

### MATERIAL SAFETY DATA SHEET (MSDS)

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Product form	: Substance
Trade name	: iso-PENTANE AR
EC index no	: 601-085-00-2
EC no	: 201-142-8
CAS No	: 78-78-4
Product code	: 0239B
Formula	: C5H12

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

###### 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

###### 1.2.2. Uses advised against

No additional information available

##### 1.3. Details of the supplier of the safety data sheet

LOBA CHEMIE PVT.LTD.  
107 Wode House Road, Jehangir Villa, Colaba  
400005 Mumbai - INDIA  
T +91 22 6663 6663 - F +91 22 6663 6699  
[info@lobachemie.com](mailto:info@lobachemie.com) - [www.lobachemie.com](http://www.lobachemie.com)

##### 1.4. Emergency telephone number

Emergency number : + 91 22 6663 6663 (9:00am - 6:00 pm)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids,	H224
Category 1	
Aspiration hazard,	H304
Category 1	
Specific target organ toxicity — Single exposure, Category 3,	H336
Narcosis	
Hazardous to the aquatic environment — Chronic	H411
Hazard, Category 2	

Full text of classification categories and H statements : see section 16

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### Classification according to Directive 67/548/EEC or 1999/45/EC

F+; R12  
Xn; R65  
N; R51/53  
R66  
R67

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS08

GHS07

GHS09

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H224 - Extremely flammable liquid and vapour  
H304 - May be fatal if swallowed and enters airways  
H336 - May cause drowsiness or dizziness  
H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P261 - Avoid breathing vapours, dust, fume, gas  
P273 - Avoid release to the environment  
P301+P310 - IF SWALLOWED: Immediately call a doctor  
P331 - Do NOT induce vomiting

EUH phrases :

EUH066 - Repeated exposure may cause skin dryness or cracking

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : iso-PENTANE AR  
CAS No : 78-78-4  
EC no : 201-142-8  
EC index no : 601-085-00-2

Full text of R- and H-phrases: see section 16

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### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Get immediate medical advice/attention. Wash with plenty of soap and water.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/injuries after inhalation	: May cause drowsiness or dizziness.
Symptoms/injuries after ingestion	: May be fatal if swallowed and enters airways.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Carbon dioxide. Dry powder. Foam. Water spray.
Unsuitable extinguishing media	: Do not use extinguishing media containing water.

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

Fire hazard	: Extremely flammable liquid and vapour.
Explosion hazard	: May form flammable/explosive vapour-air mixture.

### 5.3. Advice for firefighters

Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
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## SECTION 6: Accidental release measures

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

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smoking.
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#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment as required.
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: On land, sweep or shovel into suitable containers. Collect spillage.
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### 6.4. Reference to other sections

No additional information available

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Do not breathe vapours.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Keep in fireproof place. Keep container tightly closed.

Incompatible materials : Heat sources.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Exposure controls

Hand protection : Protective gloves

Eye protection : Chemical goggles or safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : Wear respiratory protection

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Colorless.

Odour : characteristic odour.

Odour threshold : No data available

pH : No data available

Relative evaporation rate (butylacetate=1) : No data available

Melting point : -51 °C

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Auto-ignition temperature : No data available

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Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable liquid and vapour
Vapour pressure	: 769.92 hPa at 20°C
Relative vapour density at 20 °C	: 2.49
Relative density	: No data available
Density	: 0.62 g/ml at 25°C
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Sparks. Heat. Open flame.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Skin corrosion/irritation : Not classified

Additional information : Repeated exposure may cause skin dryness or cracking

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

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Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water	: Toxic to aquatic life with long lasting effects.
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### 12.2. Persistence and degradability

#### iso-PENTANE AR (78-78-4)

Persistence and degradability	May cause long-term adverse effects in the environment.
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### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	: Dispose of contents/container to ...
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Hazardous waste due to toxicity.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

### 14.1. UN number

UN-No. (ADR)	: 1265
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UN-No. (IMDG)	:	1265
UN-No.(IATA)	:	1265
UN-No.(ADN)	:	1265
UN-No. (RID)	:	1265

