



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 10.05.2021

Version number 1

Revision: 10.05.2021

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Product name: Hexamethylenediisocyanate-MOPP-adduct****Part number:** DRE-C14194520**CAS Number:**

943411-95-8

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

No further relevant information available.

**Application of the substance / the mixture** Reference material for laboratory use only**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

LGC Limited

Queens Road

Teddington

Middlesex TW11 0LY

UNITED KINGDOM

Tel : +44 (0) 20 8943 7000

Fax : +44 (0) 20 8943 2767

eMail : [gb@lgcstandards.com](mailto:gb@lgcstandards.com)Web : [www.lgcstandards.com](http://www.lgcstandards.com)**Further information obtainable from:**

Product safety department

eMail : [sds-request@lgcgroup.com](mailto:sds-request@lgcgroup.com)**1.4 Emergency telephone number:**

For Hazardous Materials or Dangerous Goods Incident

Spill, Leak, Fire Exposure, or Accident

Call CHEMTREC:

USA &amp; Canada 1-800-424-9300

Rest of the world +1 703-741-5970

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.



health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

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Acute Tox. 4 H302 Harmful if swallowed.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H335 May cause respiratory irritation.

### · 2.2 Label elements

#### · Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

#### · Hazard pictograms



GHS05 GHS06 GHS08

#### · Signal word Danger

#### · Hazard statements

H302 Harmful if swallowed.  
H311 Toxic in contact with skin.  
H330 Fatal if inhaled.  
H314 Causes severe skin burns and eye damage.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.

#### · Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
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/doctor.  
P320 Specific treatment is urgent (see on this label).  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### · Additional information:

Contains isocyanates. May produce an allergic reaction.

#### · 2.3 Other hazards

#### · Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

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### SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**  
943411-95-8 Hexamethylenediisocyanate-MOPP-adduct
- **Identification number(s)** None
- **RTECS:** -
- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may occur even after several hours; therefore medical observation for at least 48 hours after the accident is recommended.  
Remove breathing equipment only after contaminated clothing has been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient in recovery position for transport.  
Seek immediate medical advice.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Rinse mouth. Do not induce vomiting.  
Seek medical treatment.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable for surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**  
Mouth respiratory protective device.  
Wear self-contained respiratory protective device.

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### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
Avoid formation of dust.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Use neutralising agent.  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/extraction at the workplace.  
Remove dust thoroughly.  
Store in cool, dry place in tightly closed receptacles.  
Open and handle receptacle with care.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
  - **Storage:**
  - **Requirements to be met by storerooms and receptacles:**  
Please refer to the manufacturer's certificate for specific storage and transport temperature conditions.  
Store only in the original receptacle unless other advice is given on the CoA.  
Keep container in a well-ventilated place. Keep away from sources of ignition and heat.
  - **Information about storage in one common storage facility:** Store away from foodstuffs.
  - **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
  - **Ingredients with limit values that require monitoring at the workplace:** Not required.
  - **Additional information:** Lists used were valid at the time of SDS preparation.
- **8.2 Exposure controls**
  - **Appropriate engineering controls** No further data; see item 7.
  - **Individual protection measures, such as personal protective equipment**
  - **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.

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Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

· **Hand protection**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374



Protective gloves

· **Material of gloves** Butyl rubber, BR

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eyeface protection**



Tightly sealed goggles

### SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**

Solid

· **Colour:**

Off white

· **Odour:**

Odourless

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Not determined.

Not determined.

· **Boiling point or initial boiling point and boiling range**

Not determined.

· **Flammability**

Not determined.

· **Lower and upper explosion limit**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

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|                                                            |                 |
|------------------------------------------------------------|-----------------|
| · <b>Flash point:</b>                                      | Not applicable. |
| · <b>Auto-ignition temperature:</b>                        | Not determined. |
| · <b>Decomposition temperature:</b>                        | Not determined. |
| · <b>pH</b>                                                | Not applicable. |
| · <b>Viscosity:</b>                                        |                 |
| · <b>Kinematic viscosity</b>                               | Not applicable. |
| · <b>Dynamic:</b>                                          | Not applicable. |
| · <b>Solubility</b>                                        |                 |
| · <b>water:</b>                                            | Not determined. |
| · <b>Partition coefficient n-octanol/water (log value)</b> | Not determined. |
| · <b>Vapour pressure:</b>                                  | Not applicable. |
| · <b>Density and/or relative density</b>                   |                 |
| · <b>Density:</b>                                          | Not determined. |
| · <b>Relative density</b>                                  | Not determined. |
| · <b>Vapour density</b>                                    | Not applicable. |

|                                                                                        |                 |
|----------------------------------------------------------------------------------------|-----------------|
| · <b>9.2 Other information</b>                                                         |                 |
| · <b>Appearance:</b>                                                                   |                 |
| · <b>Form:</b>                                                                         | Solid           |
| · <b>Important information on protection of health and environment, and on safety.</b> |                 |
| · <b>Ignition temperature:</b>                                                         | Not determined  |
| · <b>Explosive properties:</b>                                                         | Not determined. |
| · <b>Change in condition</b>                                                           |                 |
| · <b>Evaporation rate</b>                                                              | Not applicable. |

