

## Safety Data Sheet

### SECTION 1: Identification of the Substance/Mixture and of the Company.

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#### 1.1 Product Identification:

Product Name : Hexamethylene Diisocyanate  
CAS Number : 822-06-0  
Molecular Formula : C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>O<sub>2</sub>  
EC Number : 212-485-8  
CAT Number : KEMICAS - relevant catalogue numbers  
Reach Number : A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation(EC) No907/2006, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline.

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

Application of the Substance : Laboratory chemicals, not for food and drug

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

Manufacturer/Supplier : KEMICAS  
Email : [info@kemicas.com](mailto:info@kemicas.com)

#### 1.4: Emergency Telephone number

Emergency Number : +31(0)853012877

### Section 2: Hazards Identification

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#### 2.1 Classification of the substance or mixture according to Regulation (EG 1272/2008)

Acute toxicity, Oral, Category 4, H302  
Skin corrosion/irritation, Category 1B, H314  
Skin sensitization, Category 1B, H317  
Eye damage, Category 1, H318  
Acute toxicity, Inhalation, Category 2, H330  
Respiratory sensitization, Category 1, H334  
Specific target organ toxicity - single exposure, Category 3, H335

For the full text of H-sentences mentioned, see Section 16

For the full text of R-sentences mentioned, see Section 16

## 2.2 GHS Label

### GHS-Labeling Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word:

**DANGER**

#### Hazard Statements:

<b>H302</b>	Harmful if swallowed.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H317</b>	May cause an allergic skin reaction.
<b>H330</b>	Fatal if inhaled.
<b>H334</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>H335</b>	May cause respiratory irritation.

#### Precautionary Statements:

<b>P260</b>	Do not breathe dust, fume, gas, mist, vapours, spray.
<b>P280</b>	Wear protective gloves, protective clothing, eye protection, face protection.
<b>P301 + P312</b>	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
<b>P303 + P361 + P353</b>	IF ON SKIN (or hair): Remove, Take off immediately all contaminated clothing. Rinse skin with water, shower.
<b>P304 + P340 + P310</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
<b>P305 + P351 + P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

#### Hazard Pictograms:



Signal word:

**DANGER**

### Section 3: Composition / Information on Ingredients.

#### 3.1 Substance

Component	CAS-No.	Concentration	Classification REGULATION (EC) No(1272/2008)
Hexamethylene Diisocyanate	822-06-0	C <sub>8</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> According to the grade	Acute Tox. 4 Oral, H302 Skin Corr., H314 Skin Sensitization 1B, H317 Eye Dam. 1, H318 Acute Tox. 1, H330 Resp. Sens. 1, H334 STOT SE 3, H335 STOT SE 3, H336

### Section 4: First Aid Measures

#### 4.1 Description of first aid measures

##### General Advice

First-aid personnel: ensure self-protection!

After inhalation: Fresh air. If breathing stops immediately apply mechanical ventilation, if necessary oxygen mask. Immediately call in physician.

After contact with skin: Wash off with plenty of water. Remove contaminated clothing.

After contact with eyes: Rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately call in physician

After ingestion: Never give anything by mouth to an unconscious person. Make the victim drink plenty of water, do not induce vomiting. Call in physician.

#### 4.2 Most Important symptoms and effects, both acute and delayed

Refer to 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.

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### 5.1 Extinguishing media

#### Suitable Extinguishing Media

Use water, dry chemical or carbon dioxide.

#### Unsuitable Extinguishing Media

Foam Water

### 5.2 Special hazards arising from substance or mixture

Combustible. Vapours heavier than air. Forms explosive mixtures with air at ambient temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

### 5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

### 5.4 Further information

No data available

## Section 6: Accidental Release Measures.

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

Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

For personal protection, see section 8.

### 6.2 Environmental precautions

Do not allow to enter sewerage system.

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

Absorb on vermiculite, sand or a pillow from Chemical Spill Centre.

### 6.4 Reference to other sections

No information available

## Section 7: Handling and Storage.

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### 7.1 Precautions for safe handling

Keep away from sources of ignition. Take measures to prevent electrostatic charging. Work under hood. Do not inhale substance. For precautions, refer to section 2.2

## 7.2 Conditions for safe storage, including any incompatibilities

Closed in a well-ventilated place. Recommended storage temperature see product label.

## 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.

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### 8.1 Control parameters

No data available

### 8.2 Exposure controls

#### Engineering Measures

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

#### Individual Protection Measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood. Do not inhale substance.

#### Respiratory Protections

Required when vapours/aerosols are generated. The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

#### Eye Protection

Required. Wear goggles.

#### Hand Protection

Required. Wear gloves

#### Body Protection

Required.

#### Environmental Exposure Controls

Do not allow to enter sewerage system, risk of explosion!

## Section 9: Physical and Chemical Properties.

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## 9.1 Information on basis physical

### Appearance and Changes in Physical State

Form: Clear liquid

Color: Colorless

Odour: Pungent

Melting point: 67°C

Boiling point: 82-85°C

Flash point: 130°C

Ignition temperature: 454 °C

Mol. Weight: 168.19 g/mol

Density: 1.047 g/ml at 20°C

pH value: -

Solubility in water: Soluble

Relative density of saturated gas/air mixture: -

Explosion limits: -

Further information: explosion limits – I

## 9.2 Other data

No further relevant information available.

## Section 10: Stability and Reactivity.

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

No further relevant information available.

### 10.3 Possibility of hazardous reactions

Exposable with air in a vaporous/gaseous state when heated

### 10.4 Conditions to avoid

No further relevant information available.

### 10.5 Incompatible materials

No further relevant information available.

