



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: N-Methyl-N-(tert-butyldimethylsilyl)trifluoroacetamide
 Code: 1-270240-200; 1-270241-200; 1-270242-200; 1-270243-200; 1-270245-200; 1-270245-500; 1-270246-200

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

SECTION 1 PRODUCT IDENTIFICATION

Name: N-Methyl-N-(tert-butyldimethylsilyl)trifluoroacetamide

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

Synonyms

MtBSTFA; N-(t-butyldimethylsilyl)-N-methyltrifluoroacetamide

CAS #: 77377-52-7

MF: C₉H₁₈F₃NOSi

Ingredients

	<i>Concentration (%/wt)</i>	
MtBSTFA (25561-30-2).....	NLT	99.0 %
Manufacturing Impurities.....		<1.0 %

SECTION 3 HAZARDS IDENTIFICATION.....

Precautionary Statements

Combustible. Irritant.

See Sections 8 and 11 for further details.

..... **Emergency Overview**

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

Liquid: Clear, colorless with a strong odor

Combustible liquid and vapor. Keep away from heat and ignition sources.

Reacts with water. Hydrolyzes in contact with water or moist air.

Can cause severe irritation to skin, eyes, mucous membranes, and upper respiratory system.

The properties of this material have not been fully investigated. Use due caution in handling and use of this material.

May emit toxic fumes under fire conditions—potential chemical or thermal decomposition products: carbon oxides, silicon oxides, nitrogen oxides, hydrogen fluoride

Standard chemical handling precautions: Avoid breathing vapors or mists. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

Target organs: eyes, skin, mucous membranes, respiratory system.

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: Can cause severe tearing, severe irritation, dryness. Prolonged contact with large quantities may cause damage.

Skin: Can cause moderate irritation and dryness. May be harmful. Prolonged or repeated skin contact may cause dermatitis.

Inhalation: Can cause severe irritation or damage to mucous membranes and upper respiratory system. Symptoms may include coughing, shortness of breath, difficulty breathing, and headache.

Ingestion: May cause severe irritation. May be harmful.

Acute/Chronic: See above route.

Preexisting conditions aggravated: Respiratory conditions.

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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Symptoms: See above route.

See Section 11 for additional toxicological data.

SECTION 4 FIRST AID MEASURES.....

- Eye contact: Immediately flush eyes with copious amounts of water or eyewash solution 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 copious amounts of water. If irritation persists, consult physician.
- Inhalation: Remove to fresh air. If not breathing, give artificial respiration and keep person warm and at rest. If breathing is difficult, give oxygen; consult physician.
- Ingestion: Wash out mouth with water provided person is conscious; give large amounts of water or milk. DO NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Maintain airway and respiration. Treat symptomatically and supportively.

Wash contaminated clothing before reuse.

Physician note: Symptomatic and supportive care. There is no specific antidote. Treatment based on physician judgment in response to reactions of the patient.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point: 124°F (51°C) *Method:* cc *Flammable Limits:* upper: NE
 lower: NE

OSHA Flammability Class: II *Autoignition:* NE

NFPA: See Section 3 **Hazards Identification Emergency Overview** above.

Extinguishing Media

Carbon dioxide, dry chemical powder, dry sand. Water may be effective for cooling.

Special or Standard Fire Fighting Procedures

Wear self-contained breathing apparatus (SCBA) and protective clothing to prevent contact with skin and eyes should be worn in fighting large fires involving chemicals.

Evacuate unnecessary people from area. Isolate area and restrict entry.

Do not put water directly on the fire due to reaction. Water may be used to knock down vapor cloud down wind of fire and to keep fire-exposed containers cool.

Do not allow extinguishing media to enter container.

Unusual Fire and Explosion Hazards

Flammable and water reactive liquid. Readily hydrolyzes on contact with water.

Vapor-air mixtures may be explosive above flash point.

Use bonding and grounding or inert gas blanketing.

Fire conditions may release dense, irritating, and corrosive hydrogen fluoride fumes.

Fluorosilanes are very reactive with water, but not violently so.

Exposure to oxidizers or acids could start or accelerate fire conditions.

Container explosion may occur under fire conditions.

Hazardous Combustion or Decomposition Products

Under fire conditions, may emit carbon oxides, silicon oxides, nitrogen oxides, hydrogen fluoride

May decompose on contact with water.

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SECTION 6 ACCIDENTAL RELEASE MEASURES

Eliminate all ignition sources/slight fire hazard in small quantities. 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 and acidic vapor to prevent inhalation irritation.
 If neat, or in solution, use chemically compatible spill pillows, or similar adsorbent material.
 Sweep up, seal in appropriate hazardous waste container, and hold for proper waste disposal.
 Avoid inhalation of vapors or contaminated dust. Wash spill site after material pickup is complete.
 Standard chemical precautions: Keep out of water supplies and sewers.

SECTION 7 HANDLING AND STORAGE

General Handling Measures

See Section 8 Below.

General Storage Measures

Store in a cool, dry place with adequate ventilation, suitable for combustibles away from ignition sources.
 Store away from oxidizing materials.

Special Storage Instructions

Store in tinted glass bottle under nitrogen.

