

# SDS

In compliance with HCS/HazCom 2012



## SAFETY DATA SHEET

Product: EP 70 Komp. A

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### 1 - IDENTIFICATION

Product identifier	EP 70 Komp. A
Code product	Q800-P0U6-Q00F-TVCA
Recommended use of the chemical and restrictions on use	Adhesives, sealants
Company	Hottinger Brüel & Kjaer
Address	19 Bartlett st. Marlborough, MA 01590
Telephone number	+1.508.804.3268
Emergency telephone number	Chemtrec: 1-800-424-9300. International: 1-703-527-3887
E-mail	support@hbm.com

### 2 - HAZARDS IDENTIFICATION

Classification of the chemical	Acute Toxicity Oral – Category 4 Skin corrosion/irritation – Category 1B Skin sensitizer – Category 1 Serious eye damage/eye irritation – Category 1 Specific target organ toxicity – Repeated exposure – Category 2 Hazardous to the aquatic environmental, short-term Acute – Category 2 Hazardous to the aquatic environmental, long-term Chronic – Category 2
Signal word	WARNING
Hazard statement(s)	H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H373 May cause liver, muscles, stomach damage through prolonged or repeated exposure. H401 Toxic to aquatic life.

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H411 Toxic to aquatic life with long lasting effects.

Symbol(s)



### PREVENTION

P260 Do not breathe mist and vapours.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink, or smoke when using this product.

P272 contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves, protective clothing, eye protection, face protection.

### RESPONSE

P391 Collect spillage.

Precautionary statement(s) P302 + P352 IF ON SKIN: Wash with plenty of water.

P362 + P364 Take off contaminated clothing and wash it before reuse.

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

P305 + P354 + P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### STORAGE

P405 Store locked up.

### DISPOSAL

P501 Dispose of contents and container according to current regulations.

Classification system adopted

Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A.

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Other hazards which do not result in classification

Adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations, 8 ed.

The product has no other hazards.

### 3 – COMPOSITION / INFORMATION ON INGREDIENTS

#### SUBSTANCE

Systematic chemical or trivial name	4,4'-Methylenbis(cyclohexylamine)
Common or generic name	1,4-Bis(aminocyclohexyl)methane
CAS Number	1761-71-3
Impurities and stabilizing additives contributing to the hazard	There are no ingredients or impurities that contribute to the danger

### 4 - FIRST-AID MEASURES

Inhalation	Remove the victim to a ventilated place and keep him at rest in a position that does not make breathing difficult. If you feel unwell, contact a POISON CENTER or a doctor. Take this SDS.
Skin contact	IF ON SKIN: Remove all contaminated clothing. Rinse skin with soap and water or take a shower. If necessary, call a POISON CENTER or doctor / physician. Take this SDS.
Eye contact	Rinse thoroughly with water for several minutes. If using contact lenses, remove them if it is easy. If eye irritation persists consult a doctor. Take this SDS.
Ingestion	Do not induce vomiting. Do not give anything by mouth to an unconscious person. Rinse victim's mouth with plenty of water. If vomiting occurs, tilt the patient forward or place the patient on the left side (if possible upwards) to keep the airway open and prevent aspiration. Keep the patient silent and maintain normal

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Most important symptoms and effects, acute and delayed	body temperature. Consult a POISON CENTER or doctor. Take this SDS. Harmful if swallowed. Exposure to the product causes skin burns, blistering and pain, and to the eyes causes serious eye damage with burning, irreversible damage, redness and tearing. Exposure can cause allergic skin reactions with dermatitis and itching. May cause liver, muscles, and stomach damage through prolonged or repeated exposure.
Indication of any immediate medical attention and special treatment needed	Avoid contact with the product when helping the victim. Exposure treatment should be directed towards the control of the patient's symptoms and clinical condition. In case of contact with the skin, do not rub the affected area.

