



## MATERIAL SAFETY DATA SHEET

CONTACT : **LEONID CHEMICALS**  
Leonid Chemicals Pvt Ltd  
62/A-2 1st Stage, Yeshwanthpur Industrial Suburb  
Ashokpuram School Road  
Bangalore-560 022, Karnataka, INDIA  
Ph: +91-80-2337 8354, Fax: +91-80-2357 4827

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MSDS Name:** Ethyl bromodifluoroacetate, 98%

**Catalog Numbers:**

363

**Synonyms:**

**Company Identification**

LEONID CHEMICALS

62/A-2 2nd Stage, Industrial Suburb

Yeshwanthpur, Bangalore -22, INDIA

Ph- +91-80-23378354

### SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	: 667-27-6
Chemical Name	: Ethyl bromodifluoroacetate
%	: 98%
EINECS#	: 211-567-0
Haz Symbols	: XI
Risk Phrases	: 10 36/37/38

### SECTION 3 - HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Flammable. Irritating to eyes, respiratory system and skin.

#### Potential Health Effects

##### Eye:

Causes eye irritation.

##### Skin:

Causes skin irritation. May be harmful if absorbed through the skin.

May cause reddening of the skin.

##### Ingestion:

May cause irritation of the digestive tract. May cause nausea and vomiting. May be harmful if swallowed.

##### Inhalation:

Causes respiratory tract irritation. May be harmful if inhaled.

Inhalation of vapors may cause nausea, vomiting, dizziness, and loss of consciousness.

##### Chronic:

Not available.



#### SECTION 4 - FIRST AID MEASURES

**Eyes:**

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:**

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

**Ingestion:**

Get medical aid. Wash mouth out with water.

**Inhalation:**

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:**

Treat symptomatically and supportively.

#### 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. Will burn if involved in a fire. Containers may explode in the heat of a fire. Flammable liquid and vapor.

**Extinguishing Media:**

Use water spray, dry chemical, carbon dioxide, or chemical foam.

#### 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. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Isolate area and deny entry.

#### SECTION 7 - HANDLING and STORAGE

**Handling:**

Use with adequate ventilation. Use spark-proof tools and explosion proof equipment. Avoid breathing dust, vapor, mist, or gas. Avoid contact with skin and eyes.

**Storage:**

Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

## SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

### Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Personal Protective Equipment

#### Eyes:

Wear chemical goggles.

#### 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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Clear liquid
Color:	colorless
Odor:	odorless
pH:	Not available.
Vapor Pressure:	Not available.
Viscosity:	Not available.
Boiling Point:	112 deg C @ 700 mmHg
Freezing/Melting Point:	Not available.
Autoignition Temperature:	Not available.
Flash Point:	21 deg C ( 69.80 deg F)
Explosion Limits, lower:	Not available.
Explosion Limits, upper:	Not available.
Decomposition Temperature:	
Solubility in water:	
Specific Gravity/Density:	1.5830g/cm <sup>3</sup>
Molecular Formula:	C <sub>4</sub> H <sub>5</sub> BrF <sub>2</sub> O <sub>2</sub>
Molecular Weight:	202.99

## SECTION 10 - STABILITY AND REACTIVITY

### Chemical Stability:

Stable under normal temperatures and pressures.

### Conditions to Avoid:

Incompatible materials, ignition sources.

### Incompatibilities with Other Materials:

Strong oxidizing agents.

### Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, hydrogen fluoride gas, hydrogen bromide.

**Hazardous Polymerization:** Has not been reported

#### SECTION 11 - TOXICOLOGICAL INFORMATION

**RTECS#:**

CAS# 667-27-6 unlisted.

**LD50/LC50:**

Not available.

**Carcinogenicity:**

Ethyl bromodifluoroacetate -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

See actual entry in RTECS for complete information.

#### SECTION 12 - ECOLOGICAL INFORMATION

Other

Non-biodegradable.

#### SECTION 13 - DISPOSAL CONSIDERATIONS

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

#### SECTION 14 - TRANSPORT INFORMATION

IATA

**Shipping Name:** FLAMMABLE LIQUID, N.O.S.\*

**Hazard Class:** 3

**UN Number:** 1993

**Packing Group:** II

IMO

**Shipping Name:** FLAMMABLE LIQUID, N.O.S.

**Hazard Class:** 3

**UN Number:** 1993

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RID/ADR

**Shipping Name:** FLAMMABLE LIQUID, N.O.S.

**Hazard Class:** 3

**UN Number:** 1993

**Packing group:** II

#### SECTION 15 - REGULATORY INFORMATION

European/International Regulations

European Labeling in Accordance with EC Directives

**Hazard Symbols:** XI

**Risk Phrases:**

R 10 Flammable.

R 36/37/38 Irritating to eyes, respiratory system and skin.

**Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

WGK (Water Danger/Protection)

**CAS# 667-27-6:** No information available.

United Kingdom Occupational Exposure Limits

United Kingdom Maximum Exposure Limits

Canada

None of the chemicals in this product are listed on the DSL/NDSL list.

CAS# 667-27-6 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

US FEDERAL

TSCA

CAS# 667-27-6 is not listed on the TSCA inventory.

It is for research and development use only.

<b>SECTION 16 - ADDITIONAL INFORMATION</b>
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MSDS Creation Date: 11/21/1996 Revision #1 Date: 10/03/2000

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