Safety Data Sheet
according to P.U.(A) 310/2013

Printing date 16.03.2024 Version number 28 Revision: 16.03.2024

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1 Identification of the hazardous chemical and of the supplier

· **Product identifier**

· **Trade name** **MC-CarboSolid 1280 - Komponente B**

· **Recommended use of the chemical and restrictions on use** No further relevant information available.

· **Application of the substance / the mixture** Epoxy coating

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

· **Manufacturer/Supplier:**
MC-Bauchemie Müller GmbH & Co. KG
Am Kruppwald 1-8
D-46238 Bottrop
Tel.: +49(0)2041-101-0
Fax.: +49(0)2041-101-400
E-Mail: info@mc-bauchemie.de

MC-Bauchemie AG
Hagackerstr. 10
CH-8953 Dietikon
Tel.: +44-7400510
Fax : +44-7400533

· **Informing department:** msds@mc-bauchemie.de

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2 Hazard identification

· **Classification of the substance or mixture**

Skin Corr. 1 H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Skin Sens. 1 H317 May cause allergic skin reaction.
STOT RE 2 H373 May cause damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Label elements**

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**

GHS05 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
Isophorone diamine
2-methylpentane-1,5-diamine
crystalline silica
Amine polymer
4,4'-methylenebis(cyclohexan-1-amine)
Fettsäuren, C18- unges., Dimere, Reaktionsprodukte mit N,N-Dimethyl-1,3-propanediamin und 1,3-Propanediamin

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· **Hazard statements** Causes severe skin burns and eye damage.
May cause allergic skin reaction.
May cause damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Precautionary statements** Do not breathe dusts or mists.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Specific treatment (see on this label).

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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3 Composition and information of the ingredients of the hazardous chemical

· **Chemical characterisation: Mixtures**

· **Description:** Mixture consisting of the following components.

· **Dangerous components:**

	Amine polymer Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1, H317	≥3-<10%
CAS: 2855-13-2	Isophorone diamine Skin Corr. 1, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	≥5-<10%
CAS: 9046-10-0	Polyoxypropylenediamine Skin Corr. 1, H314; Eye Dam. 1, H318; Aquatic Chronic 3, H412	≥5-<10%
	Amine polymer Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1, H317	≥3-<10%
CAS: 15520-10-2	2-methylpentane-1,5-diamine Skin Corr. 1, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; STOT SE 3, H335	≥3-<5%
CAS: 14808-60-7	crystalline silica STOT RE 1, H372	<5%
CAS: 1761-71-3	4,4'-methylenebis(cyclohexan-1-amine) STOT RE 2, H373; Skin Corr. 1, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1, H317	≥3-<5%
CAS: 39423-51-3	Polyoxypropylene triamine Eye Dam. 1, H318; Acute Tox. 4, H302; Acute Tox. 4, H312	≥1-<2.5%

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CAS: 69-72-7	salicylic acid Repr. 2, H361; Eye Dam. 1, H318; Acute Tox. 4, H302	<1%
CAS: 162627-17-0	Fettsäuren, C18- unges., Dimere, Reaktionsprodukte mit N,N-Dimethyl-1,3-propanediamin und 1,3-Propanediamin Skin Sens. 1, H317	≥0.1-<0.5%

· **Additional information** For the wording of the listed hazard phrases refer to section 16.

