

# MATERIAL SAFETY DATA SHEET

## SECTION 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Material Name:** Hexamethyldisilazane  
**Catalogue Number:** C108  
**Other Names:** 1,1,1,3,3,3- Hexamethyldisilazane; HMDS.  
**Recommended Use:** An alternative to critical point drying.

**Supplier Name:** ProSciTech Pty Ltd  
**Street Address:** 11 Carlton Street, Kirwan QLD 4817 Australia  
**Telephone Number:** (07) 4773 9444 - 8:30am – 5:00pm, Monday to Friday (excluding Public Holidays)  
**Emergency Contact:** (07) 4773 9444 - 8:30am – 5:00pm, Monday to Friday (excluding Public Holidays)

## SECTION 2 - HAZARDS IDENTIFICATION

**Hazard Classification:**  
 Hazardous according to the criteria for Classifying Hazardous Substances [NOHSC:1008].

**Hazardous and/or Dangerous Nature:**  
 HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

**Risk Phrases:**  
 R11 Highly flammable.  
 R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.  
 R34 Causes burns.  
 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**  
 S16 Keep away from sources of ignition - No smoking.  
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

*Refer to Section 15 for Poisons Schedule.*

## SECTION 3 - COMPOSITION /INFORMATION ON INGREDIENTS

*Pure Substance (Proportion 100%):*  
**Chemical Identity:** Hexamethyldisilazane  
**Common Name(s):** 1,1,1,3,3,3- Hexamethyldisilazane; HMDS.  
**CAS Number:** 999-97-3

## SECTION 4 - FIRST AID MEASURES

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

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

**Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**Skin Contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**First Aid Facilities:** Eyebath/eyewash, Safety shower & general washroom facilities.

**Medical Attention & Special Treatment:**  
 Treat symptomatically and supportively.

**Additional Information:**  
 Consult a physician. Show this safety data sheet to the doctor in attendance.

## SECTION 5 - FIRE FIGHTING MEASURES

**Suitable Extinguishing Media:**  
 Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool unopened containers.

**Hazards from Combustion Products:**  
 Flash back possible over considerable distance. Container explosion may occur under fire conditions. Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), silicon oxides.

**Precautions for Fire Fighters:**  
 Wear self contained breathing apparatus for fire fighting if necessary.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### Containment & Clean up:

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

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).

## SECTION 7 - HANDLING & STORAGE

### Precautions for Safe Handling:

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

### Precautions for Safe Storage:

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.

Recommended storage temperature: 2 - 8 °C

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

**National Exposure Standards:** No exposure standard allocated.

### Engineering Controls:

Use in a well ventilated room.

### Personal Protective Equipment:

**Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose 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).

**Hand 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. 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 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.

**Eye protection:** Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and 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.

## SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

|                                      |   |
|--------------------------------------|---|
| <b>Appearance:</b>                   | Clear colourless liquid.                        |
| <b>Odour:</b>                        | Not available.                                  |
| <b>pH:</b>                           | >7.0  |
| <b>Vapour pressure:</b>              | 20.0 hPa at 20°C                                |
| <b>Vapour density:</b>               | 0.774 g/mL at 25°C                              |
| <b>Boiling point/range:</b>          | 125°C   |
| <b>Freezing/melting point:</b>       | -80°C   |
| <b>Solubility:</b>                   | Insoluble in water.                             |
| <b>Flash Point:</b>                  | 11°C – closed cup.                              |
| <b>Flammable (explosive) limits:</b> | Upper: 16.3% (V)<br>Lower: 0.8% (V)             |
| <b>Ignition temperature:</b>         | 380°C   |
| <b>Molecular Weight:</b>             | 161.39 g/mol                                    |
| <b>Formula:</b>                      | C <sub>6</sub> H <sub>19</sub> NSi <sub>2</sub> |
| <b>Partition coefficient:</b>        | n-octanol/water, log Pow: 2.62                  |

**SECTION 10 - STABILITY AND REACTIVITY**

**Chemical stability:** Stable under normal conditions of use.

**Conditions to avoid:** Ammonia is formed upon contact with water or humid air. Heat, flames and sparks. Extremes of temperature and direct sunlight.