## 10.6 Hazardous decomposition products

No further relevant information available.

## Section 11: Toxicological Information.

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### 11.1 Information on toxicological effects

Acute oral toxicity	: LD50 orl. rat 746 mg/kg
Acute inhalation toxicity	: No further relevant information available.
Acute dermal toxicity	: No further relevant information available.
Skin irritation	: No further relevant information available.
Eye irritation	: No further relevant information available.
Sensitisation	: No further relevant information available.
Germ cell mutagenicity	: No further relevant information available.
Carcinogenicity	: No further relevant information available.
Reproductive toxicity	: No further relevant information available.
Teratogenicity	: No further relevant information available.
Specific target organ toxicity - single exposure	: No further relevant information available.
Specific target organ toxicity - repeated exposure	: No further relevant information available.
Aspiration hazard	: No further relevant information available.

### 11.2 Further information

Handle in accordance with good industrial hygiene and safety practice.

## Section 12: Ecological Information.

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### 12.1 Toxicity

No further relevant information available.

### 12.2 Persistence and degradability

No further relevant information available.

### 12.3 Bio accumulative potential

No further relevant information available.

### 12.4 Mobility in soil

No further relevant information available.

### 12.5 Results of PBT and vPvB assessment

No further relevant information available.

### 12.6 Other adverse effects

Do not allow to enter waters, wastewater, or soil!

## Section 13: Disposal Considerations.

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Product : Chemicals must be disposed of in compliance with the respective national regulations.

Packaging : KEMICAS product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

## Section 14: Transport Information.

### Land Transport (ADR/RID)

- |                                   |                              |
|-----------------------------------|------------------------------|
| 14.1 UN number                    | : UN 2281                    |
| 14.2 Proper shipping name         | : Hexamethylene Diisocyanate |
| 14.3 Class                        | : 6.1                        |
| 14.4 Packing                      | : Group II                   |
| 14.5 Environmentally hazardous    | : No                         |
| 14.6 Special precautions for user | : No                         |
| 14.7 Tunnel restriction code      | : (D/E)                      |

### Inland waterway transport (ADN)

Not relevant

### Air Transport (IATA)

- |                                   |                              |
|-----------------------------------|------------------------------|
| 14.1 UN number                    | : UN 2281                    |
| 14.2 Proper shipping name         | : Hexamethylene Diisocyanate |
| 14.3 Class                        | : 6.1                        |
| 14.4 Packing                      | : Group II                   |
| 14.5 Environmentally hazardous    | : No                         |
| 14.6 Special precautions for user | : No                         |

### Sea Transport (IMDG)

- |                           |                              |
|---------------------------|------------------------------|
| 14.1 UN number            | : UN 2281                    |
| 14.2 Proper shipping name | : Hexamethylene Diisocyanate |
| 14.3 Class                | : 6.1                        |



14.4 Packing : Group II

14.5 Environmentally hazardous : No

14.6 Special precautions for user : No

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not relevant

## Section 15: Regulatory Information.

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

For this product, an assessment was not carry out.

### 15.2 Chemical Safety Assessment

For this product, an assessment was not carry out.

## Section 16: Other Information.

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The information and recommendations in this SDS are to the best of KEMICAS knowledge, information and belief. KEMICAS cannot be held responsible for any damage resulting from any possible error in this publication.

*Full text of H-Statements and R-phrases referred to under sections 2 and 3.*

**H302** Harmful if swallowed.

**H314** Causes severe skin burns and eye damage.

**H317** May cause an allergic skin reaction.

**H318** May cause respiratory irritation

**H330** Fatal if inhaled.

**H334** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**H335** May cause respiratory irritation.

## Exposure Scenario 1 (Industrial Use)

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### 1. Industrial use Reagent for analysis, (Chemical production)

#### Sectors of end-use

SU 3 : Industrial uses: Uses of substances as such or in preparations at industrial sites

SU 9 : Manufacture of fine chemicals

SU10 : Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

#### Chemical product category

PC19 : Removed from PC list and relocated in the technical function list (Table R.12- 15)24.

PC21 : Laboratory chemicals

Process categories

PROC 1 : Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.

PROC 2 : Chemical production or refinery in closed

PROC 2 : Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions

PROC 3 : Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

PROC 4 : Chemical production where opportunity for exposure arises

PROC 5 Mixing or blending in batch processes

PROC 8a : Transfer of substance or mixture (charging and discharging) at non- dedicated facilities 26

PROC 8b : Transfer of substance or mixture (charging and discharging) at dedicated facilities 26

PROC 9 : Transfer of substance or mixture into small containers (dedicated filling line, weighing)

PROC10 : Roller application or brushing

PROC15 : Use as laboratory reagent

Environmental Release Categories

ERC 1 : Manufacture of the substance

ERC 2 : Formulation into mixture

ERC 4 : Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

ERC 6a : Use of intermediate

ERC 6b : Use of reactive processing aid at industrial site (no inclusion into or onto article)

## **Exposure Scenario 2 (Professional Use)**

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### **1. Industrial use Reagent for analysis, (Chemical production)**

Sectors of end-use

SU22 : Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category

PC21 : Laboratory chemicals

Process categories

PROC15 : Use as laboratory reagent

Environmental Release Categories

ERC 2 : Formulation into mixture

ERC 6a : Use of intermediate

ERC 6b : Use of reactive processing aid at industrial site (no inclusion into or onto article)

**Disclaimer:**

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The information above is believe to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall KEMICAS be liable for any claims, losses, or damages of any third party or for lost profits or any indirect, incidental, consequential or exemplary damages, howsoever arising, even if KEMICAS has been advise of the possibility of such damages.