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	PENTANES
Proper Shipping Name (IMDG)	:	PENTANES
Proper Shipping Name (IATA)	:	PENTANES
Proper Shipping Name (ADN)	:	PENTANES
Proper Shipping Name (RID)	:	PENTANES
Transport document description (ADR)	:	UN 1265 PENTANES, 3, I, (D/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	:	UN 1265 PENTANES, 3, I, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	:	UN 1265 PENTANES, 3, I, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	:	UN 1265 PENTANES, 3, I, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	:	UN 1265 PENTANES, 3, I, ENVIRONMENTALLY HAZARDOUS

### 14.3. Transport hazard class(es)

#### ADR

Transport hazard class(es) (ADR)	:	3
Danger labels (ADR)	:	3



#### IMDG

Transport hazard class(es) (IMDG)	:	3
Danger labels (IMDG)	:	3



#### IATA

Transport hazard class(es) (IATA)	:	3
Hazard labels (IATA)	:	3



#### ADN

Transport hazard class(es) (ADN)	:	3
Danger labels (ADN)	:	3

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### RID

Transport hazard class(es) (RID) : 3  
Danger labels (RID) : 3



### 14.4. Packing group

Packing group (ADR) : I  
Packing group (IMDG) : I  
Packing group (IATA) : I  
Packing group (ADN) : I  
Packing group (RID) : I

### 14.5. Environmental hazards

Dangerous for the environment : Yes  
Marine pollutant : Yes  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : F1  
Limited quantities (ADR) : 0  
Excepted quantities (ADR) : E3  
Packing instructions (ADR) : P001  
Mixed packing provisions (ADR) : MP7, MP17  
Portable tank and bulk container instructions (ADR) : T11  
Portable tank and bulk container special provisions (ADR) : TP2  
Tank code (ADR) : L4BN  
Vehicle for tank carriage : FL  
Transport category (ADR) : 1  
Special provisions for carriage - Operation (ADR) : S2, S20  
Hazard identification number (Kemler No.) : 33  
Orange plates :

Tunnel restriction code (ADR) : D/E  
EAC code : 3YE

#### - Transport by sea

Limited quantities (IMDG) : 0  
Excepted quantities (IMDG) : E3  
Packing instructions (IMDG) : P001

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Tank instructions (IMDG)	:	T11
Tank special provisions (IMDG)	:	TP2
EmS-No. (Fire)	:	F-E
EmS-No. (Spillage)	:	S-D
Stowage category (IMDG)	:	E
MFAG-No	:	128

### - Air transport

PCA Excepted quantities (IATA)	:	E3
PCA Limited quantities (IATA)	:	Forbidden
PCA limited quantity max net quantity (IATA)	:	Forbidden
PCA packing instructions (IATA)	:	351
PCA max net quantity (IATA)	:	1L
CAO packing instructions (IATA)	:	361
CAO max net quantity (IATA)	:	30L
ERG code (IATA)	:	3H

### - Inland waterway transport

Classification code (ADN)	:	F1
Limited quantities (ADN)	:	0
Excepted quantities (ADN)	:	E3
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EX, A
Ventilation (ADN)	:	VE01
Number of blue cones/lights (ADN)	:	1

### - Rail transport

Classification code (RID)	:	F1
Limited quantities (RID)	:	0
Excepted quantities (RID)	:	E3
Packing instructions (RID)	:	P001
Mixed packing provisions (RID)	:	MP7, MP17
Portable tank and bulk container instructions (RID)	:	T11
Portable tank and bulk container special provisions (RID)	:	TP2
Tank codes for RID tanks (RID)	:	L4BN
Transport category (RID)	:	1
Hazard identification number (RID)	:	33

## 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

iso-PENTANE AR is not on the REACH Candidate List

iso-PENTANE AR is not on the REACH Annex XIV List

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## Safety Data Sheet

### 15.1.2. National regulations

#### Germany

AwSV/VwVwS Annex reference	: Water hazard class (WGK) 2, hazardous to water (Classification according to VwVwS, Annex 2; WGK No 648)
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV	: Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Denmark

Recommendations Danish Regulation	: Young people below the age of 18 years are not allowed to use the product
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### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 1	Flammable liquids, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H224	Extremely flammable liquid and vapour
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects
EUH066	Repeated exposure may cause skin dryness or cracking
R12	Extremely flammable
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed
R66	Repeated exposure may cause skin dryness or cracking
R67	Vapours may cause drowsiness and dizziness
F+	Extremely flammable
N	Dangerous for the environment
Xn	Harmful

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*