

**Safety data sheet**  
according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

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

· **1.1 Product identifier**

· **Trade name:** 1-EP70-A

· **CAS Number:**

1761-71-3

· **EC number:**

217-168-8

· **Registration number** 01-2119979542-27-X

· **UFI:** Q800-P0U6-Q00F-TVCA

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

· **Product category** PC1 Adhesives, sealants

· **Application of the substance / the mixture** Adhesives

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

HOTTINGER BRUEL & KJAER UK LTD

Advanced Manufacturing Park Technology Centre

Brunel Way, Catcliffe, Rotherham

South Yorkshire, S60 5WG

United Kingdom

Phone: +44 (0) 1145 512230

Email: info@uk.hbm.com

· **Informing department:**

Tel. +49(0)6131 19240

E-Mail support-esa@hbkworl.com

· **1.4 Emergency telephone number:**

Gift-Informationszentrum Nord, Göttingen

Poison Information Center, Göttingen

Tel.: +49 (0)551 19240

(German and English only)

United Kingdom:

National Poisons Information Service

Emergency number: +44 844 892 0111

Poisons Information Centre of Ireland:

+353 1 837 9964 for medical professionals

+353 1 809 2166 for public inquiries

CHEMTREC: +44 20 3807 3798 (24h emergency call).

Outside continental USA please call CHEMTREC at +1-703-527-3887 (R-calls are accepted).

**SECTION 2: Hazards identification**

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 1)



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

### 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



GHS07



GHS08

#### Signal word Danger

#### Hazard-determining components of labelling:

4,4'-methylenebis(cyclohexylamine)

#### Hazard statements

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements

P260 Do not breathe mist/vapours/spray.

P280 Wear protective gloves / eye protection / face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Additional information:

Please refer to further labelling elements in section 15 of this safety data sheet, if applicable.

#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

#### Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

EU

(Contd. on page 3)

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 2)

### SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Designation:**  
1761-71-3 4,4'-methylenebis(cyclohexylamine)
- **Identification number(s):**
- **EC number:** 217-168-8

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information**  
Instantly remove any clothing contaminated by the product.  
Personal protection for the First Aider.
- **After inhalation**  
In case of unconsciousness bring patient into stable side position for transport.  
In case of persistent symptoms consult doctor.
- **After skin contact**  
Instantly rinse with water.  
In case of permanent aches and pains please go and see the doctor.
- **After eye contact**  
Rinse opened eye for several minutes under running water. Then consult doctor.  
Remove contact lenses if possible.  
Use eye protection.
- **After swallowing**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; instantly call for medical help.
- **4.2 Most important symptoms and effects, both acute and delayed**  
skin irritation  
eye irritation
- **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 fighting measures that suit the environment.  
Alcohol-resistant foam, extinguishing powder or carbon dioxide. Fight larger fire with water spray.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**  
Inhalation of combustion gases may cause serious health hazards.  
Can be released in case of fire:  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NOx)  
corrosive vapours  
Formaldehyde.  
Formation of flammable mixtures of vapours with air possible.
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.

(Contd. on page 4)

EU

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 3)

- **Additional information**

Remove goods in stock from incendiary zone, if possible.

Collect contaminated fire fighting water separately. It must not enter drains. Provide sufficient fire fighting water retention.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

- **For non-emergency personnel** Avoid contact with the product.

- **For emergency responders** Put on suitable personal protective equipment.

- **6.2 Environmental precautions:** Do not allow to enter drainage system, ground/soil and water bodies.

- **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Use neutralising agent.

Dispose of contaminated material as waste according to section 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 information on disposal.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Do not eat, drink or smoke while working.

Put on suitable personal protective equipment.

Avoid contact with eyes, skin and clothes.

- **Information about protection against explosions and fires:** No special measures required.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Storage**

- **Requirements to be met by storerooms and containers:**

Keep container tightly closed and store upright to prevent any spill of product.

- **Information about storage in one common storage facility:** Do not store together with acids.

- **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**

- **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **DNELs**

**1761-71-3 4,4'-methylenebis(cyclohexylamine)**

Dermal	DNEL (worker, long-term, systemic)	0.053 mg/kg bw/day (human)
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(Contd. on page 5)

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 4)

Inhalative	DNEL (worker, long-term, systemic)	0.13 mg/m <sup>3</sup> (human)
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- **PNECs**

**1761-71-3 4,4'-methylenebis(cyclohexylamine)**

PNEC aqua (fresh water)	0.08 mg/L (.)
PNEC Water (marine water)	0.008 mg/L (.)
PNEC STP - Sewage Treatment Plant	3.2 mg/L (.)
PNEC soil	27.3 mg/kg soil dw (.)
PNEC sediment (fresh water)	136.6 mg/kg sedim. dw (.)
PNEC sediment (marine water)	13.7 mg/kg sedim. dw (.)
PNEC Water (sporadic release)	0.08 mg/L (.)

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **8.2 Exposure controls**

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures**

Keep away from foodstuffs, beverages and food.

Take off all contaminated clothing immediately.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Wash contaminated clothing before re-use.

- **Breathing equipment:**

In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

- **Hand protection**



Protective gloves.

Only use chemical-protective gloves with CE-labelling of category III (EN 374).

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

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Butyl rubber, BR

Nitrile rubber, NBR

Neoprene gloves

- **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.

- **Eye/face protection**



Safety goggles according to EN 166.



Face protection

(Contd. on page 6)

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 5)

· **Body protection:**

Protective work clothing.

· **Environmental exposure controls** Avoid the uncontrolled release into the environment.

### SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Physical state**

Liquid

· **Colour:**

Yellowish

· **Odour:**

Amine-like

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

-17.7 °C

· **Boiling point or initial boiling point and boiling range**320 °C (1761-71-3 4,4'-methylenebis(cyclohexylamine))  
Not applicable.· **Flammability**· **Lower and upper explosion limit**· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Flash point:**

160 °C

· **Auto-ignition temperature:**

300 °C

· **Decomposition temperature:**

Not determined.

· **SADT**· **pH**

11.6

The product has an extreme pH  $\geq 11.5$ , but should still not be considered corrosive. See also note in section 11.· **Viscosity:**· **Kinematic viscosity**

Not determined.

· **dynamic at 20 °C:**

80 mPas

· **Solubility**· **Water at 20 °C:**

12.3 g/l

· **Partition coefficient n-octanol/water (log value)**

Not determined.

· **Vapour pressure at 20 °C:**

0.00055 hPa

· **Density and/or relative density**· **Density at 20 °C**0.96 g/cm<sup>3</sup>· **Relative density**

Not determined.

· **Vapour density**

Not determined.

· **Particle characteristics**

No further details.

· **9.2 Other information**· **Appearance:**· **Form:**

Fluid

· **Important information on protection of health and environment, and on safety.**· **Self-inflammability:**

Not determined.

· **Explosive properties:**

Product is not explosive.

(Contd. on page 7)

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 6)

- **Change in condition**
- **Evaporation rate** Not determined.

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Void
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
None in case of intended use and storage in compliance with instructions.

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.

- **LD/LC50 values that are relevant for classification:**

#### ATE (Acute Toxicity Estimates)

Oral	LD50	380 mg/kg (Rat)
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#### 1761-71-3 4,4'-methylenebis(cyclohexylamine)

Oral	LD50	380 mg/kg (Rat)
Dermal	LD50	2,110 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.

(Contd. on page 8)

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 7)

- **Serious eye damage/irritation** Causes serious eye damage.
- **Respiratory or skin sensitisation** May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Aquatic toxicity:

##### 1761-71-3 4,4'-methylenebis(cyclohexylamine)

EC50	7.64 mg/l/48h (Daphnia magna)
LC50	> 100 mg/l/96h (fish)

- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** There are no data available about the preparation.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **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** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water danger class 3 (German Regulation) (Assessment by list): extremely hazardous for water.  
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even extremely small quantities leak into soil.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

### 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.

The waste code numbers mentioned are recommendations based on the probable use of the product.

##### European waste catalogue

07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 07 00	wastes from the MFSU of fine chemicals and chemical products not otherwise specified

(Contd. on page 9)

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

**Trade name: 1-EP70-A**

(Contd. from page 8)

07 07 04*	other organic solvents, washing liquids and mother liquors
08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 04 00	wastes from MFSU of adhesives and sealants (including waterproofing products)
08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP6	Acute Toxicity
HP8	Corrosive
HP13	Sensitising

- **Uncleaned packagings:**

- **Recommendation:**

Dispose of packaging according to regulations on the disposal of packagings.

Non contaminated packagings can be used for recycling.

Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

### SECTION 14: Transport information

- **14.1 UN number or ID number**

- **ADR/RID, IMDG, IATA**

UN2735

- **14.2 UN proper shipping name**

- **ADR/RID**

2735 AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-methylenebis(cyclohexylamine))

- **IMDG, IATA**

AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-methylenebis(cyclohexylamine))

- **14.3 Transport hazard class(es)**

- **ADR/RID**



- **Class**

8 (C7) Corrosive substances.

- **Label**

8

- **IMDG**



- **Class**

8 Corrosive substances.

- **Label**

8

(Contd. on page 10)

EU

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 9)

## · IATA



- **Class** 8 Corrosive substances.  
Not Restricted.
- **Label** 8

- **14.4 Packing group**
- **ADR/RID, IMDG, IATA** II

- **14.5 Environmental hazards:** Not applicable.

- **14.6 Special precautions for user** Warning: Corrosive substances.
- **Kemler Number:** 80
- **EMS Number:** F-A,S-B
- **Segregation groups** (SGG18) Alkalis
- **Stowage Category** A
- **Segregation Code** SG35 Stow "separated from" SGG1-acids

- **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.

· **Transport/Additional information:**

- **ADR/RID**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml
- **Transport category** 2
- **Tunnel restriction code** E

- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation":** UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (4,4'-METHYLENEBIS(CYCLOHEXYLAMINE)), 8, II

### 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.
- **REGULATION (EC) No 1907/2006 ANNEX XVII**  
Taking into account the intended use as specified in section 1, the relevant entries from Annex XVII are carried out.  
Conditions of restriction: 3

(Contd. on page 11)

EU

# Safety data sheet

## according to Regulation (EC) No 1907/2006, Article 31

Printing date 31.08.2025

Version number 1

Revision: 21.08.2025

Trade name: 1-EP70-A

(Contd. from page 10)


- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**  
Substance is not listed.
- **National regulations**
- **Water hazard class:** Water danger class 3 (Assessment by list): extremely hazardous for water.
- **Substances of very high concern (SVHC) according to REACH, Article 57** Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This safety data sheet meets the requirements of Regulation (EU) 2015/830 and 2020/878 amending Annex II of Regulation (EC) 1907/2006.

- **Department issuing data specification sheet:**

 **DEKRA** This Safety Data Sheet has been drawn up in cooperation with:  
DEKRA Assurance Services GmbH, Hanomagstr. 12, D-30449 Hanover, Germany,  
phone: (+49) 511 42079 - 0, reach@dekra.com.

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- **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

EINECS: European Inventory of Existing Commercial Chemical Substances

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

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Acute Tox. 4: Acute toxicity – Category 4

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

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

Skin Sens. 1: Skin sensitisation – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2