



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: MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Code: 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200

SAFETY DATA SHEET

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

- 1.1 Product Identifier
 - Name MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 - Code 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200
- 1.2 Use of Substance/Mixture
 - Use Analytical Reagent—GC Derivatization; Acylation 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
 - Flammable Liquid Category 3 H226
 - Health Hazards
 - 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

- H226 Flammable liquid and vapor.
- H314 Causes severe skin burns and eye damage.

Precautionary Statements

- P210 – Keep away from heat and hot surfaces.
- P233 – Keep tightly closed.
- P264 – Wash thoroughly after handling.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P302+P352 – IF ON SKIN: Wash with plenty of water.
- P305+P351+P338 – IF IN EYES: Rinse cautiously with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing.
- PP313+P332+P337 – Get medical advice/attention if skin or eye burns occur or irritation persists.
- P403+P235 – Store in a well-ventilated place. Keep cool.

Some abbreviations used throughout this MSDS: NA=not applicable; NE=not established; U=unknown/unavailable; NL=not listed; N=no; Y=yes.



Name: MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Code: 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Name MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Synonyms 2,2,2-trifluoro-N-methyl-N-(trifluoroacetyl)acetamide; N-Methylbis(trifluoroacetyl)imide

Hazardous components

Component	Classification	Concentration
2,2,2-trifluoro-N-methyl-N-(trifluoroacetyl)acetamide	Flam. Liq. 3; Skin Corr. 1B; Eye Dam. 1; H226, H314	98-100 %
CAS No. 685-27-8		
EC No. 211-680-5		
Formula C ₅ H ₃ F ₆ NO ₂		
Molecular Mass 223.07		

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: Causes varying degrees of chemical burns on the skin, to the eyes and to the mucous membranes; and wounds which do not heal quickly depending on the concentration, temperature, and the exposure time.
 - 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.
 - Skin contact: Immediately remove contaminated clothing and shoes, then wash skin with soap and plenty of water. If irritation persists or burns occur, consult physician.
 - Eye contact: Rinse eyes with plenty of water for at least 15 minutes; lift eyelids occasionally. If irritation persists or burns occur, consult physician.
 - Ingestion: Give large amounts of water or milk (two glasses at most). Avoid vomiting. Consult physician immediately.
- 4.2 Most important symptoms and effects, both acute and delayed.
Burns or severe irritation to body tissues - pain, itching, tearing, redness, blurred vision, lens damage, blistering, difficult breathing, shortness of breath, burning sensation, cough, sore throat.
- 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. Application should be from as far as possible.
- 5.2 Specific hazards arising from the chemical.
 Flammable and corrosive liquid and vapor.
 Emits toxic fumes under fire conditions: carbon oxides, nitrogen oxides, hydrogen fluoride
- 5.3 Advice for fire-fighters
 Wear personal protective equipment for flammable organic vapor, acid, and amine conditions.

Some abbreviations used throughout this MSDS: NA=not applicable; NE=not established; U=unknown/unavailable; NL=not listed; N=no; Y=yes.



Name: MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Code: 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200

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

SECTION 6 ACCIDENTAL RELEASE MEASURES.....

- 6.1 Personal precautions, protective equipment, and emergency procedures
 - For non-emergency personnel – Avoid material contact or inhalation of vapors or mists. Evacuate unnecessary personnel from area.
 - For emergency responders – Wear protective clothing corrosive and flammable conditions to prevent contact with skin and eyes. Avoid breathing mists and vapors. Wear NIOSH/MSHA approved respirator for organic vapor, acids, and amines to prevent inhalation. See Section 8.3.
- 6.2 Environmental precautions
 - Prevent material from entering drains.
- 6.3 Methods of clean up
 - Evacuate unnecessary people from area. Isolate spilled material.
 - Ventilate area. Eliminate all ignition sources. Use spark proof tools.
 - Vapors are heavier than air and can accumulate to form explosive concentrations.
 - Keep away from water, material is moisture sensitive.
 - Contain and recover material when possible. Neutralize with sodium bicarbonate or other suitable neutralizing agent.
 - If neat or in solution, mix with sand or similar inert adsorbent material or spill pillow.
 - 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 Precautions for Safe Handling
 - Observe precautions in Section 2.*
 - Wear suitable protective equipment for flammables and corrosives to avoid contact with or inhalation of liquids or vapors.
 - Handle and store under nitrogen as material is moisture sensitive.
 - 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.
- 7.2 Conditions for safe storage, including any incompatibilities
 - Store in tinted glass bottle under nitrogen, in a cool, dry place with adequate ventilation, in area suitable for flammables and corrosives.
 - Protect from light and heat. May be stored refrigerated or in freezer for long term storage.
 - Store away from incompatible materials (See Section 10.).

