



8210 N. Austin Avenue, Morton Grove, IL 60053-0519, 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: Bis(trimethylsilyl)acetamide  
 Code: 270501, 270502, 270503, 270504, 270505

..... **MATERIAL SAFETY DATA SHEET** .....

**SECTION 1 ..... PRODUCT IDENTIFICATION .....**

Name: Bis(trimethylsilyl)acetamide  
 Code: 270501, 270502, 270503, 270504, 270505

**SECTION 2 ..... COMPOSITION, INFORMATION ON INGREDIENTS .....**

*Synonyms*

BSA; N-(Trimethylsilyl)ethanimidic acid, trimethylsilyl ester; N-(Trimethylsilyl)acetimidic acid, trimethylsilyl ester;  
 Bis(trimethylsilyl)acetamide; BSiA; N,O-Bis(trimethylsilyl)acetamide; O,N-Bis(trimethylsilyl)acetamide

CAS #: 10416-59-8 MF: C<sub>8</sub>H<sub>21</sub>NO<sub>2</sub>Si<sub>2</sub>

*Ingredients*

	<i>Concentration (%/wt)</i>
Bis(trimethylsilyl)acetamide (10416-59-8) .....	NLT 94.0 %
Acetamide (60-35-5) (C <sub>2</sub> H <sub>5</sub> NO) (FW 59.07) .....	trace
Manufacturing Impurities.....	NMT 6.0 %

**SECTION 3 ..... HAZARDS IDENTIFICATION .....**

*Precautionary Statements* See Sections 8 and 11 for further details.

Flammable Liquid, Possible Cancer Hazard

..... **Emergency Overview** .....

NFPA Ratings (Scale 0-4); Health = 2; Fire = 3; Reactivity = 1 W;

Liquid: Clear, colorless with a faint floral or aromatic odor  
 Flammable liquid and vapor. May cause flash fire. Keep away from ignition sources. Use adequate ventilation. May be difficult to extinguish--re-ignition may occur.  
 Hydrolyzes on contact with water to produce flammable hexamethyldisiloxane and acetamide--a possible cancer hazard--based on animal data. May harm unborn.  
*The properties of this material have not been fully investigated. Use due caution in handling and use of this material.*  
 May cause irritation to skin, eyes, mucous membranes, and respiratory tract.  
*Emits toxic fumes under fire conditions*—potential chemical or thermal decomposition products: carbon monoxide, carbon dioxide, silicon oxides, nitrogen oxides, flammable hexamethyldisiloxane, acetamide--a potential cancer hazard  
*Standard chemical handling precautions:* Avoid ingestion or breathing vapors or mists. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.  
*Target organs:* eyes, skin, mucous membranes, respiratory system, immune system, lungs, liver, pregnancy

See Sections 4, 5, 6, 8, 9, and 10.

*Other Hazard Information*

**This compound has not fully been tested for toxicological, irritation, or similar tendencies.**

Primary Route(s) of Entry: Eye or Skin contact, Inhalation

Eye: May cause severe irritation, resulting in redness, swelling, tearing, and possible corneal injury.

Skin: May cause moderate irritation, resulting in inflammation, redness, scaling, itching, occasionally blistering, and contact dermatitis with delay of several hours prior to onset.

Inhalation: May cause severe irritation and possible burns to mucous membranes and upper respiratory system, resulting in nose, mouth, and throat irritation; coughing; shortness of breath; and delayed

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Container explosion may occur under fire conditions.

*Hazardous Combustion or Decomposition Products*

May emit carbon monoxide, carbon dioxide, silicon oxides, nitrogen oxides, hexamethyldisiloxane (flammable), acetamide; *May decompose on contact with water.*

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

- Eliminate all ignition sources. Use spark proof tools.
- Evacuate unnecessary people from area. Isolate spilled material.
- Ventilate area.
- Wear protective clothing to prevent contact with skin and eyes (lab coat, gloves, safety glasses).
- Wear NIOSH/MSHA approved respirator for organic/acid gas, dust, and mists to prevent inhalation.
- A fire-guard should be posted during any clean up operation.
- Neutralize with sodium bicarbonate or other suitable neutralizing agent.
- If neat or in solution, mix with sand or similar inert adsorbent material.
- Sweep up, seal in appropriate hazardous waste container, and hold for proper waste disposal.
- Wash spill site after material pickup is complete.
- Do not allow material to enter drains or watercourses.