### 5 - FIRE-FIGHTING MEASURES

Extinguishing media	Suitable: Compatible with water spray, dry chemical, foam, or carbon dioxide (CO <sub>2</sub> ). Unsuitable: Water jet directly under the burning product.
Specific hazards arising from the chemical product	The combustion of the chemical products or containers may form toxic and irritating gases such as carbon monoxide (CO), carbon dioxide (CO <sub>2</sub> ).
Specific extinguishing methods	Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing. Containers and tanks involved in the fire should be cooled with water laterally.

### 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions	Do not smoke. Avoid contact with the product. If necessary, use personal protective equipment as described in section 8.
Protective equipment	Use protective equipment as described in Section 8.
Emergency procedures	Wear PPE complete with safety glasses, butyl rubber safety gloves, suitable protective clothing, and closed shoes. The material used must be waterproof. In case of leakage, where

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Environmental precautions	exposure is high, the use of a respirator for mists and vapors. Isolate spills from ignition sources. Keep unauthorized persons away from the area. Stop the leak if it can be done without risk. Prevent the product from reaching the soil and water courses. Notify the relevant authorities if the product has caused environmental pollution (if it has reached water courses or if it has contaminated the soil or vegetation).
Methods and materials for containment	Absorb the remaining product with dry sand, earth, vermiculite, or any other inert material.
Methods and materials for cleaning up	Use water mist or vapor suppressing foam to reduce the dispersion of the vapors. Use natural barriers or containment of spillage. Collect spilled product and place in appropriate containers. Adsorb the remaining product with dry sand, earth, vermiculite, or other inert material. Place the adsorbed material in appropriate containers and remove them to a safe place. For disposal, proceed according to Section 13 of this SDS.

### 7- HANDLING AND STORAGE

Precautions for safe handling	Handle in a ventilated area or with a general local ventilation / exhaust system. Avoid exposure to the product. Avoid contact with incompatible materials. Use personal protective equipment as described in section 8. Wash hands and face thoroughly after handling and before eating, drinking, smoking, or using the bathroom. Contaminated clothing must be changed and washed before reuse.
Conditions for safe storage, including any incompatibilities	Store in a well-ventilated, dry, cool place away from sunlight. Keep the packaging tightly closed and in an area accessible only to authorized persons. Keep away from sources of ignition and heat. Keep away from incompatible materials. The product may be incompatible with strong oxidizing agents, strong acids and bases.

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### 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Occupational exposure limit Not established.

Biological limit Not established.

Appropriate engineering controls Promote direct mechanical ventilation and exhaust system to the outside environment. These measures help reduce exposure to product.

Individual protection measures, such as personal protective equipment

Respiratory protection Use respirator for mists and vapors. Based on the inhalation hazard of the product, a risk assessment must be carried out to adequately define respiratory protection in view of the conditions of use of the product.

Hand protection Nitrile rubber safety gloves, suitable protective clothing, and closed shoes.

Eye protection Safety glasses with side protection.

Skin and body protection Proper protective clothing and closed shoes are recommended.

Special precautions Not applicable.

### 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (physical state, color, etc.) Liquid, light yellow.

Odour Ammonia (NH<sub>3</sub>).

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Boiling point, initial boiling, Not available.

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and boiling range

Flashpoint 160°C.

Upper/lower flammability or explosive limits Not available.

Vapour pressure 0.005 hPa (at 20°C).

Vapour density Not available.

Relative density 0.98 g/cm<sup>3</sup> (at 20°C).

Solubility(ies) The substance is not soluble in water.

n-octanol/water partition coefficient Not available.

Auto-ignition temperature 300°C.

Decomposition temperature Not available.

Odour threshold Not available.

Evaporation rate Not available.

Flammability Not available.

Viscosity 80 mPa.s (dynamic).

Other information Not available.

### 10 - STABILITY AND REACTIVITY

Reactivity and Chemical stability Product is stable under normal conditions of temperature and pressure.

Possibility of hazardous reactions The product can react dangerously in contact with incompatible materials.

Conditions to avoid High temperatures, heat, friction and contact with incompatible materials.

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Incompatible material	The product may be incompatible with strong oxidizing agents, strong acids, and bases.
Hazardous decomposition products	Decomposition of product may generate toxic gases such as CO, CO <sub>2</sub> .

