.

LD50

Intraperitoneal

Rat

800 MG/KG

Remarks: Behavioral:Tremor. Behavioral:Muscle weakness. Skin and  
Appendages: Other: Hair.

LD50

Oral

Mouse

850 mg/kg

Remarks: Behavioral:General anesthetic. Cardiac:Pulse rate.  
Lungs, Thorax, or Respiration:Respiratory depression.

LC50

Inhalation

Mouse

12,000 mg/m3

2H

Remarks: Behavioral:General anesthetic. Cardiac:Pulse rate.  
Lungs, Thorax, or Respiration:Respiratory depression.

LD50

Intravenous

Mouse

>100 MG/KG

LD50

Oral

Rabbit

1100 mg/kg

Remarks: Behavioral:General anesthetic. Cardiac:Pulse rate.  
Lungs, Thorax, or Respiration:Respiratory depression.

LD50

Skin

Rabbit

710 UL/KG

Remarks: Behavioral:Somnolence (general depressed activity).  
Lungs, Thorax, or Respiration:Other changes.  
Gastrointestinal:Other changes.

LD50

Skin

Guinea pig

1 ML/KG

Remarks: Behavioral:Tremor. Behavioral:Muscle weakness. Skin and Appendages: Other: Hair.

#### IRRITATION DATA

Skin

Rabbit

0.5 ml

Remarks: Severe irritation effect

#### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

#### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Harmful if absorbed through skin. Readily absorbed through skin.

Eye Contact: Causes burns.

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Harmful if inhaled.

Ingestion: Harmful if swallowed.

#### TARGET ORGAN INFORMATION

Nerves.

#### CHRONIC EXPOSURE - CARCINOGEN

Mouse

Route of Application: Intraperitoneal

Exposure Time: 1

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration: Tumors.

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## 12 - Ecological Information

#### ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish

Species: Brachydanio rerio

Time: 96 h

Value: 88 mg/l

Test Type: EC50 Daphnia

Species: Daphnia magna

Time: 48 h

Value: 80 mg/l

Test Type: EC50 Algae

Species: Scenedesmus subspicatus

Time: 72 h

Value: 19 mg/l

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## 13 - Disposal Considerations

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## SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

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## 14 - Transport Information

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### RID/ADR

UN#: 3286  
Class: 3  
PG: II  
Proper Shipping Name: Flammable liquid, toxic, corrosive, n.o.s.

### IMDG

UN#: 3286  
Class: 3  
PG: II  
Subrisk: 6.1/8  
Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.  
Marine Pollutant: No  
Severe Marine Pollutant: No  
Technical Name: Required

### IATA

UN#: 3286  
Class: 3  
PG: II  
Subrisk: 6.18  
Proper Shipping Name: Flammable liquid, toxic, corrosive, n.o.s.  
Inhalation Packing Group I: No  
Technical Name: Required

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## 15 - Regulatory Information

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### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: F C  
Highly Flammable. Corrosive.  
R-PHRASES: 11 20/21/22 34  
Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Causes burns.  
S-PHRASES: 16 26 36/37/39 45  
Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### COUNTRY SPECIFIC INFORMATION

#### Germany

WGK: 1 (self-classification)

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## 16 - Other Information

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### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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