

## MATERIAL SAFETY DATA SHEET

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Version 1.1

## Section 1 - Product and Company Information

Product Name BORON TRIFLUORIDE-ETHYLAMINE  
COMPLEX  
Product Number 292249  
Brand ALDRICH  
Company Sigma-Aldrich  
Street Address 3050 Spruce Street  
City, State, Zip, Country SAINT LOUIS MO 63103 US  
Technical Phone: 314 771 5765  
Emergency Phone: 414 273 3850 Ext. 5996  
Fax: 800 325 5052

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
BORON TRIFLUORIDE ETHYLAMINE COMPLEX	75-23-0	No

Formula C2H7BF3N  
Synonyms Araldite HT 973 \* BF 3-400 \* Boron  
(ethanamine)trifluoro-, (T-4)- (9CI) \* Boron  
fluoride-ethylamine salt \* Boron trifluoride  
ethylamine \* Borontrifluoride monoethylamine \*  
Ethanamine, compd. with trifluoroborane (1:1) \*  
Ethylamine, compd. with BF3 (1:1) (8CI) \* HT973 \*  
Sumicure BFM  
RTECS Number: KQ8060000

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Corrosive.

Causes burns. Irritating to eyes and respiratory system.

Lachrymator.

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is  
conscious. Call a physician.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give  
artificial respiration. If breathing is difficult, give oxygen.

## EYE EXPOSURE

Assure adequate flushing of the eyes by separating the eyelids  
with fingers.

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## Section 5 - Fire Fighting Measures

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### CONDITIONS OF FLAMMABILITY

Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

### FLASH POINT

314.6 °F 157 °C Method: closed cup

### AUTOIGNITION TEMP

N/A

### FLAMMABILITY

N/A

### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Do not use water.

### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s): Emits toxic fumes under fire conditions.

### EXPOSURE HAZARD(S)

Material: Corrosive. Lachrymator.

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## Section 6 - Accidental Release Measures

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### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

### METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

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## Section 7 - Handling and Storage

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### HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Suitable: Keep tightly closed. Handle and store under nitrogen. Store at 2-8°C

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

### PERSONAL PROTECTIVE EQUIPMENT

Other: Wear appropriate government approved respirator, chemical-resistant gloves, safety goggles, other protective

clothing. Faceshield (8-inch minimum).

#### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

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### Section 9 - Physical/Chemical Properties

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Appearance	Color: Very faintly yellow Form: Fine plates	
Property	Value	At Temperature or Pressure
Molecular Weight	112.89 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	85 - 89 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	314.6 °F 157 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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### Section 10 - Stability and Reactivity

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#### STABILITY

Conditions of Instability: Heat sensitive. May decompose on exposure to moist air or water.

Materials to Avoid: Strong oxidizing agents, Strong bases.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen fluoride, Borane/boron oxides.

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### Section 11 - Toxicological Information

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#### ROUTE OF EXPOSURE

Multiple Routes: Harmful if swallowed, inhaled, or absorbed through skin.

#### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous

membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## Section 12 - Ecological Information

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No data available.

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## Section 13 - Disposal Considerations

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### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Cautiously dissolve the material in water. Neutralize immediately with sodium carbonate, or first add a little hydrochloric acid followed by sodium carbonate if the material does not dissolve completely. Add calcium chloride in excess of the amount needed to precipitate the fluoride and/or carbonate. Separate the insolubles and bury in a landfill site approved for hazardous waste disposal. Observe all federal, state, and local environmental regulations.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: Corrosive solid, acidic, organic, n.o.s.  
UN#: 3261  
Class: 8  
Packing Group: Packing Group II  
Hazard Label: Corrosive  
PIH: Not PIH

### IATA

Proper Shipping Name: Corrosive solid, acidic, organic, n.o.s.  
IATA UN Number: 3261  
Hazard Class: 8  
Packing Group: II

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## Section 15 - Regulatory Information

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### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: C  
Indication of Danger: Corrosive.  
R: 34 37  
Risk Statements: Causes burns. Irritating to respiratory system.  
S: 26 36/37/39 45  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Corrosive.  
Risk Statements: Causes burns. Irritating to eyes and respiratory system.  
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After

contact with skin, wash immediately with plenty of water. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.  
US Statements: Lachrymator.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

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Section 16 - Other Information

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DISCLAIMER

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WARRANTY

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