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4 First-aid measures

· **Description of first aid measures**
· **General information** Remove contaminated clothing immediately. Consult a doctor if symptoms occur. Move affected person to fresh air.
· **After inhalation** Supply fresh air; seek medical advice if symptoms occur.
If unconscious, place in recovery position and seek medical advice.
· **After skin contact** In case of contact with skin, wash carefully with plenty of soap and water. Consult a doctor in case of skin reactions.
· **After eye contact** Rinse opened eye for several minutes under running water.
Call a doctor immediately
· **After swallowing** Rinse mouth with water. Never give anything by mouth to an unconscious person. DO NOT induce vomiting. If symptoms persist, consult a doctor.
· **Information for doctor**
· **Most important symptoms and effects, both acute and delayed** Advice for the doctor: Elementary aid, decontamination, symptomatic treatment.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Not required.
· **Environmental precautions:** No special measures required.
· **Methods and material for containment and cleaning up:** Collect mechanically.
· **Reference to other sections** See Section 7 for information on safe handling

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See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

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7 Handling and storage

· **Handling**
· **Precautions for safe handling** Open and handle containers with care.
Only use in well-ventilated areas (e.g. open construction, outdoor areas), in rooms without air exchange (e.g. closed rooms, underground car parks) ventilation measures are required.
are required.
Wear suitable personal protective equipment (see section 8). Avoid contact with eyes, skin and clothing. Change contaminated or damaged gloves and contaminated clothing immediately and wash skin immediately. Mix slowly, partially covering the mixing container. Pour carefully and slowly when repotting. Observe the BGBau technical data sheet and practical guide for handling epoxy resins. Open and handle containers with care.
· **Information about protection against explosions and fires:** Ensure sufficient air exchange and/or extraction in the working areas. Take precautionary measures to avoid electrostatic discharges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and containers:** No special requirements.
· **Further information about storage conditions:** Keep container tightly closed in a well-ventilated place.
· **Storage class** 8A

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8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters**

· **Components with critical values that require monitoring at the workplace:**	
CAS: 14808-60-7 crystalline silica	
PEL (Malaysia)	Long-term value: 0.1* mg/m³ *Pecahan ternafaskan

· **DNELs**		
CAS: 2855-13-2 Isophorone diamine		
Oral	DNEL	0.526 mg/kg bw/Tag (ArL)
Inhalative	DNEL	20.1 mg/m³ (ArL)

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CAS: 9046-10-0 Polyoxypropylenediamine		
Oral	DNEL	0.04 mg/kg bw/Tag (ArL)
Dermal	DNEL	2.5 mg/kg bw/day (ArL)
CAS: 15520-10-2 2-methylpentane-1,5-diamine		
Dermal	DNEL	1.5 mg/kg bw/day (ArL)
Inhalative	DNEL	0.25 mg/m³ (ArL)
		0.5 mg/m³ (Ark)
CAS: 1761-71-3 4,4'-methylenebis(cyclohexan-1-amine)		
Oral	DNEL	0.06 mg/kg bw/Tag (ArL)
Dermal	DNEL	0.1 mg/kg bw/day (ArL)
Inhalative	DNEL	1 mg/m³ (ArL)
CAS: 39423-51-3 Polyoxypropylene triamine		
Inhalative	DNEL	14 mg/m³ (ArL)

· **PNECs**	
CAS: 2855-13-2 Isophorone diamine	
PNEC	0.006 mg/l (Mew)
	0.06 mg/l (Freshwater)
PNEC	0.578 mg/kg dwt (Sediment)
	5.784 mg/kg dwt (Fresh water sediment)
CAS: 9046-10-0 Polyoxypropylenediamine	
PNEC	7.5 mg/l (Sewage Treatment Plant)
	0.015 mg/l (Fresh water)
PNEC	0.0176 mg/kg dwt (Bod)
	0.125 mg/kg dwt (Sediment)
	0.132 mg/kg dwt (Fresh water sediment)
CAS: 15520-10-2 2-methylpentane-1,5-diamine	
PNEC	0.042 mg/l (Mew)
	0.42 mg/l (Freshwater)
CAS: 1761-71-3 4,4'-methylenebis(cyclohexan-1-amine)	
PNEC	0.08 mg/l (Fresh water)
	3.2 mg/l (Kla)
	13.7 mg/l (Mew)
PNEC	27.2 mg/kg dwt (Bod)
	13.7 mg/kg dwt (Sediment)
	137 mg/kg dwt (Fresh water sediment)
CAS: 39423-51-3 Polyoxypropylene triamine	
PNEC	10 mg/l (Sewage Treatment Plant)
	0.00044 mg/l (Mew)
	0.0044 mg/l (Freshwater)

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PNEC	0.002 mg/kg dwt (Bod) 0.002 mg/kg dwt (Sediment) 0.02 mg/kg dwt (Fresh water sediment)

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

· **Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures** Keep away from food, drink and animal feed.
Remove soiled, soaked clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with eyes and skin.

