



8210 N. Austin Avenue, Morton Grove, IL 60053-3205, U.S.A.  
 847-967-6000 800-323-8144  
 (Monday - Friday: 7:30 a.m. - 4:00 p.m. CST)

**Emergency Contact:**  
 INFOTRAC 800-535-5053 [U.S.A.]

Name: HMDS or Hexamethyldisilazane  
 Code: 1-270065-500, 1-270651-200, 1-270652-200, 1-270653-200, 2-000819-300

**SAFETY DATA SHEET**

**SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY**

- 1.1 Product Identifier
  - Name HMDS or Hexamethyldisilazane
  - Code 1-270065-500, 1-270651-200, 1-270652-200, 1-270653-200, 2-000819-300
- 1.2 Use of Substance/Mixture
  - Use Analytical Reagent—GC Derivatization; Silylation reagent
- 1.3 Details of Manufacturer/Supplier
  - Company Regis Technologies, Inc.  
 8210 N. Austin Avenue  
 Morton Grove, IL 60053  
 847-967-6000; 800-323-8144 (toll free)  
 Email: cservice@registech.com  
 www.registech.com
- 1.4 Emergency Telephone
  - INFOTRAC 800-535-5053 [U.S.A.]

**SECTION 2 HAZARDS IDENTIFICATION**

2.1 Classification of the Substance or Mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Physical Hazards			
	Highly flammable Liquid	Category 2	H225
Health Hazards			
	Acute Oral Toxicity	Category 4	H302
	Acute Dermal Toxicity	Category 3	H311
	Acute Inhalation Toxicity	Category 4	H332
	Skin Corrosion / Irritation	Category 1B	H314
	Serious Eye Damage / Irritation	Category 1	H314
Environmental Hazards	- Not classified		

GHS Label Elements

Pictograms or hazard symbols



Signal Word Danger

Hazard Statement

- H225 – Highly flammable liquid and vapor
- H302 + H332 – Harmful if swallowed or inhaled.
- H311 – Toxic in contact with skin.
- H314 – Causes severe skin burns and eye damage.

Precautionary Statements

- [Prevention] P210 – Keep away from heat and hot surfaces.
- P264 – Wash thoroughly after handling.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- [Response] P302+P352 – IF ON SKIN: Wash with plenty of soap and water.

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P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P362-Take off contaminated clothing and wash before reuse.  
 P403+P235-Store in a well-ventilated place. Keep cool.  
 P337+P313 – If eye irritation persists: Get medical advice/attention.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

Name HMDS or Hexamethyldisilazane in water [Ion-Pair Chromatography Reagent]  
 Synonyms HMDS; 1,1,1,3,3,3-Hexamethyldisilazane; Bis(trimethylsilyl)amine; 1,1,1-Trimethyl-N-(trimethylsilyl)silanamine

Hazardous components

Component	Classification	Concentration
1,1,1,3,3,3-Hexamethyldisilazane CAS No. 999-97-3 EC No. 213-668-5	Flam. Liq. 2; Acute Tox. 4; Acute Tox. 3; Skin Corr. 1B; Eye Dam. 1; H225, H302 + H332, H311, H314	≥ 97%

For full test of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4 FIRST AID MEASURES**

- 4.1 Description of first aid measures
  - General: Do not attempt to neutralize as it frequently makes matters worse.
  - Eye contact: Rinse eyes with plenty of water for at least 15 minutes; lift eyelids occasionally. If irritation persists, consult physician.
  - Skin contact: Immediately remove contaminated clothing and shoes, then wash skin with soap and plenty of water. If irritation persists, consult physician.
  - Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and keep person warm and at rest. Consult physician.
  - Ingestion: Give large amounts of water or milk (two glasses at most). Avoid vomiting. Consult physician immediately.
  - Physician note: Symptomatic and supportive care. There is no specific antidote.
- 4.2 Most important symptoms and effects, both acute and delayed.
  - Eyes and skin-causes severe irritation to burns. Harmful if ingested, inhaled, or absorbed through the skin with central nervous system effects, with dizziness or drowsiness. Corrosive to body tissues.
- 4.3 Indication of immediate medical attention and special treatment needed.
  - No information available.

**SECTION 5 FIRE-FIGHTING MEASURES**

- 5.1 Suitable Extinguishing Media
  - Carbon dioxide, dry chemical powder, dry sand, foam.
  - Water may be effective for cooling, but may not effect extinguishment for large fires.
- 5.2 Specific hazards arising from the chemical.
  - Flammable and Corrosive Liquid.
  - Vapors are heavier than air, may travel long distances along the ground to ignition sources and flash back..
  - Vapor-air mixtures are explosive above flash point, within above stated limits.
  - Containers may build pressure or rupture when heated. Container explosion may occur under fire conditions
  - Avoid inhalation of material or combustion by-products.
  - On contact with water, slowly hydrolyzes to produce corrosive ammonia.
  - When heated to temperatures above 150°C in the presence of air, material can form formaldehyde
  - Emits toxic fumes under fire conditions: Carbon oxides, silicon oxides, nitrogen oxides, hexamethyldisiloxane, acetamide

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5.3 Advice for fire-fighters  
 Wear protective clothing to prevent contact with skin, eyes, and inhalation.

