

Safety Data Sheet

Product :

n-Pentane

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MSDS Nr : 530-00-2002BOC(A)

Version : 1

Date : 17/12/2002

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

Product name	n-Pentane
Chemical formula	C5H12
Company identification	see heading and/or footer
Emergency phone numbers	see heading and/or footer

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Preparation	Substance.
Components/Impurities	Contains no other components or impurities which will influence the classification of the product.
CAS Nr	109-66-0
EC Nr (from EINECS)	203-692-4

3 HAZARDS IDENTIFICATION

Hazards identification	Extremely flammable Liquid.
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4 FIRST AID MEASURES

Inhalation	In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
Skin/eye contact	For liquid spillage - flush with water for at least 15 minutes Remove contaminated clothing Immediately flush eyes thoroughly with water for at least 15 minutes. Obtain medical assistance
Ingestion	Rinse mouth with water, do not induce vomiting, call a doctor.

5 FIRE FIGHTING MEASURES

Specific hazards	Exposure to fire may cause containers to rupture/explode.
Hazardous combustion products	Incomplete combustion may form carbon monoxide.
Suitable extinguishing media	All known extinguishants can be used.
Specific methods	If possible, stop flow of product. Move away from the container and cool with water from a protected position.

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Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

Special protective equipment for fire fighters

In confined space use self-contained breathing apparatus.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate area.

Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

Ensure adequate air ventilation.

Eliminate ignition sources.

Environmental precautions

Try to stop release.

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

Clean up methods

Ventilate area.

Absorb excess liquid spillage on inorganic adsorbent material such as fine sand, brick dust etc. Place spent adsorbent in sealed packages and contact specialist waste disposal contractor.

7 HANDLING AND STORAGE

Handling and storage

Ensure equipment is adequately earthed.

Suck back of water into the container must be prevented.

Purge air from system before introducing gas.

Do not allow backfeed into the container.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Keep away from ignition sources (including static discharges).

Segregate from oxidant gases and other oxidants in store.

Refer to supplier's container handling instructions.

Keep container below 50°C in a well ventilated place.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protection

Ensure adequate ventilation.

Do not smoke while handling product.

Protect eyes, face and skin from liquid splashes.

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9 PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	72.15
Melting point	-130 °C
Boiling point	35-42 °C
Relative density, gas	2.5 (air=1)
Relative density, liquid	0.626 (water=1)
Vapour Pressure 20°C	0.56 bar(a).
Solubility mg/l water	38.5 mg/l at 25°C
Appearance/Colour	Colourless liquid
Odour	Sweetish
	Poor warning properties at low concentrations.
Autoignition temperature	260 °C
Flammability range	1.4-7.8 vol% in air.

10 STABILITY AND REACTIVITY

Stability and reactivity	Can form explosive mixture with air. May react violently with oxidants.
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11 TOXICOLOGICAL INFORMATION

General	In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. Irritation to eyes, skin and respiratory tract. May cause dermatitis by skin contact. Small amounts of liquid aspirated into the respiratory system during ingestion/vomiting may cause bronchopneumonia or pulmonary oedema.
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12 ECOLOGICAL INFORMATION

General	Toxic to water organisms.
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13 DISPOSAL CONSIDERATIONS

General	Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor.
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Do not discharge into any place where its accumulation could be dangerous.

Contact supplier if guidance is required.

14 TRANSPORT INFORMATION

UN Nr	1265
Class/Div	3 (Flammable liquids)
ADR/RID Classification code	F1
ADR/RID Hazard Nr	33
Labelling ADR	Label 3: Danger of fire (flammable liquid).
Other transport information	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured and: - cylinder valve is closed and not leaking - valve outlet cap nut or plug (where provided) is correctly fitted - valve protection device (where provided) is correctly fitted - there is adequate ventilation. - compliance with applicable regulations.

15 REGULATORY INFORMATION

Number in Annex I of Dir 67/548	601-006-00-1.
EC Classification	F+;R12 N;R51/53 Xn;R65 R66 R67
-Symbols	F+: Extremely flammable Xn: Harmful N: Dangerous for the environment
Labelling of cylinders	
-Symbols	Label 3: flammable liquid
-Risk phrases	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.
-Safety phrases	S9 Keep container in well ventilated place. S16 Keep away from ignition sources - No smoking.

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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.

16 OTHER INFORMATION

Ensure all national/local regulations are observed.

Ensure operators understand the flammability hazard.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

Users of breathing apparatus must be trained.

This Safety Data Sheet has been established in accordance with the applicable European Directives and applies to all countries that have translated the Directives in their national laws.

Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

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