**Incompatible Materials:** Strong oxidizing agents, Strong acids

**Hazardous Decomposition Products:**  
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), silicon oxides.

**Hazardous Reactions:**

**SECTION 11 - TOXICOLOGICAL INFORMATION**

**Exposure and Health Effects:** Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Symptoms: spasm, inflammation and oedema of the larynx, inflammation and oedema of the bronchi, pneumonitis, pulmonary oedema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting.

**Ingestion:** Causes eye burns.

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

**Eye Contact:** Causes eye burns.

**Skin Contact:** Toxic if absorbed through skin. Causes skin burns.

**Human/Animal data:** LD50 Oral - rat - 850.0 mg/kg  
Remarks: Behavioural: General anaesthetic. Cardiac: Pulse rate. Respiratory disorder.  
LC50 Inhalation - rat - 6 h - 10 mg/l  
LC50 Inhalation - rat - 6 h - 1516 ppm  
LD50 Dermal - rabbit - 549.5 mg/kg  
Remarks: Behavioural: Somnolence (general depressed activity). Lungs, Thorax, or Respiration: Other changes. Gastrointestinal: Other changes.

**Carcinogenic Category:** Not classified as a Carcinogen by the IARC.

**Other Carcinogenic Information:** No information available.

**SECTION 12 – ECOLOGICAL INFORMATION**

**Ecotoxicity:** Harmful to aquatic life with long lasting effects.  
Toxicity to fish LC50 - Danio rerio (zebra fish) - 88 mg/l - 96.0 h  
Toxicity to daphnia and other aquatic invertebrates  
EC50 - Daphnia magna (Water flea) - 80.00 mg/l - 48 h  
Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - 19.00 mg/l - 72 h

**Persistence and degradability:** Biodegradability Result: 15.3 % - Not readily biodegradable.  
Method: OECD Test Guideline 301

**SECTION 13 - DISPOSAL CONSIDERATIONS****Disposal Methods:**

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. Dispose of contaminated packaging as an unused product.

**SECTION 14 - TRANSPORT INFORMATION**

**UN Number:** UN3286  
**UN Proper Shipping Name:** Flammable liquid, toxic, corrosive, N.O.S. (Hexamethyldisilazane)  
**Class and Subsidiary risk:** 3 / 6.1 / 8  
**Packing Group:** II

**SECTION 15 - REGULATORY INFORMATION**

**Poison Schedule Number:** None Allocated.

## **SECTION 16 - OTHER INFORMATION**

**Date of preparation of MSDS:** 29 May 2012

**Comments:**

**List of Publications referenced when creating this MSDS;**

- Hazardous Substances Information System Consolidated Lists: Safe Work Australia.
- APPROVED CRITERIA FOR CLASSIFYING HAZARDOUS SUBSTANCES [NOHSC:1008(2004)] 3rd Edition: National Occupational Health and Safety Commission.
- Dangerous Goods - Initial Emergency Response Guide (SAA/SNZ HB76:1997).
- IATA Dangerous Goods Regulations.
- Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].
- Australia Standard for the Uniform Scheduling of Drugs and Poisons [SUSPD] (Australian Government Department of Health and Ageing).

*This Material Safety Data Sheet (MSDS) has been prepared in compliance with the National code of Practice for the Preparation of Material Safety Data Sheets 2<sup>nd</sup> Edition [NOHSC:2011(2003)]. It is the user's responsibility to determine the suitability of this information for adoption of necessary safety precautions. The information published in this MSDS has been compiled from the publications listed in Section 16: to the best of our ability and knowledge these publications are considered accurate. We reserve the right to revise Material Safety Data Sheets as new information becomes available. Copies may be made for non-profit use.*

**... End of MSDS ...**