

## MATERIAL SAFETY DATA SHEET

Date Printed: 04/17/2007

Date Updated: 02/05/2006

Version 1.3

## Section 1 - Product and Company Information

Product Name NITROCYCLOHEXANE, 97%  
Product Number N16606  
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

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
NITROCYCLOHEXANE, 97%	1122-60-7	Yes

Formula C6H11NO2  
Synonyms Nitrocyclohexane  
RTECS Number: GV6600000

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Highly Toxic (USA) Toxic (EU).  
Toxic by inhalation, in contact with skin and if swallowed.  
Irritating to eyes, respiratory system and skin.  
Combustible.

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

## Section 4 - First Aid Measures

## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

## INHALATION EXPOSURE

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

## Section 5 - Fire Fighting Measures

## FLASH POINT

166 °F 74 °C Method: closed cup

## AUTOIGNITION TEMP

N/A

## 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): Combustible liquid. Emits toxic fumes under fire conditions.

#### EXPOSURE HAZARD(S)

Material: Irritant.

---

#### Section 6 - Accidental Release Measures

---

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

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

---

#### Section 7 - Handling and Storage

---

#### HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

#### STORAGE

Suitable: Keep tightly closed. Keep away from heat and open flame. Store in a cool dry place.

---

#### Section 8 - Exposure Controls / PPE

---

#### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

#### 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: Rubber gloves.  
Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

---

#### Section 9 - Physical/Chemical Properties

---

Molecular Weight                      129.16 AMU

pH	N/A	
BP/BP Range	205.5 - 206.0 °C	768 mmHg
MP/MP Range	- 34.0 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	4.46 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	1.061 g/cm3	
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	166 °F 74 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.462	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

---

## Section 10 - Stability and Reactivity

---

### STABILITY

Materials to Avoid: Strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

---

## Section 11 - Toxicological Information

---

### ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Multiple Routes: May be fatal if inhaled, swallowed, or absorbed through skin. Vapor or mist is irritating to the eyes, mucous membranes, and upper respiratory tract.

### SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### CHRONIC EXPOSURE - MUTAGEN

Species: Domestic Animals

Dose: 1 MMOL/L

Cell Type: Other cell types

Mutation test: DNA repair

---

## Section 12 - Ecological Information

---



---

## Section 13 - Disposal Considerations

---

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

---

Section 14 - Transport Information

---

DOT

Proper Shipping Name: Toxic by inhalation liquid,  
n.o.s.  
UN#: 3382  
Class: 6.1  
Packing Group: Packing Group I  
Hazard Label: Poison inhalation hazard  
PIH: Zone B

IATA

Proper Shipping Name: Toxic by inhalation liquid,  
n.o.s.  
IATA UN Number: 3382  
Hazard Class: 6.1  
Packing Group: I  
Not Allowed - Aircraft: Not permitted for air  
transport.

---

Section 15 - Regulatory Information

---

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: T  
Indication of Danger: Toxic.  
R: 23/24/25-36/37/38  
Risk Statements: Toxic by inhalation, in contact with skin and  
if swallowed. Irritating to eyes, respiratory system and skin.  
S: 26-36/37/39-45  
Safety Statements: In case of contact with eyes, rinse  
immediately with plenty of water and seek medical advice. Wear  
suitable protective clothing, gloves, and eye/face protection.  
In case of accident or if you feel unwell, seek medical advice  
immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Highly Toxic (USA) Toxic (EU).  
Risk Statements: Toxic by inhalation, in contact with skin and  
if swallowed. Irritating to eyes, respiratory system and skin.  
Safety Statements: In case of contact with eyes, rinse  
immediately with plenty of water and seek medical advice. Wear  
suitable protective clothing, gloves, and eye/face protection.  
In case of accident or if you feel unwell, seek medical advice  
immediately (show the label where possible).  
US Statements: Combustible.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes  
NOTES: This product is subject to SARA section 313 reporting  
requirements.  
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: No  
NDSL: Yes

---

## Section 16 - Other Information

---

### 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 or packing slip for additional terms and conditions of sale. Copyright 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.