



**LEONID CHEMICALS PVT. LTD.,  
BANGALORE**

**An ISO-9001:2008 Certified Company**

**Quality Assurance Department**

(CODE) DOCUMENT : WI

(CODE) SECTION : WI/SM

(DATE) : 01.04.2013



Issue : 02

Rev.: 00

Title: MATERIAL SAFETY DATA SHEET (MSDS): 1,8- DIAZOBICYCLO [ 5.4.0] UNDEC-7ENE [DBU]

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## SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: 1, 8- Diazobicyclo [5.4.0] undec-7ene [DBU]

Catalog Numbers: D052

Synonyms: DBU, 2,3,4,6,7,8,9,10-Octahydropyrimidol[1,2-a]azepine

CAS-No. : 6674-22-2

Company Information:

LEONID CHEMICALS Pvt Ltd,

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

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

Corrosive to metals (Category 1)

Acute toxicity, Oral (Category 3)

Skin corrosion (Category 1B)

Chronic aquatic toxicity (Category 3)

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

Harmful if swallowed. Causes burns. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

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

Hazard statement(s)

H290 May be corrosive to metals.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.



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### Precautionary statement(s)

- P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
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.  
P310 Immediately call a POISON CENTER or doctor/ physician.

### Supplemental Hazard

Statements : none

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

### Hazard symbol(s)

#### R-phrase(s)

- R22 Harmful if swallowed.  
R34 Causes burns.  
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### S-phrase(s)

- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S45 In case of accident or if you feel unwell, seek medical advice immediately(show the label where possible).

Other hazards - none

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Substances

Formula : C9H16N2  
Molecular Weight : 152,24 g/mol

Component	Classification	Concentration
1,8-Diazabicyclo[5.4.0]undec-7-ene		
CAS-No.	6674-22-2	-
EC-No.	229-713-7	

## SECTION 4. FIRST AID MEASURES



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## 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

Take off contaminated clothing and shoes immediately. 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

Do NOT induce vomiting. 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

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, Shortness of breath, Headache, Nausea

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

no data available

## SECTION 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, nitrogen oxides (NOx)

### Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

### Further information

no data available

## SECTION 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.

### **SECTION 7. HANDLING AND STORAGE**

#### **Precautions for safe handling**

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. Store under inert gas. Sensitive to carbon dioxide Air sensitive.

#### **Specific end uses**

no data available

### **SECTION 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**

Tightly fitting safety goggles. Face shield(8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (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.

### Immersion protection

Material : butyl-rubber  
Minimum layer thickness : 0,3 mm  
Break through time : > 480 min  
Material tested : Butoject

### Splash protection

Material : Nitrile rubber  
Minimum layer thickness : 0,11 mm  
Break through time : > 30 min  
Material tested : Dermatril

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### 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 back up 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).

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

- a) Appearance Form : clear, liquid  
Colour: yellow
- b) Odour : unpleasant
- c) Odour : Threshold no data available
- d) pH : 12,8 at 10 g/l at 20 °C
- e) Melting point/freezing



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- point : Melting point/range: -70 °C
- f) Initial boiling point and boiling range : 80 - 83 °C at 0,8 hPa - lit.
- g) Flash point : 116 °C
- h) Evaporation rate : no data available
- i) Flammability (solid, gas) : no data available
- j) Upper explosion limit : 6,5 %(V)  
Lower explosion limit : 1,1 %(V)
- k) Vapour pressure : 7,1 hPa at 37,7 °C
- l) Vapour density : no data available
- m) Relative density : 1,018 g/mL at 25 °C
- n) Water solubility : no data available
- o) Partition coefficient:  
n-octanol/water : log Pow: < -2,2
- 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

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

no data available



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**Chemical stability**

no data available

**Possibility of hazardous reactions**

no data available

**Conditions to avoid**

no data available

**Incompatible materials**

acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates

**Hazardous decomposition products**

Other decomposition products - no data available

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

**Acute toxicity**

LD50 Oral - rat - 215 - 681 mg/kg

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available



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#### Aspiration hazard

no data available

#### Potential health effects

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Ingestion** Toxic if swallowed. Causes burns.

**Skin** May be harmful if absorbed through skin. Causes skin burns.

**Eyes** Causes eye burns.

#### Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

#### Additional Information

RTECS: Not available

### SECTION 12. ECOLOGICAL INFORMATION

#### Toxicity

Toxicity to fish LC50 - *Leuciscus idus* (Golden orfe) - 100,0 - 220,0 mg/l - 96,0 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - *Daphnia magna* (Water flea) - 50 mg/l - 48 h

Toxicity to algae EC50 - *Desmodesmus subspicatus* (green algae) - > 100 mg/l - 72 h

#### Persistence and degradability

Biodegradability Method: OECD Test Guideline 302

#### Bio accumulative potential

Does not bio accumulate.

#### Mobility in soil

no data available

#### Results of PBT and vPvB assessment

no data available

#### Other adverse effects

Harmful to aquatic life with long lasting effects.

no data available





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### SECTION 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

##### Product

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

##### Contaminated packaging

Dispose of as unused product.

### SECTION 14. TRANSPORT INFORMATION

#### UN number

ADR/RID: 3267      IMDG: 3267      IATA: 3267

#### UN proper shipping name

ADR/RID: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

(1,8-Diazabicyclo[5.4.0]undec-7-ene)

IMDG: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (1,8-Diazabicyclo[5.4.0]undec-7-ene)

IATA: Corrosive liquid, basic, organic, n.o.s. (1,8-Diazabicyclo[5.4.0]undec-7-ene)

#### Transport hazard class(es)

ADR/RID: 8      IMDG: 8      IATA: 8

#### Packaging group

ADR/RID: II      IMDG: II      IATA: II

#### Environmental hazards

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

#### Special precautions for user

no data available

### SECTION 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

### SECTION 16 - ADDITIONAL INFORMATION



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Title: SPECIFICATION MANUAL - 1,8-DIAZOBICYCLO [5.4.0] undec-7ene [DBU]

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### Specification manual - 1, 8- Diazobicyclo [5.4.0] undec-7ene [DBU]

**C<sub>9</sub>H<sub>16</sub>N<sub>2</sub>**

**MW: 152.24**

**Product** : 1, 8- Diazobicyclo  
**Description** : Clear colourless to light yellow liquid.  
**Cat No** : D052  
**Cas No** : 6674-22-2  
**Prepared Date** : 27/10/2010  
**Approved Date** : 27/10/2010

#### REVISION HISTORY

Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	27.10.2010
02/00	Reviewed no changes	S. Paul Joshua	27.10.2011
02/01	Included "Description" in the Tests	S. Paul Joshua	17.06.2013
Next Review Due :	02.04.2015		
To be reviewed by :	Head-QC/QA		

Sl. No.	Tests	Specification	Protocol
		LR	
1	Description	Clear colourless to light yellow liquid.	LCPL
2	Assay(GC)	≥98%	2/4/03
3	Density	1.019 g/ml	2/3.1-4.2

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

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