

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **N-Pentane**
Product Code 995196
CAS Number 109-66-0
Other Names
IUPAC
MFCD Number MFCD00009498
EC/EINECS 203-692-4
REACH Number 01-2119459286-30-xxxx Index-No 601-006-00-1

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

Research and Development

3. Details of the supplier of the safety data sheet

Fluorochem Ltd
Unit 14, Graphite Way
Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
Fax: +44(0)1457 892799
Email: sds@fluorochem.co.uk



4. Emergency telephone number

+44(0)7855 268577 -

2. Hazards Identification

1. Classification of the substance or mixture

EUH066		
H225	Flam Liq. 2	
H304	Asp Tox. 1	
H336	STOT SE 3b	
H411	Aquatic Chronic 2	

2. Label elements

Signal Word **Danger**



Hazard Statements

EUH066	Repeated exposure may cause skin dryness or cracking.
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 Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

Product Name	Hazards	Concentration
N-Pentane		
CAS Number: 109-66-0 EC/EINECS: 203-692-4 : 01-2119459286-30-xxxx	EUH066, H225, H304, H336, H411 Aquatic Chronic 2, Asp Tox. 1, Flam Liq. 2, STOT SE 3b	<=100%

4. First Aid Measures

1. Description of first aid measures

<i>Skin Contact</i>	P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash immediately with plenty of soap and water.
<i>Eye Contact</i>	Rinse opened eye for several minutes under running water.
<i>Ingestion</i>	P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P331: Do NOT induce vomiting. Wash out mouth with water.
<i>Inhalation</i>	P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove casualty from exposure ensuring one's own safety whilst doing so.

2. Most important symptoms and effects

There may be pain and redness.

3. Indication of any immediate medical attention

No additional measures required

5. Firefighting measures

1. Extinguishing Media

<i>Suitable</i>	P370 + P378: In case of fire: Use sand, CO2 or powdered extinguishing agent for extinction.
<i>Unsuitable</i>	Do not use water.

2. Special Hazards arising from the substance or mixture

In combustion toxic fumes may form.

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Refer to section 8 of SDS for personal protection details.
Eliminate all sources of ignition.
Do not attempt to take action without suitable protective clothing – see section 8 of SDS.

2. Environmental Precautions

Do not discharge into drains or rivers.
Contain the spillage using bunding.

3. Methods & Materials

Absorb into dry earth or sand.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

No Special Measures Required

7. Handling and Storage

1. Personal Precautions

- Safe Handling* Ensure there is sufficient ventilation of the area.
P240: Ground/bond container and receiving equipment.
P273: Avoid release to the environment.
- Protection against explosions and fires* P241: Use explosion-proof electrical/ventilating/lighting/. equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.

2. Conditions for safe storage, including any incompatibilities

- Managing Storage Risks* Store in cool, well ventilated area.
Keep away from sources of ignition.
Keep container tightly closed.
Keep away from direct sunlight.
- Storage Controls* Keep cold.
- Maintaining Integrity* P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
P233: Keep container tightly closed.
P235: Keep cool.
- Other advice* P403 + P233: Store in a well-ventilated place. Keep container tightly closed.

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

2. Exposure Controls

- General protective and hygiene measures* P280: Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands during breaks and at the end of handling the material
- Engineering measures* P271: Use only outdoors or in a well-ventilated area.
Ensure lighting and electrical equipment are not a source of ignition.
- Eye / Face Protection* Safety Glasses with side-shields.
- Hand protection* Protective gloves.
- Respiratory protection* P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
Use breathing protection with high concentrations
- Skin protection* Handle with gloves.
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice.
Wash and dry hands.
Protective clothing.
- Other personal protection advice* no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	Clear colourless liquid
Odour	Characteristic
Odour threshold	No Data Available
PH	No Data Available

Melting point / Freezing point	-130°C
Initial boiling point and boiling range	35-36°C
Flash point	-49°C
Evaporation rate	No Data Available
Flammability(solid,gas)	No Data Available
Upper/lower flammability or explosive limits	8.3%/1.4%
Vapour pressure	579.0 hPa @ 20°C
Vapour density	No Data Available
Relative density	0.626
Solubility(ies):	No Data Available
Partition coefficient: n-octanol/water	No Data Available
Auto-ignition temperature	260°C
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	No Data Available
Oxidising properties	No Data Available

2. Other Information

No additional information available

10. Stability and Reactivity

1. Reactivity

no unusual reactivity

2. Stability

Stable under normal conditions.

3. Possibility of Hazardous Reactions

no hazardous reactions known

4. Conditions to Avoid

no specific conditions to avoid

5. Incompatible Materials

Oxidising agents.

6. Hazardous Decomposition Products

In combustion emits toxic fumes.

In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

11. Toxicology information

1. Information

Acute Toxicity Oral LD50 (Mouse) 5,000 mg/kg
Inhalation LC50 (Rat) - 4h - 364,000 mg/m³
Dermal LD50 (Rabbit) 3,000 mg/kg

Skin corrosion/irritation irritant for skin and mucous membranes

*Serious eye
Damage/irritation* irritant effect

*Respiratory or skin
sensitisation* No sensitizing effect known

Germ Cell mutagenicity not known

Carcinogenicity not known

Reproductive toxicity not known

STOT-single exposure

not known

STOT-repeated exposure not known

Aspiration hazard not known

2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC,NTP,OSHA or ACGIH

12. Ecological Information

1. Toxicity

Toxicity to fish:
EC50 - Daphnia magna (water flea) 9.74mg/l - 48h

2. Persistence and degradability

not known

3. Bio-Accumulative Potential

not known

4. Mobility and Soil

not known

5. Results of PBT & vPvB assessment

not known

6. Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

1. **UN Number:** 1265
2. **Shipping Name:** PENTANES liquid
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** I
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Road (ADR)

1. **UN Number:** 1265
2. **Shipping Name:** Pentanes
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** I
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Sea (IMDG)

1. **UN Number:** 1265
2. **Shipping Name:** PENTANES liquid
3. **Transport hazard class(es):** : 3 Sub Class :



4. **Packing group:** I
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:** IBCINS: -
IBCPPROV: -
UNTANKINS: -
TANKPROV: TP2

15. Safety, health, environmental and national regulations

- 1. Safety, health, environmental and national regulations:**
product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord European sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)
RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association
ICAO:International Civil Aviation Organization
ICAO-TI: Technical Instructions by the ICAO
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS:Chemical Abstracts Service

2. Associated risk phrases according to European directive 67/548/EEC

3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.