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**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**1. Identification of the substance/mixture and of the company/undertaking**
**1.1. Product identifier**

Trade name : N-PENTANE LR (FOR SYNTHESIS)

Product code : SS0111800500

Identification of the product : N-PENTANE 99%  
 CAS No: 109-66-0

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

Use : Industrial. For professional use only.

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

Company identification SUVCHEM  
 Chaitanya Tower, 2nd Floor, Office # 206,  
 Siddharth Nagar, S.V. Road,  
 Goregaon (West), Mumbai - 400062,  
 Maharashtra, India.  
 Contact: +91 22 28725393 / 94 / 95  
 Email ID: info@suvchem.com/care@suvchem.com

**1.4. Emergency telephone number**

Phone no. : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [ Office hours ]

**2. Hazards identification -DSD**
**2.1. Classification of the substance or mixture**
**Classification EC 67/548 or EC 1999/45**

Classification : F+; R12  
 Xn; R65  
 R66  
 R67  
 N; R51-53

**Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)**

Health hazards : Specific Target Organ Toxicity - Single exposure - Narcotic effects - Category 3 -  
 Warning (CLP : STOT SE 3) H336  
 Aspiration hazard - Category 1 - Danger (CLP : Asp. Tox. 1) H304

Physical hazards : Flammable liquids - Category 1 - Danger (CLP : Flam. Liq. 1) H224

Environmental hazards : Hazardous to the aquatic environment - Chronic hazard - Category 2 (CLP :  
 Aquatic Chronic 2) H411

**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**2. Hazards identification -DSD (continued)**
**2.2. Label elements**
**Labelling EC 67/548 or EC 1999/45**
**Symbol(s)**

**Symbol(s)**

: F+ : Extremely flammable  
 Xn : Harmful  
 N : Dangerous for the environment

**R Phrase(s)**

: 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.

**S Phrase(s)**

:  
 S16 : Keep away from sources of ignition - No smoking.  
 S29 : Do not empty into drains.  
 S33 : Take precautionary measures against static discharges.  
 S61 : Avoid release to the environment. Refer to special instructions/Safety data sheets.  
 S62 : If swallowed, do not induce vomiting : seek medical advice immediately and show this container or label.

**Labelling Regulation EC 1272/2008 (CLP)**
**Hazard pictograms**

**Signal words**

: Danger

**Hazard statements**

: 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**
**• Prevention**

: P240: Ground/bond container and receiving equipment.  
 P241: Use explosion-proof electrical, ventilating, lighting, ..., equipment.  
 P210: Keep away from heat, sparks, open flames or hot surfaces. - No smoking.  
 P280: Wear protective gloves, protective clothing, eye protection, face protection.  
 P271: Use only outdoors or in a well-ventilated area.  
 P261: Avoid breathing dust, fume, gas, mist, vapours, spray.  
 P273: Avoid release to the environment.  
 P233: Keep container tightly closed.

**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**2. Hazards identification -DSD (continued)**

- **Response** : P301+P310: IF SWALLOWED : Immediately call a POISON CENTER or doctor.  
P391: Collect spillage.  
P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position comfortable for breathing.  
P303+P361+P353: IF ON SKIN (or hair) : Remove immediately all contaminated clothing. Rinse skin with water/shower.  
P370+P378: In case of fire: Use for extinction.
- **Storage** : P403+P233: Store in well-ventilated place. Keep container tightly closed.  
P403+P235: Store in well-ventilated place. Keep cool.  
P405: Store locked up.
- **Disposal considerations** : P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

**2.3. Other hazards**

- Other hazards** : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

**3. Composition/information on ingredients**

**Substance / Preparation** : N-PENTANE 99%

Substance.

Contains no other components or impurities which will influence the classification of the product.

**4. First aid measures**
**4.1. Description of first aid measures**

- Inhalation** : Call a POISON CENTER or doctor if you feel unwell. Remove to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact** : Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water.
- Eye contact** : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- Ingestion** : Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor.

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

- Symptoms relating to use** : May be fatal if swallowed and enters airways.  
May cause drowsiness or dizziness.  
Repeated exposure may cause skin dryness or cracking.

**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**4. First aid measures (continued)**
**4.3. Indication of any immediate medical attention and special treatment needed**

**General information** : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**5. Fire-fighting measures**
**5.1. Extinguishing media**

**Suitable extinguishing media** : Foam. Dry powder. Carbon dioxide. Water spray. Sand.  
**Unsuitable extinguishing media** : Do not use a heavy water stream.  
**Surrounding fires** : Use water spray or fog for cooling exposed containers.

