n-Pentane  
CAS No 109-66-0  
MATERIAL SAFETY DATA SHEET  
SDS/MSDS

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

1.1 Product identifiers
Product name : n-Pentane

CAS-No. : 109-66-0

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses : Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company : Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi-10002
INDIA

Telephone : +91 11 49404040
Email : care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Flammable liquids (Category 2), H225
Aspiration hazard (Category 1), H304
Specific target organ toxicity - single exposure (Category 3), H336
Chronic aquatic toxicity (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC
F+ Extremely flammable R12
Xn Harmful R65
R66
R67
N Dangerous for the environment R51/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008

Signal word  Danger

Hazard statement(s)
H225  Highly 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 statement(s)
P210  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261  Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273  Avoid release to the environment.
P301 + P310  IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P331  Do NOT induce vomiting.

Supplemental Hazard information (EU)
EUH066  Repeated exposure may cause skin dryness or cracking.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances
Formula : C5H12
Molecular Weight : 72.15 g/mol
CAS-No. : 109-66-0
EC-No. : 203-692-4
Index-No. : 601-006-00-1
Registration number : 01-2119459286-30-XXXX

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component  Classification  Concentration
n-Pentane  
CAS-No. 109-66-0  Flam. Liq. 2; STOT SE 3; Asp.  <= 100 %
EC-No. 203-692-4  Tox. 1; Aquatic Chronic 2;
Index-No. 601-006-00-1  H225, H304, H336, H411, EUH066

Hazardous ingredients according to Directive 1999/45/EC

Component  Classification  Concentration
n-Pentane  
CAS-No. 109-66-0  F+, Xn, N, R12 - R51/53 - R65 <= 100 %
EC-No. 203-692-4  - R66 - R67
Index-No. 601-006-00-1

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 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
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
no data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 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.

6.3 Methods and materials for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.
7.2 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.

Refrigerate before opening.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

**Eye/face protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(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.

**Body Protection**
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, 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 AXBEK (EN 14387) respirator cartridges as a backup 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).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>a) Appearance</th>
<th>Form: liquid, clear</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Colour: colourless</td>
</tr>
<tr>
<td>b) Odour</td>
<td>no data available</td>
</tr>
<tr>
<td>c) Odour Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>d) pH</td>
<td>no data available</td>
</tr>
<tr>
<td>e) Melting point/freezing point</td>
<td>Melting point/range: -130 °C - lit.</td>
</tr>
<tr>
<td>f) Initial boiling point and boiling range</td>
<td>35 - 36 °C - lit.</td>
</tr>
<tr>
<td>g) Flash point</td>
<td>-49,0 °C - closed cup</td>
</tr>
</tbody>
</table>
h) Evaporation rate no data available
i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits
   Upper explosion limit: 8,3 % (V)
   Lower explosion limit: 1,4 % (V)
k) Vapour pressure
   579,0 hPa at 20,0 °C
   1.859,7 hPa at 55,0 °C
l) Vapour density no data available
m) Relative density 0,626 g/cm³ at 25 °C
n) Water solubility no data available
o) Partition coefficient: n-octanol/water log Pow: 3,39
p) Auto-ignition temperature 260,0 °C
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties Not explosive
t) Oxidizing properties no data available

9.2 Other safety information
no data available

SECTION 10: Stability and reactivity

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - no data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

   Acute toxicity
   LD50 Oral - mouse - 5.000 mg/kg
   LC50 Inhalation - rat - 4 h - 364.000 mg/m³
   LD50 Dermal - rabbit - 3.000 mg/kg

   Skin corrosion/irritation
   Skin - rabbit
   Result: No skin irritation
   (OECD Test Guideline 404)
Serious eye damage/eye irritation  
no data available

Respiratory or skin sensitisation  
no data available

Germ cell mutagenicity  
Ames test  
S. typhimurium  
Result: negative

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  
May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure  
no data available

Aspiration hazard  
May be fatal if swallowed and enters airways.

Additional Information  
RTECS: RZ9450000  
Contact with eyes can cause: Redness, Blurred vision, Provokes tears., Prolonged or repeated contact with skin may cause: defatting, Dermatitis, Central nervous system depression, Damage to the lungs.  
Stomach - Irregularities - Based on Human Evidence

SECTION 12: Ecological information  
12.1 Toxicity  
Toxicity to daphnia and other aquatic invertebrates  
EC50 - Daphnia magna (Water flea) - 9.74 mg/l - 48 h

12.2 Persistence and degradability  
Biodegradability - Biotic/Aerobic - Exposure time 192 h  
Result: 70 % - Readily biodegradable.

12.3 Bioaccumulative potential  
no data available

12.4 Mobility in soil  
no data available

12.5 Results of PBT and vPvB assessment  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects  
Toxic to aquatic life.  
Avoid release to the environment. Do not empty into drains.

SECTION 13: Disposal considerations  
13.1 Waste treatment methods  
Product  
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 1265  
IMDG: 1265  
IATA: 1265

14.2 UN proper shipping name
ADR/RID: PENTANES  
IMDG: PENTANES  
IATA: Pentanes

14.3 Transport hazard class(es)
ADR/RID: 3  
IMDG: 3  
IATA: 3

14.4 Packaging group
ADR/RID: II  
IMDG: II  
IATA: II

14.5 Environmental hazards
ADR/RID: yes  
IMDG Marine pollutant: yes  
IATA: no

14.6 Special precautions for user
no data available

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-statements referred to under sections 2 and 3.

Aquatic Chronic  Chronic aquatic toxicity
Asp. Tox.  Aspiration hazard
EUH066  Repeated exposure may cause skin dryness or cracking.
Flam. Liq.  Flammable liquids
H225  Highly 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.
STOT SE  Specific target organ toxicity - single exposure

Full text of R-phrases referred to under sections 2 and 3

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

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.