

**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Hexane, mixture of isomers

Product Number : 227064  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +18003255832  
Fax : +18003255052  
Emergency Phone # : (314) 776-6555

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Hexanes  
Isohexane

Formula : C<sub>6</sub>H<sub>14</sub>

CAS-No.	EC-No.	Index-No.	Concentration
<b>n-Hexane</b>			
110-54-3	203-777-6	601-037-00-0	<= 65 %
<b>Methylcyclopentane</b>			
96-37-7	202-503-2	-	>= 10 %
<b>Hexane isomers</b>			
96-14-0	202-481-4	601-007-00-7	< 5 %
<b>2-Methylpentane</b>			
107-83-5	203-523-4	601-007-00-7	< 5 %
<b>Hexanes, isomers</b>			
-	-	-	>= 20 - <= 25 %

**3. HAZARDS IDENTIFICATION****Emergency Overview****OSHA Hazards**

Flammable liquid, Target Organ Effect, Toxic by ingestion, Irritant, Reproductive hazard

### Target Organs

Peripheral nervous system., Kidney, Testes.

### HMIS Classification

**Health hazard:** 2  
**Chronic Health Hazard:** \*  
**Flammability:** 3  
**Physical hazards:** 0

### NFPA Rating

**Health hazard:** 2  
**Fire:** 3  
**Reactivity Hazard:** 0

### Potential Health Effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation. Vapours may cause drowsiness and dizziness.  
**Skin** May be harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** Toxic if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

## 4. FIRST AID MEASURES

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### 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

### Flammable properties

Flash point -23 °C (-9 °F) - closed cup

Ignition temperature no data available

### 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**

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. Store in cool place.

Moisture sensitive.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
n-Hexane	110-54-3	TWA	50 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Central Nervous System impairment Eye irritation Peripheral neuropathy Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption				
		TWA	50 ppm 180 mg/m <sup>3</sup>	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	500 ppm 1,800 mg/m <sup>3</sup>	1997-08-04	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m <sup>3</sup> is approximate.				
2-Methylpentane	107-83-5	TWA	500 ppm 1,800 mg/m <sup>3</sup>	1989-03-01	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	1,000 ppm 3,600 mg/m <sup>3</sup>	1989-03-01	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	500 ppm	1994-09-01	USA. ACGIH Threshold

			1,760 mg/m3		Limit Values (TLV)
Remarks	Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL.				
		STEL	1,000 ppm 3,500 mg/m3	1994-09-01	USA. ACGIH Threshold Limit Values (TLV)
	Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Substances for which there is a Biological Exposure Index or Indices (see BEI® section)				
		TWA	500 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Upper Respiratory Tract irritation Central Nervous System impairment				
		STEL	1,000 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Upper Respiratory Tract irritation Central Nervous System impairment				
		TWA	500 ppm 1,800 mg/m3	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	1,000 ppm 3,600 mg/m3	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
Hexane isomers	96-14-0	TWA	500 ppm 1,800 mg/m3	1989-03-01	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	1,000 ppm 3,600 mg/m3	1989-03-01	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
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	Eye & Upper Respiratory Tract irritation Central Nervous System impairment				

		STEL	1,000 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
		Eye & Upper Respiratory Tract irritation Central Nervous System impairment			
		TWA	500 ppm 1,800 mg/m <sup>3</sup>	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	1,000 ppm 3,600 mg/m <sup>3</sup>	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

### 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.

#### Eye protection

Face shield and 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

### Safety data

pH no data available  
Melting point -95 °C (-139 °F)  
Boiling point 68 - 70 °C (154 - 158 °F) at 1,013 hPa (760 mmHg)  
Flash point -23 °C (-9 °F) - closed cup  
Ignition temperature no data available  
Lower explosion limit 1.1 %(V)  
Upper explosion limit 7.5 %(V)  
Density 0.672 g/cm<sup>3</sup>  
Water solubility no data available

## 10. STABILITY AND REACTIVITY

**Storage stability**

Stable under recommended storage conditions.

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

Oxidizing agents, Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

**Hazardous reactions**

Vapours may form explosive mixture with air.

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

no data available

**Irritation and corrosion**

no data available

**Sensitisation**

no data available

**Chronic exposure**

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**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

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. Causes 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>	Causes eye irritation.
<b>Ingestion</b>	Toxic 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**

no data available

**Further information on ecology**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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****DOT (US)**

UN-Number: 1208	Class: 3	Packing group: II
Proper shipping name: Hexanes		
Reportable Quantity (RQ): 7692 lbs		
Marine pollutant: No		
Poison Inhalation Hazard: No		

**IMDG**

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

**IATA**

UN-Number: 1208	Class: 3	Packing group: II
Proper shipping name: Hexanes		

**15. REGULATORY INFORMATION****OSHA Hazards**

Flammable liquid, Target Organ Effect, Toxic by ingestion, Irritant, Reproductive hazard

**DSL Status**

This product contains the following components that are not on the Canadian DSL nor NDSL lists.

Hexanes, isomers	CAS-No.
	-

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

n-Hexane	CAS-No.	Revision Date
	110-54-3	2007-07-01

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

n-Hexane	CAS-No.	Revision Date
	110-54-3	2007-07-01

Methylcyclopentane	96-37-7	2007-03-01
2-Methylpentane	107-83-5	1993-04-24
Hexane isomers	96-14-0	1993-04-24

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
n-Hexane	110-54-3	2007-07-01
Methylcyclopentane	96-37-7	2007-03-01
2-Methylpentane	107-83-5	1993-04-24
Hexanes, isomers	-	
Hexane isomers	96-14-0	1993-04-24

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
n-Hexane	110-54-3	2007-07-01
Methylcyclopentane	96-37-7	2007-03-01
2-Methylpentane	107-83-5	1993-04-24
Hexanes, isomers	-	
Hexane isomers	96-14-0	1993-04-24

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION**

**Further information**

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