**SECTION 6 ..... ACCIDENTAL RELEASE MEASURES.....**

- 6.1 Personal precautions, protective equipment, and emergency procedures  
 For non-emergency personnel - Avoid material contact or inhalation of mists. Evacuate unnecessary personnel from area.  
 For emergency responders – Wear protective clothing to prevent contact with skin and eyes. Avoid breathing mists. See Section 8.3.
- 6.2 Environmental precautions  
 Prevent material from entering drains.
- 6.3 Methods of clean up  
 Eliminate all ignition sources. Use spark proof tools.  
 Ventilate area. Isolate spilled material.  
 Wear NIOSH/MSHA approved respirator for organic/acid/amine gas, dust, and mists to prevent inhalation.  
 Contain and recover material when possible. Neutralize with sodium bicarbonate or other suitable neutralizing agent.  
 Absorb using chemically compatible spill pillows, or similar adsorbent material.  
 Sweep up, if not absorbed in pillow, seal in appropriate hazardous waste container, and hold for proper waste disposal.  
 Keep out of water supplies and sewers. Wash spill site after material pickup is complete.

**SECTION 7 ..... HANDLING AND STORAGE.....**

- 7.1 Safe Handling Precautions  
 Wear suitable protective equipment to avoid contact with skin, eyes, or inhalation of mists.  
 May be irritating to skin or eyes. May be irritating to mucous membranes, if mists are inhaled. May be harmful if ingested.  
 Wash after handling.  
 Immediately remove contaminated clothing, as material **may be toxic or corrosive to skin**  
 Wash contaminated clothing prior to reuse. Dispose of contaminated footwear.  
 Keep away from water. On contact with water, slowly hydrolyzes to produce ammonia.
- 7.2 Storage Conditions  
 Store tightly closed under nitrogen, in a cool, place with adequate ventilation, in a storage area suitable for flammable liquids.  
 Protect from light and heat.  
 Store away from incompatible materials (See Section 10.).

**SECTION 8 ..... EXPOSURE CONTROLS / PERSONAL PROTECTION.....**

- 8.1 Control parameters  
 Exposure limits: HMDS or Hexamethyldisilazane (999-97-3) –  
 OSHA – PEL or ACGIH – TLV No limits established.  
 Dow Corning Guide – OEL 25 ppm (17 mg/m<sup>3</sup>)TWA (8H); STEL 35 ppm (24 mg/m<sup>3</sup>)  
 Environmental Do not empty into drains.
- 8.2 Appropriate engineering controls  
 Safety shower and eye wash.  
 Local exhaust and mechanical ventilation required. Hood recommended. Fume scrubber.
- 8.3 Personal protection  
 Eye/Face Chemical safety eyewear or goggles.  
 Hand Compatible chemical-resistant gloves.  
 Respiratory If exposure to mists likely: NIOSH/MSHA approved respirator for organic vapor and mists.  
 Dermal (not hand) Protective Clothing (e.g., lab coat)  
 Hygiene Avoid inhalation, ingestion; contact with eyes, skin, and clothing; Avoid prolonged or repeated exposure.  
 Wash thoroughly after handling.

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**SECTION 9 ..... PHYSICAL AND CHEMICAL PROPERTIES .....**

9.1 Information on physical and chemical data

Chemical Formula	C <sub>6</sub> H <sub>19</sub> NSi <sub>2</sub>	
Molecular Weight	161.4	
Form	Liquid	
Appearance	Clear colorless liquid	
Odor	Ammonia odor	
Odor threshold	46.8 ppm	
pH	8.5	
Melting/freezing point	-70°C (-94°F)	
Boiling point:	125°C (256°F)	
Flammability (liquid)		
Flash Point	8°C (48°F)	Method: tcc
Flammable limits (%v/v)	UEL (upper explosive limit)	16.3 %
	LEL (lower explosive limit)	0.8 %
Autoignition temperature	379°C: 716°F	
Decomposition temperature	Not available	
OSHA Flammability Class	IB	
Evaporation Rate (BuAc = 1.0)	<1.0	
Vapor pressure (mmHg)	20 mmHg (20°C)	
Vapor density (air=1):	4.6	
Relative density (g/cm <sup>3</sup> )	0.77	
Water Solubility	Insoluble. See water reactivity.	
Water reactive	Yes--slowly hydrolyzes.	
Solubility (other)	acetone, heptane, toluene, ether, benzene, perchloroethylene	
Partition coefficient: N-octanol/water	Kow (Pow) = Not available	
Viscosity	0.9 cSt	
Refractive Index (n <sub>D</sub> <sup>20</sup> )	1.4080	
Dissociation Constants	pKa = 7.55	

**SECTION 10 ..... STABILITY AND REACTIVITY .....**

10.1 Reactivity

Stable if stored under nitrogen and protected from moisture. Material has a high static potential.