|                                                                                    |                |
|------------------------------------------------------------------------------------|----------------|
| · <b>Information with regard to physical hazard classes</b>                        |                |
| · <b>Explosives</b>                                                                | Not applicable |
| · <b>Flammable gases</b>                                                           | Not applicable |
| · <b>Aerosols</b>                                                                  | Not applicable |
| · <b>Oxidising gases</b>                                                           | Not applicable |
| · <b>Gases under pressure</b>                                                      | Not applicable |
| · <b>Flammable liquids</b>                                                         | Not applicable |
| · <b>Flammable solids</b>                                                          | Not applicable |
| · <b>Self-reactive substances and mixtures</b>                                     | Not applicable |
| · <b>Pyrophoric liquids</b>                                                        | Not applicable |
| · <b>Pyrophoric solids</b>                                                         | Not applicable |
| · <b>Self-heating substances and mixtures</b>                                      | Not applicable |
| · <b>Substances and mixtures, which emit flammable gases in contact with water</b> | Not applicable |
| · <b>Oxidising liquids</b>                                                         | Not applicable |
| · <b>Oxidising solids</b>                                                          | Not applicable |
| · <b>Organic peroxides</b>                                                         | Not applicable |
| · <b>Corrosive to metals</b>                                                       | Not applicable |
| · <b>Desensitised explosives</b>                                                   | Not applicable |

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### SECTION 10: Stability and reactivity

**· 10.1 Reactivity***Stable under normal conditions.**No further relevant information available.***· 10.2 Chemical stability** *Stable under normal conditions.***· Thermal decomposition / conditions to be avoided:***Formation of toxic gases is possible during heating or in case of fire.***· 10.3 Possibility of hazardous reactions** *No dangerous reactions known.***· 10.4 Conditions to avoid** *Heat.***· 10.5 Incompatible materials:** *Strong oxidizing agents.***· 10.6 Hazardous decomposition products:***Formation of toxic gases is possible during heating or in case of fire.*

### SECTION 11: Toxicological information

**· 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****· Acute toxicity***Harmful if swallowed.**Toxic in contact with skin.**Fatal if inhaled.***· LD/LC50 values relevant for classification:****CAS: 822-06-0 hexamethylene-di-isocyanate**

|            |          |                    |
|------------|----------|--------------------|
| Oral       | LD50     | 959 mg/kg (rat)    |
| Dermal     | LD50     | >7,000 mg/kg (rat) |
| Inhalative | LC50/4 h | 0.124 mg/l (rat)   |

**· Skin corrosion/irritation** *Causes severe skin burns and eye damage.***· Serious eye damage/irritation** *Causes serious eye damage.***· Respiratory or skin sensitisation***May cause allergy or asthma symptoms or breathing difficulties if inhaled.**May cause an allergic skin reaction.***· STOT-single exposure** *May cause respiratory irritation.***· 11.2 Information on other hazards****· Endocrine disrupting properties** *Substance is not listed.*

### SECTION 12: Ecological information

**· 12.1 Toxicity****· Aquatic toxicity:****CAS: 822-06-0 hexamethylene-di-isocyanate**

EC50/72h 77.4 mg/l (Algae)

**· 12.2 Persistence and degradability** *No further relevant information available.***· 12.3 Bioaccumulative potential** *No further relevant information available.*

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- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Dispose of in accordance with national regulations.

### SECTION 14: Transport information

- **14.1 UN number or ID number**
  - **ADR, IMDG, IATA**
  - **ADR**
  - **IMDG, IATA**
  - **14.3 Transport hazard class(es)**
  - **ADR**
  - **Class**
  - **Label**
- UN2928  
2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.  
(Hexamethylenediisocyanate-MOPP-adduct)  
TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S.  
(Hexamethylenediisocyanate-MOPP-adduct)
- 
- 6.1 Toxic substances.  
6.1+8

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**· IMDG****· Class**

6.1 Toxic substances.

**· Label**

6.1/8

**· IATA****· Class**

6.1 Toxic substances.

**· Label**

6.1 (8)

**· 14.4 Packing group****· ADR, IMDG, IATA**

II

**· 14.5 Environmental hazards:**

Not applicable.

**· 14.6 Special precautions for user**

Warning: Toxic substances.

**· Hazard identification number (Kemler code):**

68

**· EMS Number:**

F-A,S-B

**· Stowage Category**

B

**· Stowage Code**

SW2 Clear of living quarters.

**· 14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

**· Transport/Additional information:****· ADR****· Limited quantities (LQ)**

500 g

**· Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

**· Transport category**

2

**· Tunnel restriction code**

D/E

**· UN "Model Regulation":**

UN 2928 TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (HEXAMETHYLENEDIISOCYANATE-MOPP-ADDUCT), 6.1 (8), II

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### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category H2 ACUTE TOXIC**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

The information in this safety data sheet (SDS) has been prepared with due care and is true and accurate to the best of our knowledge. The user must determine the suitability of the information for its particular purpose, ensure compliance with existing laws and regulations, and be aware that other or additional safety or performance considerations may arise when using, handling and/ or storing the material. The information in this SDS does not purport to be all inclusive or a guarantee as to the properties of the material supplied, and should be used only as a guide. LGC makes no warranties or representations as to the accuracy and completeness of the information contained herein, shall not be held responsible for the suitability of this information for the user's intended purposes or the consequences of such use, and shall not be liable for any damage or loss, howsoever arising, direct or otherwise.

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1C: Skin corrosion/irritation – Category 1C

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

- **Sources**

Tables 3.1 and 3.2 from Annex 6 of EC 1272/2008, EC 1907/2006, EH40/2005 as amended 2011, Registry of Toxic Effects of Chemical Substances (RTECS), The Dictionary of Substances and their Effects, 1st Edition, IUCLID.

- **Data compared to the previous version altered.** All sections have been updated.