### 11 - TOXICOLOGICAL INFORMATION

Acute toxicity	<p>Harmful if swallowed. The product is not expected to be toxic to the dermal or inhalation routes.</p> <p><u>4,4`-Methylenbis(cyclohexylamine):</u> LD<sub>50</sub> (oral, rats): 380 mg/kg. LD<sub>50</sub> (dermal, rabbits): 2.11 g/kg. LC<sub>50</sub> (inhalation, rats): &gt; 0.4%. Exposure to the product causes skin burns, blistering and pain.</p>
Skin irritation/corrosion	<p><u>4,4`-Methylenbis(cyclohexylamine):</u> Rabbit skin irritation test (OECD 404), the 3-minute exposure did not result in necrosis at the 1-hour observation period, but one out of three animals exhibited necrosis at the 24-hour observation.</p>
Eye damage/irritation	<p>Exposure to the product eyes causes serious eye damage with burning, irreversible damage, redness and tearing.</p> <p><u>4,4`-Methylenbis(cyclohexylamine):</u> Eye irritation test in rabbits, caused serious eye damage.</p>
Respiratory or skin sensitization	<p>Exposure can cause allergic skin reactions with dermatitis and itching.</p> <p><u>4,4`-Methylenbis(cyclohexylamine):</u> Skin sensitization test in guinea pig (OECD 406), positive result. The product is not expected to have mutagenic potential.</p>
Reproductive cell mutagenicity	<p><u>4,4`-Methylenbis(cyclohexylamine):</u> Under the present test conditions the test item tested up to cytotoxic concentrations in the in vitro bacterial mutagenicity assay (Salmonella reverse mutation Assay, OECD 471), the in</p>

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Carcinogenicity	<p>vitro mammalian mutagenicity assay (HPRT Assay, OECD 476) and the in vitro mammalian chromosome aberration test (CA Test, OECD 473) each assay carried out without and with metabolic activation, revealed no genotoxic activity.</p> <p>The product is not expected to have carcinogenic potential. It is not expected that the product presents reproductive toxicity.</p>
Reproductive toxicity	<p><u>4,4'-Methylenbis(cyclohexylamine):</u> Reproductive toxicity was noted in a 28-day OECD 421/422 guideline study on 4,4'-methylenedicyclohexylamine at the 50 mg/kg bw/d dose, no adverse effects on reproduction were observed.</p>
Specific target organ toxicity – single exposure	<p>Is not expected that the product to cause target organ toxicity from single exposure.</p> <p>May cause liver, muscles, and stomach damage through prolonged or repeated exposure.</p>
Specific target organ toxicity – repeated exposure	<p><u>4,4'-Methylenbis(cyclohexylamine):</u> The test substance was examined in a 28-day oral repeated dose toxicity study in Wistar rats. OECD 422 The results of the sub-acute study with ingredient revealed distinctive and comparable toxic effects on the liver, stomach, and muscle tissues as main target organs.</p>
Aspiration hazard	<p>It is not expected that the product presents aspiration hazard.</p>

## 12 - ECOLOGICAL INFORMATION

Environmental effects, behavior, and fate of the product

Ecotoxicity	<p>Toxic to aquatic life with long lasting effects.</p> <p><u>4,4'-Methylenbis(cyclohexylamine):</u> LC<sub>50</sub> (<i>Leuciscus idus</i>, 96h): &gt; 100 mg/L. NOEC (Fish): &gt; 1 mg/L . EC<sub>50</sub> (<i>Daphnia magna</i>, 48h): 9.24 mg/L. NOEC (<i>Daphnia magna</i>, 21 d): 4 mg/L. EC<sub>50</sub> (<i>Desmodesmus subspicatus</i>, 72h): 141,42 mg/L.</p>
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Persistence and degradability	The product is moderately biodegradable. <u>4,4`-Methylenbis(cyclohexylamine):</u> Biodegradability: 42%.
Bioaccumulative potential	It is expected that the product has low bioaccumulative potential in aquatic organisms. <u>4,4`-Methylenbis(cyclohexylamine):</u> BCF = 10.1.
Mobility in soil:	Log kow: 2.03. Not available.
Other adverse effects	There are not known adverse environmental effects of the product.