10.2 Chemical Stability

Stable if stored under nitrogen and protected from moisture, heat and light.

10.3 Possibility of hazardous reactions

Water, moisture, or humid air—reactive—slowly hydrolyzes to corrosive ammonia.  
 HMDS combined with pyridine N-oxide and tetrabutylammonium fluoride may explode.  
 Highly flammable liquid—protect from heat and ignition sources.

10.4 Conditions to avoid

Avoid incompatibilities.  
 Protect from static, heat, flames, sparks, and ignition sources.  
 Keep out of water supplies and sewers.

10.5 Incompatible materials

Strong Acids (exothermic reactions), Strong Bases, and Alkalies,  
 Oxidizers,  
 Alcohols  
 Halogens, halogenated compounds  
 Note: HMDS combined with pyridine N-oxide and tetrabutylammonium fluoride may explode.  
 Water, moisture, or humid air—HMDS hydrolyzes slowly on contact with water to ammonia.

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10.6 Hazardous decomposition products  
 Combustion: carbon oxides, silicon oxides, nitrogen oxides, hexamethyldisiloxane, acetamide  
 When heated to temperatures above 150°C in the presence of air, material can form formaldehyde

**SECTION 11** ..... **TOXICOLOGICAL INFORMATION**.....

11.1 Toxicological Information

Acute toxicity	
Oral LD50	orl rat LD50 850 mg/kg (RTECS-updated Feb 2006); General anesthetic, Pulse rate, Respiratory depression. orl rat LD50 847 mg/kg (IUCLID 19-Feb-2000, Ref. 7); General anesthetic, Pulse rate, Respiratory depression.
Inhalation LC50	ihl LC50 1516 ppm/6H (OECD Guideline 403)
Dermal LD50	skn rbt LD50 710ul/kg (RTECS-updated Feb 2006); Tremor, Muscle weakness
Other acute toxicity	No data available
Skin corrosion/irritation	Irritation skin: Rabbit: EC Classification: corrosive (causes burns); (IUCLID 19-Feb-2000, Refs. 29 & 30.); Experience with Human Exposure: Remark: "During many years of production no case of skin burns has been observed although there has been skin contact with the product by accident. This may be explained by the high volatility of the substance. Skin irritation tests in animals have been conducted under occlusion." (IUCLID 19-Feb-2000, Ref. none. Section 5.11.)
Other:	
Other:	The ability of two commercial in-vitro assays to predict the skin irritancy and corrosivity potential of organosilicon compounds was examined. The Skin2 1350 and CORROSITEX assays were used to evaluate skin irritancy of hexamethyldisiloxane. ...CORROSITEX classified hexamethyldisilazane as corrosive, whereas the in-vivo test indicated that it was only minimally irritating. (NLM-HSDB 7226, Last Revision Date: 20040910; Cassidy S et al: J Toxicol Cutaneous and Ocular Toxicology 15 (4): 355-67 (1996).)
Serious eye damage/irritation	Irritation eye: Rabbit: slightly irritating; EC classification: not irritating; (IUCLID 19-Feb-2000, Ref. 32.) Other: Globally Harmonized System of Classification and Labeling of Chemicals (GHS), Fourth revised edition, Part 3, Health Hazards, Chapter 3.3 indicates that if the chemical can is categorized as a skin corrosive, GHS category 1, then it should be also categorized as a GHS Category 1 for Serious Eye Damage.
Respiratory irritation	No data available
Respiratory or skin sensitization	No data available
Germ cell mutagenicity	
Genotoxicity in Vitro:	Ames Test, negative, OECD Guide-line 471, 1990 (IUCLID 19-Feb-2000, Ref. 35.)
Genotoxicity in Vitro:	Mouse Lymphoma Assay, negative, OECD Guide-line 471, 1991 (IUCLID 19-Feb-2000, Ref. 37.)
Carcinogenicity	
IARC	No data available.
NTP	No data available
OSHA	No data available
Other	ipr mus TDLo 1 g/kg/l, Lung tumors; Equivocal tumorigenic agent by RTECS criteria; (RTECS-updated Feb 2006)
Reproductive toxicity (Including teratogenicity)	No data available

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Specific target organ toxicity (STOT)  
 STOT-single exposure No data available  
 STOT-repeated exposure No data available  
 Aspiration hazard No data available  
 RTECS Number JM9230000

11.2 Further Information

Potential health effects  
 Eye Can cause eye damage and severe irritation.  
 Skin Can cause severe skin burns and be toxic upon skin contact.  
 Inhalation May be harmful if inhaled.  
 Ingestion May be harmful.  
 Symptoms See above route. Pre-existing conditions that may be aggravated: not determined.  
 Miscellaneous No data available.