Special Handling Instructions

Vapor or liquid readily hydrolyzes with moist air or water.
 Handle under nitrogen. Protect from moisture. Do not inhale vapors.
 Take appropriate precautions for handling combustible liquids.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Airborne Exposure Limits

		TWA		STEL		Ceiling		skin
		ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	
MtBSTFA 77377-52-7	OSHA - PEL	NE	NE	NE	NE	NE	NE	NE
	ACGIH - TLV	NE	NE	NE	NE	NE	NE	NE

Special/Other Control Measures

Odor threshold: NE

Personal Protective Equipment (PPE)

Chemical safety eyewear or goggles, and protective clothing (e.g., lab coat)
 Compatible chemical-resistant gloves: Rubber (e.g., natural rubber, neoprene, nitrile, or equivalent)
 NIOSH/MSHA approved respirator for organic/acid gas, dust, and mists.

Other Standard Safety Equipment and Engineering Preventive Measures

Safety shower and eye wash
 Mechanical exhaust required. Hood recommended.

General Precautions and Handling Measures

Avoid ingestion, inhalation and 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

Chemical Family: MtBSTFA: halogenated acetamide; silyl Use: Analytical Silylation Reagent for GC

Appearance, Odor, and Other Properties

clear, colorless liquid	Odor: Strong odor
MP: NE	FW: 241.33
bp: 343°F (172°C)	Solubility in Water: reacts: hydrolyzes/decomposes
VP (mmHg): NE	Specific Gravity (H ₂ O = 1.0): 1.023
% Volatiles: NE	Vapor Density: 1.121 (Air = 1.0)
Evap. Rate: NE	Refractive Index: 1.402
viscosity: NE	pH: NE
Solubility in Organic Solvents: NE	

SECTION 10 STABILITY AND REACTIVITY

Stability

Stable if stored under nitrogen and protected from moisture.

Incompatibilities

Strong oxidizers
 Metals
 Vapor or liquid readily hydrolyzes with water or moist air. Do not allow water contact.

Precautions

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

Hazardous Combustion or Decomposition Products

Under fire conditions, may emit carbon oxides, silicon oxides, nitrogen oxides, hydrogen fluoride.
 May decompose on contact with water.

Hazardous Polymerization

None

SECTION 11 TOXICOLOGICAL INFORMATION

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

RTECS #:

CAS #:

not assigned	MtBSTFA	77377-52-7
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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 rbt	skn rbt
MtBSTFA	NDA	NDA

NDA = No data available

Toxicity Data

	orl	ihl	other
MtBSTFA	NDA	NDA	NDA

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Carcinogenicity

	OSHA	IARC	NTP	ACGIH	NIOSH	Notes
MtBSTFA	NL	NL	NL	NL	NL	None

NL = Not Listed as a carcinogen;

Teratogenicity and Reproductive Effects

No data available.

Mutagenicity

No data available.

Miscellaneous

No data available.

Acute Effects

See specific route responses in Section 3 **Hazards Identification** above.

Chronic Effects

See Section 3 **Hazards Identification** above.

SECTION 12 ECOLOGICAL INFORMATION.....

Ecotoxicity or Environmental Toxicity and Fate:

No data available.

Keep out of water supplies and sewers. Prevent any contamination of underground water. Hydrolyzes to form organic compounds.

Standard Chemical Precautions

Keep out of water, air, 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., (*N*-Methyl-*N*-(*tert*-butyldimethylsilyl)trifluoroacetamide)

ID Number: UN 1993

Hazard Class or Division: 3

Packing Group: PG III

Labels: Flammable Liquid

SECTION 15 REGULATORY INFORMATION

Reviews, Standards, and Regulations

.....MtBSTFA
 77377-52-7

TSCA:..... NL*

*This chemical is sold strictly for research and development use only.

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.....MtBSTFA
 77377-52-7
 EINECS:..... NL
 Number..... NA
 CERCLA [Section 103 (40 CFR 302.4)]:..... NL
 RQ (lbs) NA
 RCRA Waste Code..... NA
 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
 State Lists:..... NL
 States..... NL
 On CA 65 Significant Risk Level..... 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

Hazard Classes

MtBSTFA + tBDMCS	Sara	Acute	Chronic	Fire	Pressure	Reactivity
	Title III	Y	N	Y	N	Y
		Health	Flammability	Reactivity	Special Hazards	
	NFPA	2	2	2	W	
	HMIS	2	2	2	None	

European Classification and Danger/Hazard Symbol:

Xi Irritant

Risk Phrases:

Caution: The properties of this material have not been fully investigated.
 R10.....Flammable (EU) (combustible -- USA)
 R20/21/22.....Harmful by inhalation, in contact with skin, and if swallowed.
 R36/37/38.....Irritating to eyes, skin, and respiratory system

Safety Phrases:

S6/7/8/9Keep under nitrogen in a dry, tightly closed container, in a well ventilated place.
 S16Keep away from sources of ignition--no smoking.
 S23/S24/25.....Do not breathe vapors. Avoid contact with skin and eyes.
 S26In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S36/37/39Wear suitable protective clothing, gloves, and eye/face protection

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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.

Disclaimer

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.

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