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

*General Handling Measures*

- Ground and bond containers or use inert gas purge when transferring or handling material.
- Use spark proof tools and explosion proof equipment.
- Empty containers retain product residue, (liquid/vapor), and can be dangerous.
- See Section 8 Below.

*Special Storage Instructions*

Store in tinted glass bottle under nitrogen.

*Special Handling Instructions*

- Water/moist air contact produces flammable hexamethyldisiloxane and acetamide-a potential cancer hazard.
- Handle under nitrogen. Protect from moisture.
- Wash thoroughly after handling. Avoid breathing vapors and mists.
- Immediately remove contaminated clothing.

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

*Airborne Exposure Limits*

		TWA (8H)/VPEL		STEL		Ceiling Limit		Ceiling (skin)	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Bis(trimethylsilyl)acetamide 10416-59-8	OSHA PEL	NE	NE	NE	NE	NE	NE	NE	NE
	ACGIH - TLV	NE	NE	NE	NE	NE	NE	NE	NE
Acetamide 60-35-5	OSHA PEL	NE	NE	NE	NE	NE	NE	NE	NE
	ACGIH - TLV	NE	NE	NE	NE	NE	NE	NE	NE

NE = Not established; \*Acetamide may be formed on contact with water, or moist air.

*Special/Other Control Measures*

Odor threshold: NE

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*Personal Protective Equipment (PPE)*

- Chemical safety eyewear or goggles
- Compatible chemical-resistant gloves: Rubber (e.g., natural rubber, neoprene, nitrile, or equivalent), Silver Shield®, Viton®, or 4H®
- NIOSH/MSHA approved respirator for organic/acid gas, dust, and mists.
- Protective Clothing (e.g., lab coat)

*Other Standard Safety Equipment and Engineering Preventive Measures*

- Safety shower and eye wash
- Mechanical exhaust required. Hood recommended. Fume scrubber.

*General Precautions and Handling Measures*

- Avoid ingestion
- Avoid inhalation
- Avoid contact with eyes, skin, and clothing
- Avoid prolonged or repeated exposure
- Wash thoroughly after handling.
- Wash contaminated clothing before reuse. Discard contaminated footwear.

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

*Chemical Family:* silane; acetamide

*Use:* Analytical Derivatization Silylation Reagent for GC

*Appearance, Odor, and Other Properties*

<i>Appearance:</i>	clear, colorless liquid	<i>Odor:</i>	faint floral or aromatic
<i>Freeze/MP:</i>	-24°C (-125°F)	<i>bp:</i>	71-73°C (159-163°F) @ 35mm Hg
<i>Water Reactive:</i>	yes--hydrolyzes	<i>Solubility in Water:</i>	slightly--decomposes
<i>FW:</i>	203.43	<i>Specific Gravity (H<sub>2</sub>O = 1.0):</i>	0.823
<i>VP (mmHg):</i>	1mmHg (20°C)	<i>Vapor Density (air=1):</i>	1.03
<i>% Volatiles:</i>	<3%	<i>Evap. Rate (BuAc = 1.0):</i>	1.0
<i>pH:</i>	NE	<i>Refractive Index (n<sub>D</sub><sup>20</sup> =):</i>	1.4170
<i>Solubility in Organic Solvents:</i>	NE		

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

*Stability*

Stable if stored under nitrogen and protected from moisture.

*Incompatibilities*

Strong Acids and Strong Oxidizers  
 May decompose upon exposure to air or water to form hexamethyldisiloxane and acetamide.

*Precautions*

- Avoid incompatibilities.
- Protect from heat and ignition sources.
- Keep out of water supplies and sewers.

