

**Section 1. Identification****1.1 Product Identifier** 2919

Product Name iso-PENTANE

CAS Number 78-78-4

REACH Registration No A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.

Molecular Formula  $C_5H_{12} = 72.15$ **1.2 Relevant identified uses of the substance or mixture & uses advised against**

Uses of Material Chemical for industrial and laboratory use. Not suitable for domestic use.

**1.3 Supplier** Vickers Laboratories LtdGrangefield Industrial Estate  
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UNITED KINGDOMPhone 44 0113 2362811  
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Website www.viclabs.co.uk**1.4 Emergency Telephone** (08:00-16:30) +44(0) 113 2362811  
(24hr) 112  
(Have this document to hand)**Section 2. Hazards Identification****2.1 Classification of the substance or mixture****Classification according to regulation 1272/2008/EC**

Flammable liquid, category 1

Spec target organ tox - single, category 3

Aspiration hazard, category 1

Hazard to aquatic environment, category 2

H224: Extremely flammable liquid and vapour.

H336: May cause drowsiness or dizziness.

H304: May be fatal if swallowed and enters airways.

H411: Toxic to aquatic life with long lasting effects.

**2.2 Label elements****Labelling according to regulation 1272/2008/EC**

Signal word Danger

Hazard Pictograms



Hazard Statements	Extremely flammable liquid and vapour. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.
Precautionary Statements	Keep away from heat / sparks/open flames/hot surfaces - No smoking. Avoid breathing dust / fume / gas / mist / vapours / spray. Avoid release to the environment. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.
Supplemental Hazard Information (EU)	Repeated exposure may cause skin dryness or cracking.

## Section 3. Composition

### 3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
iso-Pentane	78-78-4	201-142-8		>99%	Flam. Liq. 1,STOT SE 3 (D),Asp. Tox. 1,Aquatic Chronic 2

## Section 4. First Aid

### 4.1 Description of first aid measures

Eyes	Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.
Skin	Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.
Inhalation	Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Ingestion	If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.
Personal protection for first aiders	Wear protective gloves / eye protection.

### 4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

### 4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

## Section 5. Fire Fighting

### 5.1 Extinguishing media

Extinguishing Media	Foam, dry powder, carbon dioxide or vaporising liquids. Use water spray to keep fire exposed containers cool.
Unsuitable Media	Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

Hazards	Vapour-air mixtures are explosive.
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### 5.3 Advice for firefighters

Advice for firefighters	Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.
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## Section 6. Accidental Release Measures

## 6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.

## 6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

## 6.3 Methods and material for containment and cleaning up

Major Spillage Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.

Minor Spillage Contain and absorb on inert material. Transfer absorbent to container for removal. Allow solvent to evaporate in remote area, then dispose of absorbent as solid chemical waste. Wash area down with copious amounts of water.

## 6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

# Section 7. Storage & Handling

## 7.1 Precautions for safe handling

All transfer systems should be earthed to prevent accumulation of static electricity. Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

## 7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition. Keep containers closed when not in use. Keep well separated from oxidising agents. Large quantities must be stored in accordance with the Petroleum Spirits Act.

## 7.3 Specific end use(s)

See section 1.2.

# Section 8. Workplace Exposure & Personal Protection

## 8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)		Short Term 15min period	
iso-Pentane	78-78-4	>99%	600.0 ppm	-	1800.0 ppm	-

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

## 8.2 Exposure controls

Respiratory Protection Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.

Hand Protection Use solvent resistant gloves.

Eye Protection Use tightly fitting chemical splash proof glasses or goggles.

Skin Protection Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

Special Hazards No special precautions required.

# Section 9. Physical & Chemical Properties

## 9.1 Information on basic physical and chemical properties

Appearance Clear colourless liquid.  
Odour Characteristic.  
pH Not applicable  
Boiling Point 26°C

Melting Point	158°C
Flash Point	-56°C (Closed cup)
Upper Flammable Limit	7.6%
Lower Flammable Limit	1.3%
Auto Ignition	420°C
Explosive Properties	Severe in confined spaces.
Oxidising Properties	No.
Vapour Pressure	400mmHg @ 20°C
Relative Density	0.6250
Water Solubility	Insoluble in water.

## 9.2 Other information

No data available.

## Section 10. Stability & Reactivity

10.1 Reactivity	No data available.
10.2 Chemical Stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	No data available.
10.4 Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
10.5 Incompatible Materials	Strong oxidising agents.
10.6 Hazardous Decomposition Products	None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.

## Section 11. Toxicological Information

### 11.1 Information on toxicological effects

Eyes	Both the vapour and liquid will, act as an eye irritant.
Skin	The liquid is mildly irritating to the skin. Repeated or prolonged contact may defat the skin producing irritation and dermatitis.
LD50 Skin	Not available
Ingestion	Ingestion will cause irritation of the throat with nausea and vomiting, unconsciousness may develop in extreme cases.
LD50 Oral	Not available
Inhalation	Exposure to vapour concentrations above the occupational exposure limits will produce irritation of the eyes and respiratory tract. High concentrations of vapour may cause narcosis. Symptoms include drowsiness, mental confusion and unconsciousness.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	No information is available.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	None identified.

## Section 12. Ecological

12.1 Toxicity	Moderately toxic to mammals, fish and bacteria.
LC50 Algal	Not available
LC50 Crustacea	2.3mg/l Daphnia magna (48 hours)
LC50 Fish	12.18mg/l Fathead Minnow (96 hours)
12.2 Persistence and degradability	Material is readily bio-degradable in the environment. Passes BOD >60%.
12.3 Bioaccumulative potential	No data available.
12.4 Mobility in soil	No data available.

12.5 Results of PBT & vPvB assessment      Assessment not required.

12.6 Other adverse effects      None known at present.

## Section 13. Disposal Considerations

### 13.1 Waste treatment methods

Disposal Methods      Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion.

Contaminated Packaging      Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion.

## Section 14. Transport Information

14.1 UN Number      1265

14.2 Proper Shipping Name      Pentanes

14.3 Transport classes

UN classification      3

Subsidiary hazard(s)      None

Transport category      1

ADR Hazard ID      33

Tunnel Restriction Code      D/E

14.4 Packing Group      I

14.5 Environment hazards      See section 12.

14.6 Special precautions for user      No special precautions required.

14.7 Transport in bulk      Not transported in bulk.



## Section 15. Regulatory Information

### 15.1 Safety, health and environment regulations specific for substance/mixture.

#### Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification      Flammable liquid, category 1; Spec target organ tox - single, category 3; Aspiration hazard, category 1; Hazard to aquatic environment, category 2

Signal word      Danger

Hazard Pictograms



Hazard Statements      H224, H304, H336, H411  
Extremely flammable liquid and vapour. May be fatal if swallowed and enters airways. May cause drowsiness or dizziness. Toxic to aquatic life with long lasting effects.

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

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

### 15.2 Chemical safety assessment

Assessment not required.

## Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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