

## MATERIAL SAFETY DATA SHEET

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Section 1 - Product and Company Information

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Product Name 1-HEXENE, 97%  
Product Number 230545  
Brand ALDRICH

Company Sigma-Aldrich  
Address 3050 Spruce Street  
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

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Section 2 - Composition/Information on Ingredient

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Substance Name	CAS #	SARA 313
1-HEXENE	592-41-6	No

Formula C6H12  
RTECS Number: MP6670000

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Flammable (USA) Highly Flammable (EU). Irritant.  
Irritating to eyes, respiratory system and skin.  
Target organ(s): Central nervous system.

## HMIS RATING

HEALTH: 2\*  
FLAMMABILITY: 3  
REACTIVITY: 0

## NFPA RATING

HEALTH: 2  
FLAMMABILITY: 3  
REACTIVITY: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

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Section 4 - First Aid Measures

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## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician. Do not induce vomiting.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## DERMAL EXPOSURE

In case of contact, immediately wash skin with soap and copious amounts of water.

#### EYE EXPOSURE

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

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### Section 5 - Fire Fighting Measures

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#### FLAMMABLE HAZARDS

Flammable Hazards: Yes

#### EXPLOSION HAZARDS

Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air.

#### FLASH POINT

- 13.0 °F - 25.0 °C Method: closed cup

#### EXPLOSION LIMITS

Lower: 1.2 %

#### AUTOIGNITION TEMP

253 °C

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: 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.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

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### Section 6 - Accidental Release Measures

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#### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Cover with an activated carbon adsorbent, take up and place in closed containers. Transport outdoors. Ventilate area and wash spill site after material pickup is complete.

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### Section 7 - Handling and Storage

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#### HANDLING

User Exposure: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

## STORAGE

Suitable: Keep container closed. Keep away from heat, sparks, and open flame.

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## Section 8 - Exposure Controls / PPE

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory:** Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). 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.  
**Hand:** Compatible chemical-resistant gloves.  
**Eye:** Chemical safety goggles.

### GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

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## Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Liquid Color: Colorless	
Property	Value	At Temperature or Pressure
Molecular Weight	84.16 AMU	
pH	N/A	
BP/BP Range	62.0 - 63.0 °C	
MP/MP Range	- 140.0 °C	
Freezing Point	N/A	
Vapor Pressure	155 mmHg	21.1 °C
Vapor Density	3 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.673 g/cm <sup>3</sup>	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	- 13.0 °F - 25.0 °C	Method: closed cup
Explosion Limits	Lower: 1.2 %	
Flammability	N/A	
Autoignition Temp	253 °C	
Refractive Index	1.388	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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## Section 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Materials to Avoid: Acids, Oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## Section 11 - Toxicological Information

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### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

### TARGET ORGAN(S) OR SYSTEM(S)

Central nervous system.

### SIGNS AND SYMPTOMS OF EXPOSURE

Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. May cause cyanosis (blue-gray coloring of skin and lips caused by lack of oxygen).

### TOXICITY DATA

Inhalation

Rat

32,000 ppm

LC50

Remarks: Lungs, Thorax, or Respiration:Other changes.

Behavioral:Somnolence (general depressed activity).

Behavioral:General anesthetic.

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## Section 12 - Ecological Information

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No data available.

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## Section 13 - Disposal Considerations

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### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. 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.

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## Section 14 - Transport Information

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### DOT

Proper Shipping Name: 1-Hexene

UN#: 2370

Class: 3  
Packing Group: Packing Group II  
Hazard Label: Flammable liquid  
PIH: Not PIH

#### IATA

Proper Shipping Name: 1-Hexene  
IATA UN Number: 2370  
Hazard Class: 3  
Packing Group: II

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#### Section 15 - Regulatory Information

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##### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: F-Xn  
Indication of Danger: Highly Flammable. Harmful.  
R: 11-65  
Risk Statements: Highly flammable. Harmful: may cause lung damage if swallowed.  
S: 9-16-23-29-62  
Safety Statements: Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Do not breathe vapor. Do not empty into drains. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

##### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Flammable (USA) Highly Flammable (EU). Irritant.  
Risk Statements: Irritating to eyes, respiratory system and skin.  
Safety Statements: Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Do not breathe vapor. Do not empty into drains. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.  
US Statements: Target organ(s): Central nervous system.

##### UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

##### CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: Yes  
NDSL: No

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#### Section 16 - Other Information

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##### DISCLAIMER

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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice

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