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18
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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

Pictogram	
Signal word	Danger
Hazard statement(s)	
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
Precautionary statement(s)	
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	:	C8H12N2O2
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

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

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.

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

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

Eye/face 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

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) - >= 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) - >= 89.1 mg/l - 48 h (Directive 67/548/EEC, Annex V, C.2.)
Toxicity to algae static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - > 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

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

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.

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

SECTION 15: Regulatory information

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

SECTION 16: Other information

Further information

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