

CAS-No.: 78-78-4 MSDS

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
EC Index-No. : 601-085-00-2
EC-No. : 201-142-8
CAS-No. : 78-78-4
Product code : 0239A
Formula : C₅H₁₂

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only

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

Full text of H statements : see section 16

iso-PENTANE For Synthesis

Safety Data Sheet

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

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

GHS07

GHS08

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 POISON CENTER/doctor
P331 - Do NOT induce vomiting.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : iso-PENTANE For Synthesis

CAS-No. : 78-78-4

EC-No. : 201-142-8

EC Index-No. : 601-085-00-2

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

iso-PENTANE For Synthesis

Safety Data Sheet

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
First-aid measures after skin contact	: Get immediate medical advice/attention. Wash with plenty of 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/doctor. Rinse mouth. Do not induce vomiting.

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

Symptoms/effects after inhalation	: May cause drowsiness or dizziness.
Symptoms/effects 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.
--------------------------------	---

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 open flames. No smoking.
------------------	---

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
----------------------	-----------------------------------

6.1.2. For emergency responders

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

6.2. Environmental precautions

Toxic to aquatic life with long lasting effects.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: On land, sweep or shovel into suitable containers. Collect spillage.
-------------------------	--

6.4. Reference to other sections

No additional information available

iso-PENTANE For Synthesis

Safety Data Sheet

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	: Avoid contact with skin and eyes. Take precautionary measures against static discharge. Use only non-sparking tools. Keep away from sources of ignition - No smoking. Use only outdoors or in a well-ventilated area. 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
Molecular mass	: 72.15 g/mol
Colour	: Colorless.
Odour	: characteristic odour.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 28 - 29 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: -51 °C

iso-PENTANE For Synthesis

Safety Data Sheet

Auto-ignition temperature	: No data available
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

iso-PENTANE For Synthesis

Safety Data Sheet

Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause drowsiness or dizziness.
STOT-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.

12.2. Persistence and degradability

iso-PENTANE For Synthesis (78-78-4)

Persistence and degradability	May cause long-term adverse effects in the environment.
-------------------------------	---

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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
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

iso-PENTANE For Synthesis

Safety Data Sheet

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

iso-PENTANE For Synthesis

Safety Data Sheet



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

iso-PENTANE For Synthesis

Safety Data Sheet

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 For Synthesis is not on the REACH Candidate List

iso-PENTANE For Synthesis is not on the REACH Annex XIV List

iso-PENTANE For Synthesis

Safety Data Sheet

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 2, Significantly hazardous to water (Classification according to AwSV; ID No. 648)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Add boilingpoint

Store unit : Add boilingpoint

Classification remarks : Add boilingpoint; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

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

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.
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

iso-PENTANE For Synthesis

Safety Data Sheet

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.