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

- 8.1 Control parameters
 - Exposure limits N-Methyl-N-bis(trifluoroacetamide) (685-27-8) –
 OSHA – PEL or ACGIH – TLV: No limits established.
 - Environmental Do not empty into drains.
- 8.2 Appropriate engineering controls
 - Handle in accordance with good industrial hygiene and safety practice.
 - Local exhaust and mechanical ventilation required. Hood recommended. Use adequate general and/or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Fume scrubber. Safety shower and eye wash.
- 8.3 Personal protection
 - Eye/Face Tightly fitting safety glasses or safety goggles. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US).
 - Hand Compatible chemical-resistant gloves.
 - Respiratory If exposure to mist or vapors likely: NIOSH/MSHA (US) approved respirator for organic vapor, acid, and amine mists.

Some abbreviations used throughout this MSDS: NA=not applicable; NE=not established; U=unknown/unavailable; NL=not listed; N=no; Y=yes.



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: MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Code: 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200

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

Dermal (not hand) Protective Clothing (e.g., lab coat).
 Hygiene Avoid inhalation, ingestion; contact with eyes, skin, and clothing; Avoid prolonged or repeated exposure.
 Remove contaminated clothing and discard contaminated footwear. Wash thoroughly after handling.

SECTION 9 **PHYSICAL AND CHEMICAL PROPERTIES**

9.1 Information on physical and chemical data

Form	liquid	
Appearance	clear, colorless	
Odor	strong, pungent odor	
Odor threshold	No data available	
pH	No data available	
Melting/freezing point	No data available	
Boiling point:	123-124°C (253-255°F)	
Flammability (liquid)		
Flash Point	55°C (132°F)	Method: tcc
Flammable limits (%v/v)	UEL (upper explosive limit)	No data available
	LEL (lower explosive limit)	No data available
Autoignition temperature	No data available	
Decomposition temperature	No data available	
OSHA Flammability Class	II	
Evaporation Rate (BuAc = 1.0)	No data available	
Vapor pressure (mmHg)	No data available	
Vapor density (air=1):	No data available	
Relative density (g/cm ³)	1.547 at 25°C (77°F)	
Water Solubility/Reactive	Material is moisture sensitive.	
Solubility (other)	partly in cold water, completely in hot	
Partition coefficient: N-octanol/water	Kow (Pow) = No data available	
Viscosity	No data available	

SECTION 10 **STABILITY AND REACTIVITY**

- 10.1 Reactivity
 - Reacts non-violently, under mild non-acidic conditions, with amines, hydroxyl, and thiol groups producing volatile derivatives for gas chromatography. Principal derivatization, N-methyltrifluoroacetamide, reaction by-product is stable and volatile.
- 10.2 Chemical Stability
 - Stable if stored under nitrogen and protected from moisture as it is moisture sensitive.
- 10.3 Possibility of hazardous reactions
 - Flammable and corrosive liquid and vapor—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
 - Heat, light
 - Strong acids and strong oxidizers.
 - Water, moisture, or humid air.
- 10.6 Hazardous decomposition products
 - Combustion carbon oxides, silicon oxides, nitrogen oxides, hydrogen fluoride

Some abbreviations used throughout this MSDS: NA=not applicable; NE=not established; U=unknown/unavailable; NL=not listed; N=no; Y=yes.



