

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Piperidine

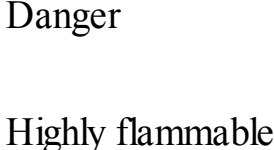
2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No1272/2008  
Flammable liquids (Category 2)  
Skin corrosion (Category 1B)  
Acute toxicity, Inhalation (Category 3)  
Acute toxicity, Dermal (Category 3)

According to European Directive 67/548/EEC as amended.  
Causes burns. Highly flammable. Toxic by inhalation and in contact with skin.

Label elements

Pictogram	
Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
Hazard symbol(s)	Highly flammable
F	
T	Toxic
R-phrases(s)	
R11	Highly flammable.
R23/24	Toxic by inhalation and in contact with skin.
R34	Causes burns.
S-phrases(s)	
S16	Keep away from sources of ignition - No smoking.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27	Take off immediately all contaminated clothing.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Hexahydropyridine

Formula : C5H11N

Molecular Weight : 85,15 g/mol

CAS-No.	EC-No.		Classification	Concentration
<b>Piperidine</b> 110-89-4	203-813-0	-	Flam. Liq. 2; Skin Corr. 1B; Acute Tox. 3; H225, H314, H311, H331 F, T, R11 - R23/24 - R34	-

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

4. 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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

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

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapors, 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.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

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.

Conditions for safe storage

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (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).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum).

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	clear, liquid
Colour	colourless

Safety data

pH	no data available
Melting point	13 °C - lit.
Boiling point	106 °C - lit.
Flash point	16 °C - closed cup
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	53 hPa at 29,2 °C 31 hPa at 20 °C 84,8 hPa at 37,8 °C
Density	0,862 g/mL at 20 °C
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: 0,67
Relative vapour density	2,94 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents, Dicyanofurazan, N-nitrosoacetanilide, N-perchlorylpiperazine

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 400 mg/kg

LC50 Inhalation - mouse - 2 h - 6.000 mg/m3

LD50 Dermal - rabbit - 276 mg/kg

Skin corrosion/irritation

Skin - rabbit - Severe skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - rabbit - Severe eye irritation - 24 h

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Genotoxicity in vitro - mouse - lymphocyte  
DNA damage

Genotoxicity in vitro - mouse - lymphocyte  
Mutation in mammalian somatic cells.

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

Reproductive toxicity - rat - Inhalation  
Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth).

Developmental Toxicity - rat - Inhalation

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

<b>Inhalation</b>	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	May be harmful if swallowed. Causes burns.
<b>Skin</b>	Toxic if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

Additional Information

RTECS: TM3500000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - 46 - 100 mg/l - 96 h
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Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID

UN-Number: 2401 Class: 8 (3) Packing group: I

Proper shipping name: PIPERIDINE

IMDG

UN-Number: 2401 Class: 8 (3) Packing group: I EMS-No: F-E, S-C

Proper shipping name: PIPERIDINE

Marine pollutant: No

IATA

UN-Number: 2401 Class: 8 (3) Packing group: I

Proper shipping name: Piperidine

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Text of H-code(s) and R-phrases(s) mentioned in Section 3

Acute Tox.	Acute toxicity
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
Skin Corr.	Skin corrosion
F	Highly flammable
T	Toxic
R11	Highly flammable.
R23/24	Toxic by inhalation and in contact with skin.
R34	Causes burns.

Further information

For R&D use only. Not for drug, household or other uses.

WARRANTY:

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. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.