

 <p><b>CHEMLABS</b> Quality Our Forte</p>	<p><b>LEONID CHEMICALS PVT. LTD., BANGALORE</b></p> <p>An ISO-9001:2008 Certified Company</p> <p><b>Quality Assurance Department</b></p>	<p>(CODE) DOCUMENT : WI (CODE) SECTION : WI/SM (DATE) : 01.04.2011</p>	 <p>Issue : 02 Rev.: 00</p>
<p>Title: MATERIAL SAFETY DATA SHEET (MSDS):1,2 - DIBROMOETHANE</p>			<p>1   Page of 1</p>

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:**

1, 2-Dibromoethane

**Cat No.:**

D053

**Synonyms:**

EDB, Ethylene Dibromide

**CAS-No. :**

106-93-4

**Company Information:**

LEONID CHEMICALS Pvt Ltd,  
62/A2, 1<sup>st</sup> Stage,  
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## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Carcinogenicity (Category 1B)

Acute toxicity, Inhalation (Category 3)

Acute toxicity, Dermal (Category 3)

Acute toxicity, Oral (Category 3)

Eye irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Skin irritation (Category 2)

Chronic aquatic toxicity (Category 2)

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

May cause cancer. Toxic by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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#### Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word Danger

Hazard statement(s)

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H350 May cause cancer.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard

Statements

none

Restricted to professional users.

**According to European Directive 67/548/EEC as amended.**

Hazard symbol(s)

R-phrase(s)

R45 May cause cancer.

R23/24/25 Also toxic by inhalation, in contact with skin and if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S53 Avoid exposure - obtain special instructions before use.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Restricted to professional users.

**Other hazards**

Vesicant.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Formula: C<sub>2</sub>H<sub>4</sub>Br<sub>2</sub>  
Molecular Weight: 187.86 g/mol  
CAS-No.: 106-93-4

#### 4. FIRST AID MEASURES

##### Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

##### Most important symptoms and effects, both acute and delayed

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting., Gastrointestinal disturbance, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

##### Indication of any immediate medical attention and special treatment needed

no data available

#### 5. FIREFIGHTING MEASURES

##### Extinguishing media

##### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### Special hazards arising from the substance or mixture

Carbon oxides, Hydrogen bromide gas

##### Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

##### Further information

no data available

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

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Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

**Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Light sensitive. May darken on storage

**Specific end uses**

no data available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Components with workplace control parameters**

**Exposure controls**

**Appropriate engineering controls**

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**Personal protective equipment**

**Eye/face protection**


Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique

(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

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The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

- a) Appearance Form: liquid
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: no data available
- e) Melting point/freezing point  
Melting point/range: 8 - 11 °C - lit.
- f) Initial boiling point and boiling range: 131 - 132 °C - lit.
- g) Flash point: no data available
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: no data available
- k) Vapour pressure: 72.0 hPa at 55,0 °C
- l) Vapour density: no data available
- m) Relative density: 2.18 g/cm<sup>3</sup> at 25 °C
- n) Water solubility: no data available
- o) Partition coefficient: noctanol/water: no data available
- p) Autoignition temperature: no data available
- q) Decomposition temperature: no data available
- r) Viscosity: no data available
- s) Explosive properties: no data available
- t) Oxidizing properties: no data available

#### Other safety information

no data available

### 10. STABILITY AND REACTIVITY

#### Reactivity

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no data available

**Chemical stability**

no data available

**Possibility of hazardous reactions**

no data available

**Conditions to avoid**

no data available

**Incompatible materials**

Alkali metals, Oxidizing agents, Magnesium

**Hazardous decomposition products**

Other decomposition products - no data available

**11. TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

**Acute toxicity**

LDLO Oral - Human - female - 90.0 mg/kg

Remarks: Diarrhoea Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Kidney, Ureter, Bladder: Urine volume decreased.

LD50 Oral - rabbit - 55.0 mg/kg

LD50 Oral - guinea pig - 110.0 mg/kg

LD50 Oral - Chicken - 79.0 mg/kg

LD50 Oral - Quail - 130.0 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity). Lungs, Thorax, or Respiration: Dyspnea.

