

(CODE) DOCUMENT : WI (CODE) SECTION : WI/SM An ISO-9001:2008 Certified Company

(DATE) : 01.04.2013

lssue : 02 Rev.: 00

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

### 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,

62/A2, 1st Stage,

Yeshwanthpur Industrial Suburb,

Ashokpuram School Road,

Bangalore -22, Karnataka, INDIA

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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 stat	ement(s)
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310	
IF SWALLOWED: P305 + P351 +	Immediately call a POISON CENTER or doctor/physician.
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 Haza	ard
Statements :	none
According to Europ	pean 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.
\$36/37/39	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 Molecular Weight	: C9H16N2	Our	Forte
wolecular weight	. 152,24 y/mor		

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

### **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



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

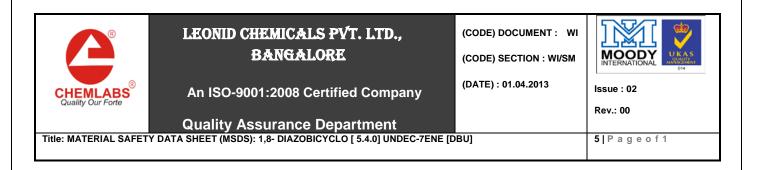
### Eye/face protection

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.



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)	рН	: 12,8 at 10 g/l at 20 °C
e)	Melting point/freezing	

CHEM	BANG	CALS PVT. LTD., LALORE 18 Certified Company	(CODE) DOCUMENT : WI (CODE) SECTION : WI/SM (DATE) : 01.04.2013	INTERNATIONAL O14
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Title: MATE	RIAL SAFETY DATA SHEET (MSDS): 1,8- DIA	AZOBICYCLO [ 5.4.0] UNDEC-7ENE [D	BU]	6   P a g e o f 1
	point	: Melting point/range	: -70 °C	
f)	Initial boiling point and boiling range	: 80 - 83 °C at 0,8 hPa	a - 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)	R	
k)	Vapour pressure	: 7,1 hPa at 37,7 °C		
I)	Vapour density	: no data available		
m)	Relative density	: 1,018 g/mL at 25 °C		
n)	Water solubility	: no da <mark>ta available</mark>		
0)	Partition coef <mark>ficie</mark> nt: n-octanol/water	: log Pow: < -2,2		
p)	Autoignition temperature	: no data available		
q)	Decomposition temperature	: no data available		R
r)	Viscosity	: no data available		
s)	Explosive properties	: no data available	Fairta	
t)	Oxidizing properties	: no data available	rone	
	Other safety information no data available	1		

SECTION 10. STABILITY AND REACTIVITY

## Reactivity

no data available



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

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### 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

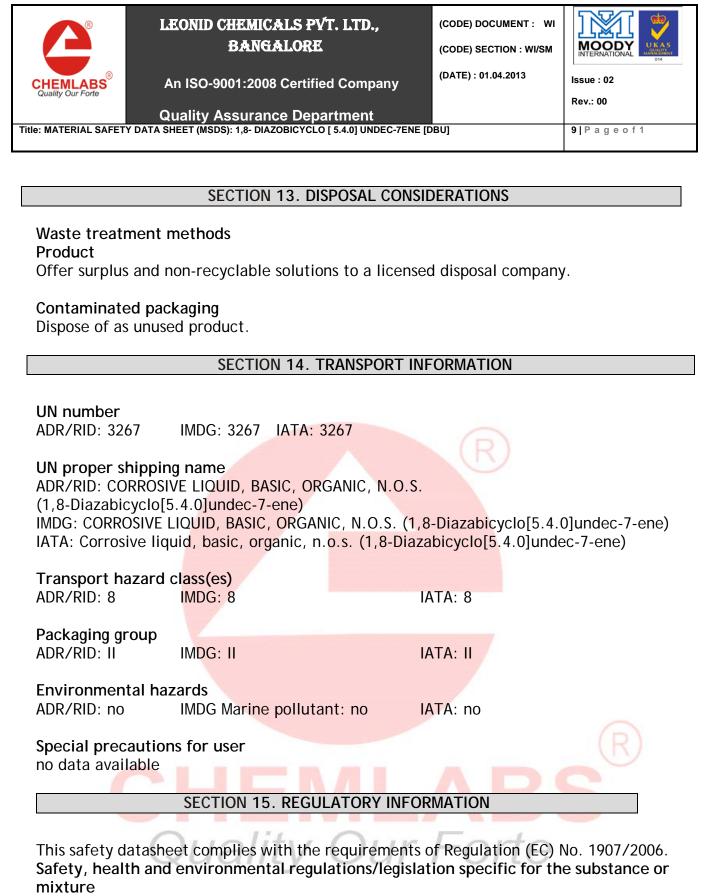
Persistence and degradability Biodegradability Method: OECD Test Guideline 302

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



no data available

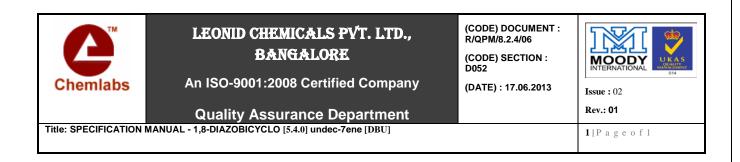
Chemical Safety Assessment no data available

SECTION 16 - ADDITIONAL INFORMATION

	LEONID CHEMICALS PVT. LTD., BANGALORE	(CODE) DOCUMENT : WI (CODE) SECTION : WI/SM	
CHEMLABS Quality Our Forte	An ISO-9001:2008 Certified Company	(DATE) : 01.04.2013	Issue : 02 Rev.: 00
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Specification manual - 1, 8- Diazobicyclo [5.4.0] undec-7ene [DBU]

MW: 152.24

$C_9H_{16}N_2$	
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

<b>REVISION HISTORY</b>					
Issue/Rev	Description of Change		Author	Effective Date	
01/00	Initial Releas	Initial Release			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.	Tests	Specification	Protocol
No.		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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