

Safety Data Sheet 8132302 according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

		 b Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations be: 07/29/2016 be: 07/29/2016
SECTION 1: Identifie	cation	
1.1. Identification		
Product form	:	: Mixture
Product name	:	: Bis(2-methoxyethyl)aminosulfur trifluoride, 50 wt. % in THF
Product code		: 8132-3-02
Synonyms	:	: BAST, 50 wt. % in THF; Deoxo-Fluor, 50% in THF (Deoxo-Fluor is a registered trademark of Air Products & Chemicals, Inc.)
1.2. Relevant identi	fied uses of the substa	nce or mixture and uses advised against
Use of the substance/mixture :		: Laboratory chemicals Manufacture of substances Scientific research and development
1.3. Details of the s	upplier of the safety da	ata sheet
SynQuest Laboratories, In P.O. Box 309 Alachua, FL 32615 - Unite T (386) 462-0788 - F (386) info@synquestlabs.com -	d States of America) 462-7097	
1.4. Emergency tele	phone number	
Emergency number	:	: (844) 523-4086 (3E Company - Account 10069)
SECTION 2: Hazard	(s) identification	
2.1. Classification of	of the substance or mix	ture
Classification (GHS-US)		
Flam. Liq. 2H225 - Highly flammable liquid and vapourWater-react. 2H261 - In contact with water releases flammable gasesAcute Tox. 3 (Oral)H301 - Toxic if swallowedAcute Tox. 3 (Inhalation)H331 - Toxic if inhaledSkin Corr. 1AH314 - Causes severe skin burns and eye damageEye Dam. 1H318 - Causes serious eye damageCarc. 2H351 - Suspected of causing cancerSTOT SE 3H335 - May cause respiratory irritationFull text of H-phrases: see section 16		
2.2. Label elements		
GHS-US labeling Hazard pictograms (GHS-I	US) :	
		GHS02 GHS05 GHS06 GHS07 GHS08
Signal word (GHS-US)	:	: Danger
Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor H261 - In contact with water releases flammable gases H301+H331 - Toxic if swallowed or if inhaled H314 - Causes severe skin burns and eye damage H335 - May cause respiratory irritation H351 - Supported of causing capcer		H261 - In contact with water releases flammable gases H301+H331 - Toxic if swallowed or if inhaled H314 - Causes severe skin burns and eye damage
Precautionary statements	(GHS-US) :	 P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking P223 - Do not allow contact with water P231+P232 - Handle under inert gas. Protect from moisture P233 - Keep container tightly closed P240 - Ground/bond container and receiving equipment P241 - Use explosion-proof electrical/ventilating/lighting equipment P242 - Use only non-sparking tools

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	 P243 - Take precautionary measures against static discharge P260 - Do not breathe fumes, mist, spray, vapors P264 - Wash skin thoroughly after handling P270 - Do not eat, drink or smoke when using this product P271 - Use only outdoors or in a well-ventilated area P280 - Wear protective gloves/protective clothing/eye protection/face protection P301+P310 - If swallowed: Immediately call a poison center/doctor/ P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P308+P313 - If exposed or concerned: Get medical advice/attention P310 - Immediately call a POISON CENTER or doctor/ physician P311 - Call a POISON CENTER or doctor/physician P331 - Specific treatment (see supplemental first aid instructions on this label) P330 - Rinse mouth P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages P363 - Wash contaminated clothing before reuse P370+P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish P403+P235 - Store in a dwell-ventilated place. Keep container P403+P235 - Store in a well-ventilated place. Keep cool P405 - Store in contents/container to an approved waste disposal plant
Other hazards	
pazarde not contributing to the	· Contact with water liberates taxis and Boasts violently with water

Other hazards not contributing to the classification

: Contact with water liberates toxic gas. Reacts violently with water.

2.4. Unknown acute toxicity (GHS US)

Not applicable

2.3.

SECTION 3: Composition/information on ingredients

3.1. Substance Not applicable

3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Bis(2-methoxyethyl)aminosulfur trifluoride	(CAS No) 202289-38-1	50 - 70	Water-react. 2, H261 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335
Tetrahydrofuran	(CAS No) 109-99-9	30 - 50	Flam. Liq. 2, H225 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 Carc. 2, H351 STOT SE 3, H336 STOT SE 3, H335

Full text of H-phrases: see section 16

4.1. Description of first aid measures	
irst-aid measures general	: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Move the affected personnel away from the contaminated area.
irst-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. Get immediate medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Remove contaminated clothing and shoes. In case of skin contact, wearing rubber gloves rub 2.5% calcium gluconate gel continuously into the affected area for 1.5 hours or until further medical care is available. Get immediate medical advice/attention.
irst-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
irst-aid measures after ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get immediate medical advice/attention.

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4.2. Most important symptoms and effe	cts, both acute and delayed
Symptoms/injuries	: The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.
Symptoms/injuries after inhalation	: Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Absorption of excessive F- can result in acute systemic fluorosis with hypocalcemia, interference with various metabolic functions and organ damage (heart, liver, kidneys).