· **Breathing equipment:** If workplace limit values cannot be complied with by ventilation measures or if rooms cannot be technically ventilated, respiratory protection must be worn: Use combination filter A1-P2 (brown/white) in rooms that cannot be ventilated. If oxygen deficiency is expected, use self-contained breathing apparatus. Observe wearing time limits according to §9 (3) GefStoffV in conjunction with BGR 190.

· **Protection of hands:** Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves** You can find help with choosing gloves on the website https://www.bgbau.de/fileadmin/Gisbau/Projekte.pdf
For example, we recommend the Sol-vex 37-900 protective gloves from Ansell GmbH. The breakthrough time of the protective gloves can be found under point 8 "Penetration time of the glove material".
The selection of a suitable glove depends not only on the material, but also on other quality features and varies from manufacturer to manufacturer. As the product
is a preparation of several substances, the resistance of glove materials cannot be calculated in advance and must therefore be checked before use.
Nitrile rubber
Recommended material thickness:≥ 0.4 mm

· **Penetration time of glove material** The breakthrough times of the Sol-vex 37-900 protective gloves are around 8 hours.
The following applies to all other gloves:
The exact breakthrough time must be obtained from the protective glove manufacturer and adhered to.
Nitrile rubber
Material thickness: ≥ 0.40 mm
Penetration time: ≥ 480 min
Butyl rubber:
Material thickness: ≥ 0.5 mm
Penetration time: ≥ 480 min

· **Eye protection:** Tight-fitting safety goggles.
Safety goggles.

· **Body protection:** Protective clothing
Suitable protective clothing should be worn when working with

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epoxy resins. In addition to normal work clothing (long trousers, long-sleeved shirt or T-shirt), disposable overalls, aprons, overshoes, sleeve protectors etc. may be necessary depending on the activity. Uncovered areas of skin should be avoided as far as possible, even in hot weather. If the work involves kneeling, the lower leg area should be protected by protective trousers.

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Pasty
Colour:	light yellow
· **Smell:**	Amine-like
· **pH-value at 20 °C:**	12
· **Change in condition**	
Melting point/freezing point	Not determined
Initial boiling point and boiling range	2230 °C
· **Flash point:**	≥61 °C
· **Auto-ignition temperature**	>370 °C
· **Auto-ignition temperature**	Product is not selfigniting.
· **Explosive properties:**	Product is not explosive.
· **Steam pressure at 1732 °C:**	13.5 hPa
· **Density at 20 °C**	1.55 g/cm³
· **Solubility in / Miscibility with**	
Water:	Partly miscible
· **Viscosity:**	
dynamic at 20 °C:	250000 mPas
kinematic:	Not determined.
· **Other information**	
	No further relevant information available.

10 Stability and reactivity

· **Reactivity**	No further relevant information available.
· **Chemical stability**	
· **Thermal decomposition / conditions to be avoided:**	No decomposition if used according to specifications.