*Hazardous Combustion or Decomposition Products*

carbon monoxide, carbon dioxide, silicon oxides, nitrogen oxides, hexamethyldisiloxane, acetamide

*Hazardous Polymerization*

None

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

*To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.*

*Abbreviations: NA—not applicable; NE—not established; U—unknown/not available; NL—not listed; N—no; Y—yes.; NDA—No data available.*



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..... **MATERIAL SAFETY DATA SHEET** .....

RTECS #		CAS #
AK3000000	Bis(trimethylsilyl)acetamide	10416-59-8
AB4025000	Acetamide	60-35-5

Only selected Registry of Toxic Effects of Chemical Substances data (RTECS) is presented here.  
 See actual entry in RTECS for complete information.

Irritation Data	eye	skin
	Bis(trimethylsilyl)acetamide	NDA
Acetamide	NDA	NDA

NDA = No data available

Toxicity Data	oral	inhalation	dermal and other
Bis(trimethylsilyl)acetamide	orl rat LD50 1580 mg/kg	NDA	ipr mus LDLo 750 mg/kg
Acetamide	orl rat LD50 7 g/kg	NDA	scu rat LD50 10g/kg

Carcinogenicity	OSHA	IARC	NTP	ACGIH	NIOSH	Notes
Bis(trimethylsilyl)-acetamide	NL	NL	NL	NL	NL	This material has not been classified by IARC, OSHA, ACGIH, EPA or NTP as to its carcinogenicity, however some studies have shown that this material may induce certain types of cancers.
Acetamide	Y	Y	Y	Y	Y	May cause cancer based on animal studies; possible cancer hazard; ACGIH-not listed on ACGIH, NIOSH, and NTP ; California-carcinogen; initial date 01/09/1990; OSHA--Possible select carcinogen; IARC--Group 2B carcinogen

NL = Not Listed as a carcinogen;  
 Lab studies indicate that acetamide causes cancer in animals and may cause cancer in humans. The risk depends on level and duration of exposure. Limited lab studies indicate bis(trimethylsilyl)acetamide may cause tumors in the lungs.

**Teratogenicity and Reproductive Effects**  
 Lab studies reported in RTECS indicate that acetamide may cause adverse fetal and reproductive effects.

**Mutagenicity**  
 RTECS reports mutation data on acetamide.

**Neurotoxicity and Miscellaneous**  
 No data available.

**Acute and Chronic Effects**  
 Section 3 **Hazards Identification** above.

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**SECTION 12 ..... ECOLOGICAL INFORMATION.....**

*Environmental Toxicity and Fate*

Bis(trimethylsilyl)acetamide: Hydrolyses to flammable hexamethyldisiloxane and acetamide.  
 Acetamide: No data available

*Ecotoxicity Data*

Acetamide: Relatively non-toxic to aquatic life.  
 Fish toxicity: 13,300,000 ug/L 96 hour(s) LC50 (Mortality) Mosquitofish (*Gambusia affinis*)  
 Invertebrate toxicity: >10 g/L 24 hour(s) EC50 (Abundance) Water flea (*Daphnia magna*)  
 Algal toxicity: 49000 ug/L 48 hour(s) (Population Growth) Cryptomonad (*Chilomonas paramecium*)  
 Bis(trimethylsilyl)acetamide: No data available.

*Standard Chemical Precautions*

Keep out of air, water, and soil

**SECTION 13 ..... DISPOSAL CONSIDERATIONS.....**

*That which cannot be recovered or recycled, should be disposed of in accordance with all applicable Federal, State, and local environmental regulations.*

RCRA waste code(s): D001 RCRA Hazard Class (40CFR 261): Ignitable

**SECTION 14 ..... TRANSPORT INFORMATION.....**

*Ship in accordance with all applicable local, State, Federal, and International transportation regulations. The following is a summary only. Check regulations for complete information:*