SECTION 5: Firefighting measures	
5.1. Extinguishing media	
Suitable extinguishing media	: Dry powder. Use extinguishing media appropriate for surrounding fire.
5.2. Special hazards arising from the su	bstance or mixture
Fire hazard	: Thermal decomposition generates: Carbon oxides. Hydrogen fluoride. Nitrogen oxides. Sulfur oxides.
Explosion hazard	: Risk of explosion if heated under confinement. Use water spray or fog for cooling exposed containers. May form flammable/explosive vapor-air mixture.
5.3. Advice for firefighters	
Firefighting instructions	: In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.
Protection during firefighting	: Wear gas tight chemically protective clothing in combination with self contained breathing apparatus. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 6: Accidental release measures				
6.1.	6.1. Personal precautions, protective equipment and emergency procedures			
General	measures	: Evacuate unnecessary personnel. Ensure adequate air ventilation. Do not breathe gas, fumes, vapor or spray.		
6.1.1.	For non-emergency personnel			
Emerger	icy procedures	: Only qualified personnel equipped with suitable protective equipment may intervene.		
6.1.2.	For emergency responders			
Protectiv	e equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".		
Emerger	icy procedures	: Gas/vapor heavier than air. May accumulate in confined spaces, particularly at or below ground level. Consider the risk of potentially explosive atmospheres. Eliminate every possible source of ignition.		
6.2.	Environmental precautions			
Avoid rel	ease to the environment. Notify authoritie	es if product enters sewers or public waters.		
6.3.	Methods and material for containment	nt and cleaning up		
For conta	ainment	: Stop leak if safe to do so. Dike for recovery or absorb with appropriate material.		
Methods	for cleaning up	: Take up large spills with pump or vacuum and finish with dry chemical absorbent. Use explosion-proof equipment. Take up small spills with dry chemical absorbent. Sweep or shovel spills into appropriate container for disposal. Ventilate area.		
Other inf	ormation	: For disposal of solid materials or residues refer to section 13 : "Disposal considerations".		
6.4.	Reference to other sections			
No additional information available				
SECTI	ON 7: Handling and storage			
7.1.	Precautions for safe handling			
Additiona	al hazards when processed	: Handle empty containers with care because residual vapors are flammable.		
Precautions for safe handling		: Do not handle until all safety precautions have been read and understood. Ensure good ventilation of the work station. Do not breathe fumes, mist, spray, vapors. Wear personal protective equipment. Avoid contact with skin and eyes. Keep away from ignition sources (including static discharges). Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools.		
Hygiene measures		: Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.		

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7.2. Conditions for safe storage, includi	ng any incompatibilities
Technical measures	: Comply with applicable regulations.
Storage conditions	: Keep container closed when not in use. Keep away from ignition sources. Moisture sensitive. Keep contents under inert gas.
Incompatible materials	: Refer to Section 10 on Incompatible Materials.
Storage temperature	: 2 - 8 °C Use explosion proof refrigerator
Storage area	: Store in dry, well-ventilated area.
Special rules on packaging	: Do not store in glass.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Tetrahydrofuran (109-99-9)			
ACGIH	ACGIH TWA (ppm)	50 ppm	
ACGIH	ACGIH STEL (ppm)	100 ppm	
ACGIH	Remark (ACGIH)	URT irr; CNS impair; kidney dam	
OSHA	OSHA PEL (TWA) (mg/m³)	590 mg/m³	
OSHA	OSHA PEL (TWA) (ppm)	200 ppm	

8.2. Exposure controls	
Appropriate engineering controls	: Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection	: Protective gloves. 29 CFR 1910.138: Hand Protection.
Eye protection	: Chemical goggles or safety glasses. Face shield. 29 CFR 1910.133: Eye and Face Protection.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of inadequate ventilation wear respiratory protection. 29 CFR 1910.134: Respiratory Protection.
Other information	: Safety shoes. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical an	d chemical properties
Physical state	: Liquid
Color	: Colourless.
Odor	: Odourless.
Odor threshold	: No data available
рН	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: <10 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 1.04 g/ml (@ 20 °C)
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

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Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Contact with acids liberates toxic gas. Contact with water liberates toxic gas.

10.4. Conditions to avoid

Keep away from heat, sparks and flame.

10.5. Incompatible materials

Alcohols. Aldehydes. Ketones. Glass. Strong oxidizing agents. Sulfides. Water.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products in case of fire, see Section 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

: Oral: Toxic if swallowed. Inhalation: Toxic if inhaled.

Bis(2-methoxyethyl)aminosulfur trifluoride,	50 wt. % in THF
ATE US (oral)	100.000 mg/kg body weight
ATE US (gases)	700.000 ppmV/4h
ATE US (vapors)	3.000 mg/l/4h
ATE US (dust, mist)	0.500 mg/l/4h
Tetrahydrofuran (109-99-9)	
LD50 oral rat	1650 mg/kg
LC50 inhalation rat (ppm)	21000 ppm (Exposure time: 3 h)
ATE US (oral)	1650.000 mg/kg body weight
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Tetrahydrofuran (109-99-9)	
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Absorption of excessive F- can result in acute systemic fluorosis with hypocalcemia, interference with various metabolic functions and organ damage (heart, liver, kidneys).
Symptoms/injuries after inhalation	: Material is destructive to tissue of the mucuous membranes and upper respiratory tract. Cough, shortness of breath, headache, nausea.

