

# SHANDONG HEYI GAS CO., LTD.

SHENGTUO TOWN KENLI COUNTY DONGYING CITY SHANDONG CHINA

[Tel:+86-021-52907631](tel:+86-021-52907631)

Web site: <https://www.heyigasglobal.com/> email: [jiazhiying@heyigas.com](mailto:jiazhiying@heyigas.com)

## MSDS MATERIAL SAFETY DATA SHEET

### Boron trifluoride Etherate

Name:	Boron trifluoride Etherate
Synonym:	Boron trifluoride diethyl ether
CAS:	109-63-7

#### Section 1 - Chemical Product

MSDS Name: Boron trifluoride Etherate

Synonym: Boron trifluoride diethyl ether.

#### Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EINECS#
109-63-7	Boron trifluoride Etherate	100 %	203-689-8



Hazard description:

GHS LABELS

Hazard Symbols: F C

Risk Phrases: 15 34

---

### 🔗 Section 3 - HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Contact with water liberates extremely flammable gases. Causes burns. Corrosive. Moisture sensitive.

#### Potential Health Effects

##### Eye:

Causes eye burns. May cause irreversible eye injury.

##### Skin:

Causes skin burns.

##### Ingestion:

Harmful if swallowed. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma.

##### Inhalation:

Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma.

##### Chronic:

No information found.

---

### 🔗 Section 4 - FIRST AID MEASURES

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

##### Skin:

Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

##### Ingestion:

Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

##### Inhalation:

Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

---

### 🔗 Section 5 - FIRE FIGHTING MEASURES

#### General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. Can burn in a fire, releasing toxic vapors. Will burn if involved in a fire.

Extinguishing Media:

Use carbon dioxide or dry chemical.

---

### 🔦 **Section 6 - ACCIDENTAL RELEASE MEASURES**

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool.

---

### 🔦 **Section 7 - HANDLING and STORAGE**

Handling:

Wash thoroughly after handling. Wash hands before eating. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Do not ingest or inhale.

Storage:

Keep away from heat and flame. Store in a cool, dry place. Store in a tightly closed container.

Flammables-area.

---

### 🔦 **Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Exposure Limits CAS# 109-63-7: United States OSHA: 2.5 mg/m<sup>3</sup> TWA (as F) (listed under Fluorides)

Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

---

### 🔦 **Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Liquid

Color: clear colorless to yellowish

Odor: pungent

Melting point	approx. - 58 °C
Boiling point	125 - 135 °C
Flash point	60 - 70 °C
Lower explosive limit	5.1 Vol. %
Upper explosive limit	18.2 Vol. %
Ignition point	185 °C
Vapor pressure (20 °C)	< 3 mbar
Vapor pressure (50 °C)	< 5 mbar
Density (20 °C)	1.124 - 1.127 g/cm <sup>3</sup>
Viscosity (20 °C)	1.89 mPa.s

---

#### 🔗 Section 10 - STABILITY AND REACTIVITY

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Mechanical shock, temperatures above recommended temperatures, incompatible materials, ignition sources, temperatures above 50C (122F), exposure to moist air or water.

Incompatibilities with Other Materials:

Acids, bases, alcohols, alkali metals, steel, water, and metals.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, boron trifluoride, diethyl ether, hydrogen fluoride gas, oxides of boron.

Hazardous Polymerization: Has not been reported.

---

#### 🔗 Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 109-63-7 unlisted.

LD50/LC50:

Not available.

Carcinogenicity:

Boron trifluoride etherate, - Not listed by ACGIH, IARC, or NTP.

---

## 🔑 Section 12 - ECOLOGICAL INFORMATION

### Environmental Fate:

No information found.

### Environmental Toxicity:

No information found.

---

## 🔑 Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

---

## 🔑 Section 14 - TRANSPORT INFORMATION

IATA

Shipping Name: BORON TRIFLUORIDE DIETHYL ETHERATE

Hazard Class: 8

UN Number: 2604

Packing Group: I

IMO

Shipping Name: BORON TRIFLUORIDE DIETHYL ETHERATE

Hazard Class: 8

UN Number: 2604

Packing Group: I

RID/ADR

Shipping Name: BORON TRIFLUORIDE DIETHYL ETHERATE

Hazard Class: 8

UN Number: 2604

Packing group: I

---

## 🔑 Section 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: F C

Risk Phrases:

R 15 Contact with water liberates extremely flammable gases.

R 34 Causes burns.

Safety Phrases:

S 7/8 Keep container tightly closed and dry.

S 25 Avoid contact with eyes.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 109-63-7: No information available.

Canada

CAS# 109-63-7 is listed on Canada's DSL List.

CAS# 109-63-7 is listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 109-63-7 is listed on the TSCA inventory.

## 16. Other Information

**NFPA Ratings:** Health: **3** Flammability: **2** Reactivity: **1** Other: **Water reactive**

**Label Hazard Warning:**

DANGER! CORROSIVE. FLAMMABLE LIQUID AND VAPOR. VAPOR, MIST AND LIQUID CAUSE BURNS TO ALL BODY TISSUES. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS KIDNEYS. CAUSES ANESTHETIC EFFECTS. WATER REACTIVE.

**Label Precautions:**

No SAF-T-DATA Ratings have been developed for this product. Read and follow all warnings, precautions, instructions and other safety and handling information on the label and MSDS.

Do not breathe mist or fumes.

Do not get in eyes, on skin, or on clothing.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Keep away from heat, sparks and flame.

Avoid contact with water.

**Label First Aid:**

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

New 16 section MSDS format, all sections have been revised.

**Disclaimer:**

\*\*\*\*\*

**Shandong Heyi Gas Co., Ltd. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. HEYI GAS MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, HEYI CHEM. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.**

\*\*\*\*\*