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: MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Code: 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200

SAFETY DATA SHEET

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Toxicological Information

Acute toxicity	Oral LD50	No data available.
	Inhalation LC50	No data available.
	Dermal LD50	No data available.
	Other acute toxicity	No data available.
Skin corrosion/irritation	No data available.	
Serious eye damage/irritation	No data available.	
Respiratory irritation	No data available.	
Respiratory or skin sensitization	No data available.	
Germ cell mutagenicity	No data available.	
Carcinogenicity		
IARC	No data available.	
NTP	No data available.	
OSHA	No data available.	
Other	No data available.	
Reproductive toxicity (Including teratogenicity)	No data available.	
Specific target organ toxicity (STOT)		
STOT-single exposure	No data available.	
STOT-repeated exposure	No data available.	
Aspiration hazard	No data available.	
RTECS Number	No data available.	

11.2 Further Information

Potential health effects
Burns or severe irritation to body tissues - pain, itching, tearing, redness, blurred vision, lens damage, blistering, difficult breathing, shortness of breath, burning sensation, cough, sore throat.
 Causes varying degrees of chemical burns on the skin, to the eyes and to the mucous membranes and wounds which do not heal quickly depending on the concentration, temperature, and the exposure time.
 See Sections 2 and 4 for more information.
 Miscellaneous No data available.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Ecotoxicity	No data available for this product or its components.
12.2 Persistence and degradability	No data available for this product.
12.3 Bioaccumulative potential	BCF = No data available for this product.
12.4 Motility in soil	Log Kow = No data available for this product.
12.5 Other adverse effects	No data available for this product.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Disposal methods

U . S. EPA Waste Codes D001, D002
 Waste Characterization RCRA Hazard Class (40CFR 261): Ignitable, Corrosive
 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.

Some abbreviations used throughout this MSDS: NA=not applicable; NE=not established; U=unknown/unavailable; NL=not listed; N=no; Y=yes.



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: MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Code: 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200

SAFETY DATA SHEET

SECTION 14 TRANSPORT INFORMATION

14.1 DOT (US)

UN Number: 2920 Class: 8+3 Packing Group: II
 Proper shipping name: Corrosive liquids, Flammable, n.o.s. (N-Methyl-N-bis(trifluoroacetamide))
 Marine Pollutant: No
 Poison Inhalation Hazard: No

14.2 IMDG

UN Number: 2920 Class: 8+3 Packing Group: II EMS-No: F-E, S-C
 Proper shipping name: CORROSIVE LIQUIDS, FLAMMABLE, N.O.S. (N-Methyl-N-bis(trifluoroacetamide))
 Marine Pollutant: No

14.3 IATA

UN Number: 2920 Class: 8+3 Packing Group: II
 Proper shipping name: Flammable liquids, corrosive, n.o.s. (N-Methyl-N-bis(trifluoroacetamide))

SECTION 15 REGULATORY INFORMATION

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

NFPA: H3 F2 R0 HMIS: H3 F2 R0

15.2 Chemical Inventory Lists

Reviews, Standards, and Regulations

..... MBSTFA
 CAS Number.....685-27-8
 TSCA:.....NL
Product is sold strictly for research and development use under TSCA regulations.
 EINECS:.....NL
 Number.....211-680-5
 State Lists:.....NL
 States.....NL
 On CA 65 Significant Risk Level.....NL
 CERCLA [Section 103 (40 CFR 302.4)]:.....NL
 RQ (lbs).....NA
 RCRA Waste Code..... D001, D002
 OSHA Process Safety [29 CFR 1910.119]:.....NL
 TQ (lbs).....NA
 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

Some abbreviations used throughout this MSDS: NA=not applicable; NE=not established; U=unknown/unavailable; NL=not listed; N=no; Y=yes.



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: MBTFA or N-Methyl-N-bis(trifluoroacetamide)
 Code: 1-270091-200, 1-270091-500, 1-270092-200, 1-270093-200, 1-270095-200, 1-270096-200, 1-270097-200

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

SECTION 16 **OTHER INFORMATION**

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

Eye Dam.	Serious eye damage
Flam. Liq.	Flammable liquids
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
Skin Corr.	Skin corrosion

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.

Prepared by: Regis Technologies

This is the last page of this MSDS.