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SECTION 12: Ecological informatic	on de la constante de la const
12.1. Toxicity	
Tetrahydrofuran (109-99-9)	
LC50 fish 1	1970 - 2360 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	2700 - 3600 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

BCF fish 1 (will not bioconcentrate) Log Pow 0.45 (at 25 °C)	
Log Pow 0.45 (at 25 °C)	
12.4. Mobility in soil	

No additional information available

12.5.	Other adverse effects	
Effect o	n the global warming	: No known ecological damage caused by this product.

SECTION 13: Disposal consideration	ons
13.1. Waste treatment methods	
Waste treatment methods	: Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber.
Waste disposal recommendations	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information	: Recycle the material as far as possible.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT Transport document description

: UN3286 Flammable liquid, toxic, corrosive, n.o.s., 3, II

UN-No.(DOT)

Proper Shipping Name (DOT) Transport hazard class(es) (DOT) Hazard labels (DOT)

- : UN3286
- : Flammable liquid, toxic, corrosive, n.o.s.
- : 3 Class 3 Flammable and combustible liquid 49 CFR 173.120
- : 3 Flammable liquid
- 6.1 Poison





Packing group (DOT) DOT Packaging Non Bulk (49 CFR 173.xxx) DOT Packaging Bulk (49 CFR 173.xxx) DOT Symbols

- : II Medium Danger
- : 202
- : 243
- : G Identifies PSN requiring a technical name

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DOT Special Provisions (49 CFR 172.102)	:	IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T11 - 6 178.274(d)(2) Normal
DOT Packaging Exceptions (49 CFR 173.xxx)	:	150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)		
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	5 L
DOT Vessel Stowage Location	:	B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	:	21 - Segregation same as for flammable liquids,40 - Stow "clear of living quarters",100 - Stow "away from" flammable solids
Other information	:	No supplementary information available.
TDG		
No additional information available		
Transport by sea		
UN-No. (IMDG)	:	3286
Proper Shipping Name (IMDG)		FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
Class (IMDG)	:	3 - Flammable liquids
Packing group (IMDG)	:	II - substances presenting medium danger
Air transport		
UN-No. (IATA)	:	3286
Proper Shipping Name (IATA)	:	Flammable liquid, toxic, corrosive, n.o.s.
Class (IATA)	:	3 - Flammable Liquids
Packing group (IATA)	:	II - Medium Danger
SECTION 15: Regulatory information	ו	

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Bis(2-methoxyethyl)aminosulfur trifluoride (202289-38-1)	
EPA TSCA Regulatory Flag	P - P - indicates a commenced PMN substance.
Tetrahydrofuran (109-99-9)	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
15.2 International regulations	

CANADA

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Bis(2-methoxyethyl)aminosulfur trifluoride (202289-38-1)	
Listed on the Canadian NDSL (Non-Domestic Substances List)	
Tetrahydrofuran (109-99-9)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

Bis(2-methoxyethyl)aminosulfur trifluoride (202289-38-1)

Listed on ELINCS (European List of Notified Chemical Substances)

National regulations

National regulations		
Bis(2-methoxyethyl)aminosulfur trifluoride (202289-38-1)		
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)		
Tetrahydrofuran (109-99-9)		
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the Canadian IDL (Ingredient Disclosure List) Listed on INSQ (Mexican national Inventory of Chemical Substances) Listed on Turkish inventory of chemical		

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Tetrahydrofuran (109-99-9)

U.S. - Massachusetts - Right To Know List

- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List U.S. Pennsylvania RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases:

A sector to the first station () O stars are 0
Acute toxicity (inhalation) Category 3
Acute toxicity (oral) Category 3
Acute toxicity (oral) Category 4
Carcinogenicity Category 2
Serious eye damage/eye irritation Category 1
Serious eye damage/eye irritation Category 2A
Flammable liquids Category 2
Skin corrosion/irritation Category 1A
Specific target organ toxicity (single exposure) Category 3
Specific target organ toxicity (single exposure) Category 3
Substances and mixtures which in contact with water emit flammable
gases Category 2
Highly flammable liquid and vapor
In contact with water releases flammable gases
Toxic if swallowed
Harmful if swallowed
Causes severe skin burns and eye damage
Causes serious eye damage
Causes serious eye irritation
Toxic if inhaled
May cause respiratory irritation
May cause drowsiness or dizziness
Suspected of causing cancer

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NFPA health hazard	: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
NFPA fire hazard	: 3 - Liquids and solids that can be ignited under almost all ambient conditions.
NFPA reactivity	: 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.
HMIS III Rating	
Health	: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
	* - Chronic (long-term) health effects may result from repeated overexposure
Flammability	: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)
Physical	2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

SDS US (GHS HazCom 2012)

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is offered solely for your consideration, investigation, and verification. It does not represent any guarantee of the properties of the product nor that the hazard precautions or procedures described are the only ones which exist. SynQuest shall not be held liable or any damage resulting from handling or from contact with the above product.