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

**Flammable class** : Extremely flammable liquid and vapour.  
**Hazardous combustion products** : Under fire conditions, hazardous fumes will be present.

**5.3. Advice for fire-fighters**

**Protection against fire** : Do not enter fire area without proper protective equipment, including respiratory protection.  
**Special procedures** : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

**6. Accidental release measures**
**6.1. Personal precautions, protective equipment and emergency procedures**

**For emergency responders** : Equip cleanup crew with proper protection.  
 Ventilate area.  
 Avoid breathing dust, fume, gas, mist, vapours, spray.  
**Technical measures** : Use special care to avoid static electric charges.  
**Special precautions** : Remove ignition sources. No naked lights. No smoking.  
**For non-emergency personnel** : Evacuate unnecessary personnel.

**6.2. Environmental precautions**

**Environmental precautions** : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.  
 Avoid release to the environment.

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

**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**6. Accidental release measures (continued)**

**Clean up methods** : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

**6.4. Reference to other sections**

See section 8. Exposure controls/personal protection

**7. Handling and storage**
**7.1. Precautions for safe handling**

**Handling** : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work.  
 Handle empty containers with care because residual vapours are flammable.  
 Use only outdoors or in a well-ventilated area. Take precautionary measures against static discharge.

**Technical protective measures** : Provide good ventilation in process area to prevent formation of vapour.  
 Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools. Use explosion-proof electrical, ventilating, lighting, ..., equipment.

**Special precautions** : No naked lights. No smoking.  
 Avoid breathing dust, fume, gas, mist, vapours, spray.

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

**Storage** : Keep only in the original container in a cool, well ventilated place.  
 Keep in fireproof place. Ground/bond container and receiving equipment. Keep container tightly closed.

**Storage - away from** : Strong bases. Strong acids. Sources of ignition. Direct sunlight. Heat sources.

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

**Specific end use(s)** : None.

**8. Exposure controls/personal protection**
**8.1. Exposure controls**

**Personal protection** : Avoid all unnecessary exposure.

- **Respiratory protection** : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.  
 Wear respiratory protection.
- **Hand protection** : Wear protective gloves.

**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**8. Exposure controls/personal protection (continued)**

- Eye protection : Chemical goggles or safety glasses.
- Others : When using, do not eat, drink or smoke.

**8.2. Control parameters**

Occupational Exposure Limits : No data available.

**9. Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

Physical state at 20 °C	: Liquid.
Colour	: Clear Colorless
Odour	: mild odor,gasoline-like,pleasant odor
Odour threshold	: No data available.
pH value	: No data available.
Melting point [°C]	: -130 °C
Decomposition point [°C]	: N/A
Critical temperature [°C]	: N/A
Auto-ignition temperature [°C]	: 260°C
Flammability (solid, gas)	: Extremely flammable liquid and vapour. Flammable.
Flash point [°C]	: -49°C
Boiling point [°C]	: 35 - 36 °C
Initial boiling point [°C]	: 35°C
Final boiling point [°C]	: 36 °C
Evaporation rate	: 28,6
Vapour pressure [20°C]	: 579 hPa at 20 °C
Vapour pressure mm/Hg	: 514 mm Hg @ 25 deg C
Vapour density	: 2,5
Density [g/cm3]	: 0,62
Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: N/A
Solubility in water [% weight]	: 0.04% at 20°C
Solubility in water	: N/A
Log Pow octanol / water at 20°C	: No data available.
Solubility	: N/A
Viscosity at 40°C [mm2/s]	: N/A

**9.2. Other information**

**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**9. Physical and chemical properties (continued)**

Explosive properties	: N/A
Explosion limits - upper [%]	: 8,30%
Explosion limits - lower [%]	: 1,40%
Oxidising properties	: No data available.

**10. Stability and reactivity**
**10.1. Reactivity**

Reactivity	: Not established.
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**10.2. Chemical stability**

Chemical stability	: Stable under recommended storage conditions.
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**10.3. Possibility of hazardous reactions**

Hazardous reactions	: Not established.
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**10.4. Conditions to avoid**

Conditions to avoid	: Direct sunlight. Extremely high or low temperatures. Sparks. Heat. Overheating. Open flame.
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**10.5. Incompatible materials**

Materials to avoid	: Strong acids. Strong bases.
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**10.6. Hazardous decomposition products**

Hazardous decomposition products	: Fumes. Carbon monoxide. Carbon dioxide. May release flammable gases.
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**11. Toxicological information**
**11.1. Information on toxicological effects**
**Acute toxicity**

• Inhalation	: May be fatal if swallowed and enters airways.
• Dermal	: Based on available data, the classification criteria are not met.
• Ingestion	: May be fatal if swallowed and enters airways.
Corrosion	: Based on available data, the classification criteria are not met.



