

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : *cis*-1,2-Diaminocyclohexane

Product Number : 307467

Brand : Aldrich

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

Telephone : +18003255832

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Emergency Phone # : (314) 776-6555

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

#### OSHA Hazards

Combustible Liquid, Corrosive

#### GHS Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

H227 Combustible liquid  
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician.

#### HMIS Classification

Health hazard: 3  
Flammability: 2  
Physical hazards: 0

#### NFPA Rating

Health hazard: 3  
Fire: 2  
Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

**Skin** May be harmful if absorbed through skin. Causes skin burns.

**Eyes** Causes eye burns.

**Ingestion** May be harmful if swallowed. Causes burns.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : *cis*-1,2-Cyclohexanediamine

Formula : C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>

Molecular Weight : 114.19 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>cis-1,2-Diaminocyclohexane</b>			
1436-59-5	-	-	-

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#### 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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Continue rinsing eyes during transport to hospital. 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.

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#### 5. FIRE-FIGHTING MEASURES

##### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

##### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

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#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

##### Environmental precautions

Do not let product enter drains.

##### Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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#### 7. HANDLING AND STORAGE

##### Precautions for safe handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

##### Conditions for safe 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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### 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

Tightly fitting safety goggles. Faceshield (8-inch minimum).

#### 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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	clear, liquid
Colour	light yellow

### Safety data

pH	no data available
Melting point	no data available
Boiling point	92 - 93 °C (198 - 199 °F) at 24 hPa (18 mmHg) - lit.
Flash point	70 °C (158 °F) - closed cup
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	0.5 hPa (0.4 mmHg) at 20 °C (68 °F)
Density	0.952 g/cm <sup>3</sup> at 25 °C (77 °F)
Water solubility	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Conditions to avoid

no data available

### Materials to avoid

Strong oxidizing agents, acids, Acid chlorides, Acid anhydrides

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

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## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

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.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure (GHS)**

no data available

**Specific target organ toxicity - repeated exposure (GHS)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Ingestion</b>	May be harmful if swallowed. Causes burns.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>Eyes</b>	Causes eye burns.

**Signs and Symptoms of Exposure**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

**Additional Information**

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**12. ECOLOGICAL INFORMATION****Toxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

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**13. DISPOSAL CONSIDERATIONS**

**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. 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.

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**14. TRANSPORT INFORMATION**

**DOT (US)**

UN-Number: 2735 Class: 8 Packing group: II  
Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (cis-1,2-Diaminocyclohexane)  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 2735 Class: 8 Packing group: II EMS-No: F-A, S-B  
Proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (cis-1,2-Diaminocyclohexane)  
Marine pollutant: No

**IATA**

UN-Number: 2735 Class: 8 Packing group: II  
Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (cis-1,2-Diaminocyclohexane)

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**15. REGULATORY INFORMATION**

**OSHA Hazards**

Combustible Liquid, Corrosive

**DSL Status**

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

	CAS-No.
cis-1,2-Diaminocyclohexane	1436-59-5

**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**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Fire Hazard, Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
cis-1,2-Diaminocyclohexane	1436-59-5	

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
cis-1,2-Diaminocyclohexane	1436-59-5	

**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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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 Co., 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.

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