### 13 - DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:	Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep product residues in their original containers and properly closed. Disposal should be in accordance with the regulations for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for appropriate disposal as established for the product.
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### 14 - TRANSPORT INFORMATION

International regulations	UN – “United Nations”
Land	Recommendations on the TRANSPORT OF DANGEROUS GOODS. Model Regulations
UN number	DOT - U.S. Department of Transportation 2735
UN proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4`-Methylenbis(cyclohexylamine))

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Transport hazard class(es)	8
Subsidiary risk	NA
Packing group	II
Sea	IMO – International Maritime Organization International Maritime Dangerous Goods Code (IMDG Code)
UN number	2735
UN proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4`- Methylenbis(cyclohexylamine)
Transport hazard class(es)	8
Subsidiary risk	NA
Packing group	II
Environmental hazards	Product is not considered a marine pollutant..
EmS	F-A, S-B
Air	IATA – International Air Transport Association Dangerous Goods Regulation (DGR)
UN number	2735
UN proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (4,4`- Methylenbis(cyclohexylamine)
Transport hazard class(es)	8
Subsidiary risk	NA
Packing group	II
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code	Consult regulations: - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006. - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.

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Special precautions                      There is no need of special precautions.

### 15 - REGULATORY INFORMATION

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

International Labor Organization C170 Chemicals Convention, from June 25th, 1990: Occupational Safety and Health – Toxic Substances and Agents.

Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A, B, C, D, E, F.

GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS). 8. rev. ed.

U.S. Federal Regulations: United States inventory (TSCA): 4,4'-Methylenbis(cyclohexylamine) is listed.

California Proposition 65: Ingredient is not listed.

### 16 - OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in September 2021.

#### Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

CAS – Chemical Abstracts Service

LC<sub>50</sub> – Lethal Concentration 50%

LD<sub>50</sub> – Lethal Dose 50%

ERPG - Emergency Response Planning Guidelines

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NIOSH – National Institute of Occupational Safety and Health

OSHA – Occupational Safety & Health Administration

PEL – Permissible Exposure Limit

REL – Recommended Exposure Limit

STEL – Short Term Exposure Limit

TLV – Threshold Limit Value

TWA – Time Weighted Average

Bibliographic references:

ACGIH. AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIALS HYGIENISTS. TLVs® and BEIs®: Based on the Documentation of the Threshold Limit Values (TLVs®) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEIs®). Cincinnati-USA, 2021.

ECHA. EUROPEAN CHEMICAL AGENCY. Available in: <<https://echa.europa.eu/>>. Access in: Sep. 2021.

ECHEM. The Global Portal to Information on Chemical Substances OECD. Available in: <[https://www.echemportal.org/echemportal/substancesearch/substancesearch\\_execute.action](https://www.echemportal.org/echemportal/substancesearch/substancesearch_execute.action)>. Access in: Sep. 2021.

EPA. United States Environmental protection Agency. Comptox. Available in: <<https://comptox.epa.gov/>>. Access in: Sep. 2021.

GHS. Globally Harmonized System of Classification and Labelling of Chemicals. 8. rev. ed. New York: United Nations, 2019.

IARC. INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available in: <<http://monographs.iarc.fr/ENG/Classification/index.php>>. Access in: Sep. 2021.

NIOSH. NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical

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Safety Cards. Available in: <<http://www.cdc.gov/niosh/>>. Access in: Sep. 2021.

NJ. STATE OF NEW JERSEY - Department of Health. Available in: <<http://nj.gov/health/eoh/rtkweb/odispubr.shtml>>. Access in: Sep. 2021.

SDS. Safety Data Sheet. EP 70 Komp. A. Revision No: 1,2 - Replaces version: 1,1. Revision date: 18.02.2021.

TOXNET. TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available in: <<http://chem.sis.nlm.nih.gov/>>. Access in: Sep. 2021.