**SECTION 12 ECOLOGICAL INFORMATION**

12.1 Ecotoxicity

Toxicity to Fish Fathead Minnow (Pimphales promelas) LC50 = 167 mg/l, 48 h.  
 Toxicity to Crustacea Water Flea (Daphnia magna): LC50 186 mg/L = 48 h.  
 Toxicity to Aq. Plants No data available  
 Toxicity to Bacteria Unreported Species, IC50 1700 mg/L

12.2 Persistence and degradability

Limited data available for this product.  
 Biodegradability – aerobic – Material slowly hydrolyzes on contact with water.

12.3 Bioaccumulative potential

BCF = 21 (estimated, Lit.) and Log Kow = 2.62; Not likely to bioaccumulate.

12.4 Motility in soil

See National Library of Medicine, Hazardous Substance Database (Toxnet®), entry number 7226, for Hexamethyldisilazane (NLM-HSDB 7226, Last Revision Date: 20040910) for a detailed discussion about environmental fate in air, soil, and water.

12.5 Other adverse effects

No data available for this product.  
 Do not discharge into the environment.

**SECTION 13 DISPOSAL CONSIDERATIONS**

13.1 Disposal methods

U . S. EPA Waste Codes D001, D002  
 Waste Characterization RCRA Hazard Class (40CFR 261): Ignitable, Corrosive  
 (per U. S. regulations) Generator is responsible for proper waste characterization. NOTE: U. S. Federal and state hazardous waste regulations may differ considerably.  
 Waste Disposal That which cannot be recovered or recycled, should be disposed of in accordance with all applicable international, national, regional, state, and local laws. Do NOT dump into any sewer, on ground, or into any body of water.

**SECTION 14 TRANSPORT INFORMATION**

14.1 UN number UN3286  
 14.2 UN proper shipping name Flammable liquid, toxic, corrosive, n.o.s, (HMDS or Hexamethyldisilazane)  
 14.3 Transport Hazard Class 3,6,1,8  
 14.5 Packing group PG II  
 14.6 Environmental hazards Not applicable  
 14.6 Special precautions for user See Section 8 for exposure/personal protection guidance.

**SECTION 15 REGULATORY INFORMATION**

15.1 Safety, health and Environmental regulations specific for the product in question.

NFPA: H3 F3 R0 HMIS: H3 F3 R0

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15.2 Chemical Inventory Lists

..... HMDS or Hexamethyldisilazane  
 CAS Number..... 999-97-3  
 TSCA: ..... Y  
 EINECS:..... Y  
 Number ..... 213-668-5  
 CERCLA [Section 103 (40 CFR 302.4)]:..... NL  
 RQ (lbs) ..... NA  
 RCRA Waste Code..... NL  
 OSHA Process Safety [29 CFR 1910.119]: ..... NL  
 TQ (lbs)..... NA  
 Clean Air Act  
 [Section 112r (40 CFR 68)]:..... NL  
 TQ (lbs)..... NA  
 Contains Ozone Depleters (Class I or Class II) ..... N  
 [Section 103 (40 CFR 302.4)]: ..... NL  
 SARA Title III Notification [40 CFR 302.4]:  
 Section 302/304 (EHS) Ingredient [40 CFR 355.3]..... NL  
 TPQ (lbs)..... NA  
 RQ (lbs) ..... NA  
 Section 313 Ingredient [40 CFR 372.65] ..... NL  
 SARA Hazards Acute.....Y Chronic..... N Fire.....Y Pressure..... N Reactivity .....N  
 State Lists: ..... NL  
 States..... NL  
 On CA 65 Significant Risk Level..... NL

**SECTION 16** ..... **OTHER INFORMATION** .....

16.1 Full test of H-Statements referred to under Section 2 and 3.

Flam. Liq. Flammable liquids  
 Acute Tox. Acute toxicity  
 Skin Corr. Skin corrosion.  
 Eye Dam. Serious eye damage  
 H225 Highly flammable liquid and vapour.  
 H302+ H332 Harmful if swallowed or inhaled.  
 H311 Toxic in contact with skin.  
 H314 Causes severe skin burns and eye damage.

The above information is believed to be correct to the best of our present state knowledge, but does not purport to be all-inclusive and shall be used only as a guide. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.

***This is the last page of this MSDS.***

***Prepared by Regis Technologies, Inc.***