

## SAFETY DATA SHEET

according to EC directive 2001/58/EC  
Version 3.0 Revision Date 14.05.2007  
Print Date 20.02.2008

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : **Hexane**

Product Number : 34859  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich Company Ltd.  
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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : n-Hexane

Formula : C<sub>6</sub>H<sub>14</sub>  
Molecular Weight : 86.18 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration [%]
<b>n-Hexane</b>				
110-54-3	203-777-6	601-037-00-0	F, Xn, N, Repr.Cat.3, R11- R38- R48/20- R62- R65- R67- R51/53	-

### 3. HAZARDS IDENTIFICATION

#### Risk advice to man and the environment

Highly flammable. Irritating to skin. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Possible risk of impaired fertility. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 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

Wash off with soap and plenty of water. 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**

Use personal protective equipment. 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. Discharge into the environment must be avoided.

**Methods for 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****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.

**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****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
n-Hexane	110-54-3	TWA	20 ppm 72 mg/m <sup>3</sup>	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits
Remarks	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used. For this substance the classification and labeling was introduced in the 29th Adaptation to Technical Progress of the European Community's Dangerous Substances Directive				
		TWA	20 ppm 72 mg/m <sup>3</sup>	2006-02-01	EU. Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of

## 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

Handle with gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.

### Eye protection

Safety glasses

### Skin and body protection

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

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid
Colour	colourless

### Safety data

pH	7.0
Melting point	-95.0 °C
Boiling point	68.0 - 70.0 °C
Flash point	-26.0 °C - closed cup
Ignition temperature	234 °C
Lower explosion limit	1.2 %(V)
Upper explosion limit	7.7 %(V)
Vapour pressure	341.3 hPa at 37.7 °C 176.0 hPa at 20.0 °C
Density	0.66 g/cm <sup>3</sup>
Water solubility	insoluble
Partition coefficient (n-octanol/water)	log Pow: 3.90 - 4.11

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

Oxidizing agents

**Hazardous decomposition products****Hazardous decomposition products formed under fire conditions.**

Carbon oxides

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 25,000 mg/kg

LC50 Inhalation - rat - 4 h - 48000 ppm

**Irritation and corrosion**

Eyes - rabbit - Mild eye irritation

**Sensitization**

no data available

**Chronic exposure**

Carcinogenicity - rat - Inhalation

Tumorigenic: Carcinogenic by RTECS criteria. Tumorigenic Effects: Testicular tumors.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

**Signs and Symptoms of Exposure**

Prolonged or repeated contact with skin may cause: defatting, Dermatitis, Contact with eyes can cause: Redness, Blurred vision, Provokes tears., Effects due to ingestion may include: Gastrointestinal discomfort, Central nervous system depression, Lung irritation, chest pain, pulmonary edema, giddiness, slowed reaction time, slurred speech, Headache, Dizziness, Drowsiness, Unconsciousness

**Potential Health Effects**

<b>Inhalation</b>	Harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.
<b>Target Organs</b>	Peripheral nervous system., Kidney, Testes.,

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

no data available

**Ecotoxicity effects**

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 2.5 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 3,878.00 mg/l - 48 h
Toxicity to algae	EC50 - Chlorella vulgaris (Fresh water algae) - 12,840.00 mg/l - 3 h

EC50 - SKELETOMA - 0.30 mg/l - 8 h

#### Further information on ecology

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 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-No.: 1208      Class: 3      Packing group: II  
Proper shipping name: HEXANES

#### IMDG

UN-No.: 1208      Class: 3      Packing group: II      EMS-No: F-E, S-D  
Proper shipping name: HEXANES  
Marine pollutant: No

#### IATA

UN-No.: 1208      Class: 3      Packing group: II  
Proper shipping name: Hexanes

### 15. REGULATORY INFORMATION

#### Labelling according to EC Directives

EC Label

Hazard symbols

F	Highly flammable
Xn	Harmful
N	Dangerous for the environment

R-phrases(s)

R11	Highly flammable.
R38	Irritating to skin.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R62	Possible risk of impaired fertility.
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S 9	Keep container in a well-ventilated place.
S16	Keep away from sources of ignition - No smoking.
S29	Do not empty into drains.
S33	Take precautionary measures against static discharges.
S36/37	Wear suitable protective clothing and gloves.
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

### Further information

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