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## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name : Hexamethylene diisocyanate  
Product Number : H106723  
Brand : aladdin  
CAS-No. : 822-06-0

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : 仅供科研用途，不作为药物、家庭备用药或其它用途。

#### 1.3 Details of the supplier of the safety data sheet

Company : Shanghai Aladdin Biochemical Tech Co.,Ltd  
Address : 36 Xinjinqiao Road, Shanghai  
Telephone : 400-620-6333  
Fax : no data available

#### 1.4 Emergency telephone number


Emergency Phone : 0532-83889090

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

#### 2.2 GHS Label elements, including precautionary statements

|                                   |   |
|-----------------------------------|---|
| <b>Pictogram</b>                  |  |
| <b>Signal word</b>                | Danger  |
| <b>Hazard statement(s)</b>        |   |
| H315                              | Causes skin irritation  |
| H317                              | May cause an allergic skin reaction   |
| H319                              | Causes serious eye irritation   |
| H331                              | Toxic if inhaled  |
| H334                              | May cause allergy or asthma symptoms or breathing difficulties if inhaled           |
| H335                              | May cause respiratory irritation  |
| <b>Precautionary statement(s)</b> |   |
| P261                              | Avoid breathing dust/fume/gas/mist/vapors/spray.                                    |
| P264                              | Wash hands [and ...] thoroughly after handling.                                     |

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|                |  |
|----------------|--|
| P271           | Use only outdoors or in a well-ventilated area.  |
| P272           | Contaminated work clothing should not be allowed out of the workplace.   |
| P280           | Wear protective gloves/protective clothing/eye protection/face protection.   |
| P284           | [In case of inadequate ventilation] Wear respiratory protection.   |
| P342           | If experiencing respiratory symptoms:  |
| P302+P352      | IF ON SKIN: wash with plenty of water.   |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. |
| P333+P313      | IF SKIN irritation or rash occurs: Get medical advice/attention.   |
| P362+P364      | Take off contaminated clothing and wash it before reuse.   |
| P405           | Store locked up.   |
| P403+P233      | Store in a well-ventilated place. Keep container tightly closed.   |
| P501           | Dispose of contents/container to an approved waste disposal plant.   |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |  |
|------------------|--|
| Synonyms         | : 1,6-Diisocyanatohexane                                       |
| Formula          | : C <sub>8</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> |
| Molecular weight | : 168.19   |
| CAS No.          | : 822-06-0   |
| EC-NO.           | : 212-485-8  |

| Component                  | Classification | Concentration |
|----------------------------|----------------|---------------|
| Hexamethylene diisocyanate |                |               |
| no data available          |                | 99%           |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Move out of dangerous area. 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

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

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

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Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

no data available

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**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

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

**Unsuitable extinguishing media**

no data available

**5.2 Special hazards arising from the substance or mixture**

no data available

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

no data available

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**6.3 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.

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage**

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#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

#### 7.2 Conditions for safe storage, including any incompatibilities

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 under inert gas. Moisture sensitive. Storage class (TRGS 510): Non-combustible, acute toxic Cat.1 and 2 / very toxic hazardous materials Store under inert gas. Moisture sensitive.

#### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

#### 8.2 Exposure controls

##### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

##### Personal protective equipment

###### Eyeface protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

###### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

###### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

###### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose 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).

###### Control of environmental exposure

no data available

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

|                    |                   |
|--------------------|-------------------|
| a) Appearance      | no data available |
| b) Odour           | no data available |
| c) Odour Threshold | no data available |
| d) pH              | no data available |

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|   |   |
|---|---|
| e) Melting point/freezing point                 | -67 °C (-89 °F)                                 |
| f) Initial boiling point and boiling range      | 82 - 85 °C (180 - 185 °F) at 0.1 hPa (0.1 mmHg) |
| g) Flash point                                  | 135 °C (275 °F) - closed cup                    |
| h) Evaporation rate                             | no data available                               |
| i) Flammability (solid, gas)                    | no data available                               |
| j) Upper/lower flammability or explosive limits | no data available                               |
| k) Vapour pressure                              | 0.7 hPa (0.5 mmHg) at 25 °C (77 °F)             |
| l) Vapour density                               | 5.81 - (Air = 1.0)                              |
| m) Relative density                             | 1.047 g/mL at 20 °C (68 °F)                     |
| n) Water solubility                             | no data available                               |
| o) Partition coefficient: n-octanol/water       | no data available                               |
| p) Auto-ignition temperature                    | no data available                               |
| q) Decomposition temperature                    | no data available                               |
| r) Viscosity                                    | no data available                               |
| s) Explosive properties N                       | no data available                               |
| t) Oxidizing properties N                       | no data available                               |

## 9.2 Other safety information

no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage conditions.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Heat Avoid moisture.

### 10.4 Conditions to avoid

Alcohols, Strong bases, Amines, Strong oxidizing agents, Water

### 10.5 Incompatible materials

Hazardous decomposition products formed under fire conditions.- Carbon oxides, Nitrogen oxides (NOx)

### 10.6 Hazardous decomposition products

LD50 Oral - Rat - male - 959 mg/kg (OECD Test Guideline 401) LC50 Inhalation - Rat - male and female - 4 h - 124 mg/m3 (OECD Test Guideline 403) LD50 Dermal - Rat - > 7,000 mg/kg (OECD Test Guideline 402)

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

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### Acute toxicity

Skin - Rabbit Result: Corrosive after 1 to 4 hours of exposure - 4 h (OECD Test Guideline 404)

### Skin corrosion/irritation

Eyes - Rabbit Result: Corrosive (OECD Test Guideline 405)

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitisation

Ames test S.typhimurium Result: negative OECD Test Guideline 474 Mouse - male and female Result: negative

### Germ cell mutagenicity

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.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.

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### Specific target organ toxicity - single exposure

no data available

### Specific target organ toxicity - repeated exposure

May be fatal if inhaled.Causes respiratory tract irritation.

### Aspiration hazard

Toxicity to fish static test LC0 - Danio rerio (zebra fish) -  $\geq$  82.8 mg/l - 96 h (Directive 67/548/EEC, Annex V, C.1.) Toxicity to daphnia and other aquatic invertebrates static test EC0 - Daphnia magna (Water flea) -  $\geq$  89.1 mg/l - 48 h (Directive 67/548/EEC, Annex V, C.2.) Toxicity to algae static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) -  $\geq$  77.4 mg/l - 72 h (Directive 67/548/EEC, Annex V, C.3.) Toxicity to bacteria Respiration inhibition EC50 - Sludge Treatment - 842 mg/l - 3 h

### Additional Information

no data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

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no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

no data available

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**SECTION 13:**

**13.1 Disposal considerations**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information**

**DOT (US)**

UN number: 2281

Packing group: II

Class: 6.1

Proper shipping name: Hexamethylene diisocyanate

Reportable Quantity(RQ): no data available Poison Inhalation Hazard: no data

Environmental Hazards: No

**IMDG**

UN number: 2281

Packing group: II

EMS-No: no data available

Proper shipping name: Hexamethylene diisocyanate

**IATA**

UN number: 2281

Packing group: II

Class: 6.1

Proper shipping name: Hexamethylene diisocyanate

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**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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**SECTION 16: Other information**

**Further information**

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