**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**11. Toxicological information (continued)**

<b>Irritation</b>	: Repeated exposure may cause skin dryness or cracking.
<b>Sensitization</b>	: Based on available data, the classification criteria are not met.
<b>Mutagenicity</b>	: Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	: Based on available data, the classification criteria are not met.
<b>Toxic for reproduction</b>	: Based on available data, the classification criteria are not met.
<b>STOT-single exposure</b>	: May cause drowsiness or dizziness.
<b>STOT-repeated exposure</b>	: Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	: May be fatal if swallowed and enters airways.

**12. Ecological information**
**12.1. Toxicity**

<b>Toxicity information</b>	: Toxic to aquatic life with long lasting effects.
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**12.2. Persistence - degradability**

<b>Persistence - degradability</b>	: May cause long-term adverse effects in the environment.
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**12.3. Bioaccumulative potential**

<b>Bioaccumulative potential</b>	: Not established.
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**12.4. Mobility in soil**

<b>Mobility in soil</b>	: Not established.
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**12.5. Results of PBT and vPvB assessment**

<b>Results of PBT and vPvB assessment</b>	: The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.
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**12.6. Other adverse effects**

<b>Environmental precautions</b>	: Avoid release to the environment.
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**13. Disposal considerations**
**13.1. Waste treatment methods**

<b>General</b>	: Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
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**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**13. Disposal considerations (continued)**

**Special precautions** : Handle empty containers with care because residual vapours are flammable.  
Hazardous waste due to toxicity.

**14. Transport information**
**14.1. Land transport (ADR-RID)**

**Proper shipping name** : PENTANES, liquid  
**UN N°** : 1265  
**H.I. nr** : 33  
**ADR - Class** : 3  
**Labelling - Transport** : 3 : Flammable liquid.



**ADR - Classification code** : F1  
**ADR - Group** : II  
**ADR - Packing instructions** : P001  
**ADR - Limited Quantity** : 1 L  
**ADR - Tunnel code**



: D/E : Bulk or tank carriage: Passage forbidden through tunnels of category D and E. Other carriage: Passage forbidden through tunnels of category E.

**14.2. Sea transport (IMDG) [English only]**

**Proper shipping name** : PENTANES, liquid  
**UN N°** : 1265  
**IMO-IMDG - Class or division** : 3 : Flammable liquid.  
**IMO-IMDG - Packing group** : II  
**IMO-IMDG - Packing instructions** : P001  
**IMO-IMDG - Limited quantities** : 1 L  
**IMO-IMDG - Marine pollution** : Yes  
**EMS-Nr** : F-E S-D

**14.3. Air transport (ICAO-IATA) [English only]**

**MATERIAL SAFETY DATA SHEET (MSDS)**
**N-PENTANE LR (FOR SYNTHESIS)**
**14. Transport information (continued)**

Proper shipping name	: PENTANES, liquid
UN N°	: 1265
IATA - Class or division	: 3 : Flammable liquid.
IATA - Packing group	: II
IATA - Passenger and Cargo Aircraft	: ALLOWED
- Passenger and Cargo - Packing instruction	: 353
- Passenger and Cargo - Maximum Quantity/Packing	: 5 L
IATA - Cargo only	: ALLOWED
- Cargo only - Packing instruction	: 364
- Cargo only - Maximum Quantity/Packing	: 60 L
IATA - Limited Quantities	: 1 L
ERG-Nr	: 3H

**15. Regulatory information**
**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Safety, health and environmental regulations/legislation specific for the substance or mixture	: Ensure all national/local regulations are observed.
REACH Restrictions - Annex XVII	: The components of this product are not subject to restrictions.
REACH Authorisation - Annex XIV	: The components of this product are not subject to authorization.

**15.2. Chemical Safety Assessment**

Chemical Safety Assessment	: It has not been carried out.
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**16. Other information**

Revision	: Revision - See : *
Abbreviations and acronyms	: PBT: persistent, bioaccumulative and toxic. vPvB: very persistent and very bioaccumulative
Sources of key data used	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
Further information	: None.

**MATERIAL SAFETY DATA SHEET (MSDS)**

**N-PENTANE LR (FOR SYNTHESIS)**

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

**DISCLAIMER:**

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

**End of document**