U. S. Department of Transportation (49CFR171.101)  
 Shipping Name: Flammable Liquids, n.o.s., (Bis(trimethylsilyl)acetamide)  
 Hazard Class or Division: 3, Subsidiary Class: none  
 ID Number: UN 1993  
 Packing Group: III  
 Labeling: Flammable liquid

**SECTION 15 ..... REGULATORY INFORMATION.....**

*Reviews, Standards, and Regulations*

	Bis(trimethylsilyl)acetamide.....	Acetamide
CAS Number.....	10416-59-8	60-35-5
TSCA:.....	Y	Y
This compound is sold strictly for research and development use.		
EINECS:.....	Y	Y
Number .....	247-102-9	200-473-5
CERCLA [Section 103 (40 CFR 302.4)]: .....	NL	NL
RQ (lbs).....	NA	100
RCRA Waste Code .....	NL	NL
OSHA Process Safety [29 CFR 1910.119]: .....	NL	NL
TQ (lbs).....	NA	
Clean Air Act		
[Section 112r (40 CFR 68)]: .....	NL	NL
TQ (lbs).....	NA	NA
Contains Ozone Depleters (Class I or Class II).....	N	N
[Section 103 (40 CFR 302.4)]:.....	NL	NL

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..... Bis(trimethylsilyl)acetamide..... Acetamide  
 CAS Number..... 10416-59-8 ..... 60-35-5  
 SARA Title III Notification [40 CFR 302.4]:  
 Section 302/304 (EHS) Ingredient [40 CFR 355.3] ..... NL ..... NL  
 TPQ (lbs) ..... NA ..... NA  
 RQ (lbs)..... NA ..... NA  
 Section 313 Ingredient [40 CFR 372.65] ..... NL ..... Y  
 De Minimus Reporting Level ..... NA ..... 0.1%  
 State Lists: ..... NL ..... NL  
 States ..... NL ..... CA, FL, NJ, MA  
 ..... MA, MN, PA  
 On CA 65 Significant Risk Level ..... NL ..... Y  
 CA 65: No significant risk level ..... NA ..... 10 ug/day

**WARNING: This product contains a chemical(s) known to the State of California to cause cancer. (Acetamide)**

**Hazard Classes**

Sara	Acute	Chronic	Fire	Pressure	Reactivity
Title III	Y	N	Y	N	R
	Health	Flammability	Reactivity	Special Hazards	
NFPA	2	3	1	W	
HMIS	U	3	1	None	

**Risk Phrases:**

**Caution: The properties of this material have not been fully investigated.**

- R22..... Harmful if swallowed
- R36/37/38..... Irritating (severely) to eyes, respiratory system, and skin
- R40..... Possible risk of irreversible effects
- R48/20/22..... Harmful: Danger of serious damage to health by prolonged exposure through inhalation and if swallowed

**Safety Phrases:**

- S02..... Keep out of reach of children
- S23/24/25..... Do not breath vapors. Avoid contact with skin and eyes
- S26/28..... In case of contact with eyes or skin, rinse immediately with plenty of water and seek medical advice
- S27..... Take off immediately all contaminated clothing
- S36/37/39..... Wear suitable protective clothing, gloves, and eye/face protection
- S44..... If you feel unwell, seek medical advice immediately (show the label where possible)

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

**Miscellaneous**

The health and toxicological hazards of this compound have not been fully investigated; therefore, this substance must be handled only by, or under close supervision of those qualified in the handling and use of potentially hazardous substances.

*This MSDS was revised as follows:*

This is a new MSDS format. Consider all sections to contain new information.

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The above information is believed to be correct, but does not purport to be all-inclusive and shall be used only as a guide. Regis Technologies, Inc., does not guarantee said information is accurate or complete, *nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose.* Adjustment may be required to conform to the actual conditions of usage. Regis Technologies, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product, nor for the results obtained, or for incidental or consequential damage arising from the use of these data. No freedom from infringement of any patent, copyright or trademark is to be inferred.

Approved of by: MBF

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

*Reviewed and re-approved of with minor changes to the abbreviations in the footer and format.*

by: Jon Pilli

07/22/2008