Diarrhoea

LC50 Inhalation - rat - 0,5 h - 14.300 mg/m<sup>3</sup>

Remarks: Peripheral Nerve and Sensation: Flaccid paralysis without anesthesia (usually neuromuscular blockage). Behavioral: Somnolence (general depressed activity). Lungs, Thorax, or Respiration: Dyspnea.

LD50 Dermal - rabbit - 300.0 mg/kg

Remarks: Nutritional and Gross Metabolic: Changes in: Body temperature decrease. Extremely corrosive and destructive to tissue.

**Skin corrosion/irritation**

Skin - rabbit - Severe skin irritation - 336 h

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

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This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

IARC: 2A - Group 2A: Probably carcinogenic to humans (1,2-Dibromoethane)

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

**Inhalation** Toxic if inhaled. Causes respiratory tract irritation.

**Ingestion** Toxic if swallowed.

**Skin** Toxic if absorbed through skin. Causes skin irritation.

**Eyes** Causes serious eye irritation.

**Signs and Symptoms of Exposure**

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting., Gastrointestinal disturbance, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**

RTECS: KH9275000

## 12. ECOLOGICAL INFORMATION

**Toxicity**

Toxicity to fish Growth inhibition NOEC - *Oryzias latipes* - 5.81 mg/l - 96.0 h

Growth inhibition LOEC - *Oryzias latipes* - 9.62 mg/l - 96,0 h

LC50 - *Oryzias latipes* - 32.1 mg/l - 96.0 h

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Results of PBT and vPvB assessment**

no data available

**Other adverse effects**

Toxic to aquatic life with long lasting effects.

## 13. DISPOSAL CONSIDERATIONS

	<b>LEONID CHEMICALS PVT. LTD., BANGALORE</b>  <b>An ISO-9001:2008 Certified Company</b>  <b>Quality Assurance Department</b>	(CODE) DOCUMENT : WI  (CODE) SECTION : W/SM  (DATE) : 01.04.2011	  Issue : 02  Rev.: 00
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#### Waste treatment methods

##### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

##### Contaminated packaging

Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

##### UN number

ADR/RID: 1605 IMDG: 1605 IATA: 1605

##### UN proper shipping name

ADR/RID: ETHYLENE DIBROMIDE

IMDG: ETHYLENE DIBROMIDE

IATA: Ethylene dibromide

Passenger Aircraft: Not permitted for transport

Cargo Aircraft: Not permitted for transport

##### Transport hazard class (es)

ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1

##### Packaging group

ADR/RID: I IMDG: I IATA: -

##### Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

##### Special precautions for user

no data available

#### 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

##### Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

##### Chemical Safety Assessment

no data available

#### 16. OTHER INFORMATION

##### Further information



The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Leonid Chemicals Pvt. Ltd.



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**Specification manual - 1, 2-Dibromo Ethane**

**C<sub>2</sub>H<sub>4</sub>Br<sub>2</sub>**



**MW: 187.86**

**Product** : 1, 2-Dibromo Ethane LR  
**Description** : Clear colourless to faintly yellow coloured liquid  
**Cat No** : D053  
**Cas No** : 106-93-4  
**Prepared Date** : 07.03.2005  
**Approved Date** : 07.03.2005

REVISION HISTORY			
Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	07.03.2005
02/00	Reviewed no changes	S. Paul Joshua	01.04.2011
Next Review Due :	02.04.2015		
To be reviewed by :	Head-QC/QA		

Sl. No.	Tests	Specification	Protocol
		LR	
1	Assay (GC)	>98.5%	2/4/03
2	Density	2.18 g/ml	2/3.1-4.2
3	Boiling range	131 - 133°C	2/3.1-03

Approved By: S.Paul Joshua, Head Quality Control and Quality Assurance

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Approved By: S.Paul Joshua, Head Quality Control and Quality Assurance

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