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· **Possibility of hazardous reactions** No dangerous reactions known
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity**

· **LD/LC50 values that are relevant for classification:**		
CAS: 2855-13-2 Isophorone diamine		
Oral	LD50	1030 mg/kg (ATE)
		1030 mg/kg (rat)
	NOAEL	250 mg/kg (rat)
Dermal	LD50	1840 mg/kg (rabbit)
		>2000 mg/kg (rat)
CAS: 9046-10-0 Polyoxypropylenediamine		
Oral	LD50	2855 mg/kg (Rat)
Dermal	LD50	2980 mg/kg (Kan)
CAS: 15520-10-2 2-methylpentane-1,5-diamine		
Oral	LD50	1170 mg/kg (rat)
Dermal	LD50	1870 mg/kg (rabbit)
Inhalative	LC50/4 h	19.6 mg/l (rat)
CAS: 1761-71-3 4,4'-methylenebis(cyclohexan-1-amine)		
Oral	LD50	380 mg/kg (rat)
Dermal	LD50	2110 mg/kg (rat)
CAS: 39423-51-3 Polyoxypropylene triamine		
Oral	LD50	550 mg/kg (rat)
Dermal	LD50	>1000 mg/kg (rat)
CAS: 69-72-7 salicylic acid		
Oral	LD50	891 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion or irritation** Irritant for skin and mucous membranes.
· **Serious eye damage or eye irritation** Strong caustic effect.
· **Respiratory / skin sensitization** Sensitization possible by skin contact.

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· **Additional toxicological information:** The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Irritant

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12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
CAS: 2855-13-2 Isophorone diamine	
LC50/96h	110 mg/l (Leucidus idus)
EC50	1120 mg/l (Pseudomonas putida)
EC50/48h	23 mg/l (Daphnia magna)
NOEC	1.5 mg/l (Desmodesmus subspicatus)
	3 mg/l (Daphnia magna)
ErC50/72h	>50 mg/l (Desmodesmus subspicatus)
CAS: 15520-10-2 2-methylpentane-1,5-diamine	
EC50/72h	>100 mg/l (algae)
EC50	1825 mg/l (fish)
EC50/48h	19.8 mg/l (Daphnia magna)
CAS: 1761-71-3 4,4'-methylenebis(cyclohexan-1-amine)	
LC50/96h	>100 mg/l (Leucidus idus)
EC50/48h	6.84 mg/l (Daphnia magna)
NOEC	4 mg/l (Daphnia magna)
ErC50/72h	141.2 mg/l (Desmodesmus subspicatus)
CAS: 39423-51-3 Polyoxypropylene triamine	
LC50/96h	>100 mg/l (Oncorhynchus mykiss)
EC50/48h	13 mg/l (Daphnia magna)
ErC50/72h	4.4 mg/l (algae)

· **Persistence and degradability** No further relevant information available.
· **Behaviour in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

13 Disposal information

· **Waste treatment methods**
· **Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

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14 Transportation information

· **UN-Number**	
· **ADR, IMDG, IATA**	UN2735
· **UN proper shipping name**	
· **ADR, IMDG, IATA**	AMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONEDIAMINE, 2-methylpentane-1,5-diamine)
· **Transport hazard class(es)**	
· **ADR**	
· **Class**	8 (C7) Corrosive substances.
· **Label**	8
· **IMDG, IATA**	
· **Class**	8 Corrosive substances.
· **Label**	8
· **Packing group**	
· **ADR, IMDG, IATA**	II
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **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
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.

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· **Transport/Additional information:**

· **ADR**	
· **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. (ISOPHORONEDIAMINE, 2-METHYLPENTANE-1,5-DIAMINE), 8, II

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15 Regulatory information

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

· **EHS reference list**

CAS: 2855-13-2	Isophorone diamine

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

· **Department issuing data specification sheet:** Environment protection department.
· **Contact:**
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
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
EINECS: European Inventory of Existing Commercial Chemical Substances

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ELINCS: European List of Notified 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
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity - oral – Category 4
Skin Corr. 1: Skin corrosion or irritation – Category 1
Skin Irrit. 2: Skin corrosion or irritation – Category 2
Eye Dam. 1: Serious eye damage or eye irritation – Category 1
Skin Sens. 1: Skin sensitization – Category 1
Repr. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - chronic hazard – Category 3

· **** Data compared to the previous version altered.***