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

Pictogram



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

- | | |
|--|---|
| a) Appearance | Form: liquid, clear Colour: colourless |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | Melting point/range: -130 °C - lit. |
| f) Initial boiling point and boiling range | 35 - 36 °C - lit. |
| g) Flash point | -49,0 °C - closed cup |

- | | | |
|----|--|--|
| h) | Evapouration 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/cm ³ 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.

