



BE SURE. BUILD SURE.

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

Printing date 13.05.2023

Version number 22 (replaces version 21)

Revision: 13.05.2023

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

1.1 Product identifier

Trade name **MC-Estrifan UP - Komponente B**

Article number: 1453

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

Epoxy coating
Epoxy impregnation
Hardening agent/ Curing agent

1.3 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

1.4 Emergency telephone number:

Tel.: +49 / (0)700 24112112 (MCR)
Tel.: +48612864565

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute Tox. 4 H302 Harmful if swallowed.

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

Eye Dam. 1 H318 Causes serious eye damage.

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

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to

Regulation (EC) No 1272/2008 The product is classified and labelled according to the GB CLP regulation.

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Hazard pictograms



GHS05 GHS07

Signal word

Danger

Hazard-determining components of labelling:

Benzyl alcohol
Isophorone diamine
Tetraethylenepentamine
polymer amine terminated

Hazard statements

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dusts or mists.
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.
P321 Specific treatment (see on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Binding agent with colouring agents.
Mixture consisting of the following components.

Dangerous components:

CAS: 100-51-6	Benzyl alcohol Acute Tox. 4, H302; Acute Tox. 4, H332; Eye Irrit. 2, H319	30-60%
CAS: 2855-13-2	Isophorone diamine Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	≥10-<25%
	polymer amine terminated Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1B, H317	10-30%

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CAS: 90640-66-7 EINECS: 292-587-7 Reg.nr.: 01-2119487290-37	Tetraethylenepentamine Skin Corr. 1B, H314; Aquatic Chronic 2, H411; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	≥10-<25%
CAS: 15520-10-2 EINECS: 239-556-6	2-methylpentane-1,5-diamine Skin Corr. 1A, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; STOT SE 3, H335	≥1-<5%
CAS: 64-17-5 EINECS: 200-578-6	ethyl alcohol Flam. Liq. 2, H225	<1.5%
CAS: 69-72-7 EINECS: 200-712-3	salicylic acid Repr. 2, H361d; Eye Dam. 1, H318; Acute Tox. 4, H302	<1%

· **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

- **After inhalation** Supply fresh air and call for doctor for safety reasons.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Seek medical treatment.
- **After swallowing** Rinse out mouth and then drink plenty of water. Instantly call for doctor.

· 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

· **Danger**

Danger of gastric perforation.

· 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** CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

· **For safety reasons unsuitable extinguishing agents**

Water with a full water jet.

· 5.2 Special hazards arising from the substance or mixture

Can be released in case of fire
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
(Traces)

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- **5.3 Advice for firefighters**
- **Protective equipment:** *Wear self-contained breathing apparatus.*

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** *Wear protective equipment. Keep unprotected persons away.*
- **6.2 Environmental precautions:** *Do not allow to enter drainage system, surface or ground water. Inform respective authorities in case product reaches water or sewage system.*
- **6.3 Methods and material for containment and cleaning up:** *Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to item 13.*
- **6.4 Reference to other sections** *See Section 8 for information on personal protection equipment. See Section 7 for information on safe handling*

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** *Store in cool, dry place in tightly closed containers. Open and handle container with care.*
- **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:** *No special requirements.*
- **Information about storage in one common storage facility:** *Store away from foodstuffs.*
- **Further information about storage conditions:** *Protect from heat and direct sunlight. Keep container tightly sealed.*
- **Storage class** *8A*
- **7.3 Specific end use(s)** *No further relevant information available.*

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Components with critical values that require monitoring at the workplace:**

64-17-5 ethyl alcohol

WEL Long-term value: 1920 mg/m³, 1000 ppm

· **DNELs**

100-51-6 Benzyl alcohol

Oral	DNEL	4 mg/kg bw/Tag (ArL) 20 mg/kg bw/Tag (Ark)
Dermal	DNEL	8 mg/kg bw/day (ArL) 40 mg/kg bw/day (Ark)
Inhalative	DNEL	22 mg/m ³ (ArL) 110 mg/m ³ (Ark)

2855-13-2 Isophorone diamine

Oral	DNEL	0.526 mg/kg bw/Tag (ArL)
Inhalative	DNEL	20.1 mg/m ³ (ArL)

15520-10-2 2-methylpentane-1,5-diamine

Dermal	DNEL	1.5 mg/kg bw/day (ArL)
Inhalative	DNEL	0.25 mg/m ³ (ArL) 0.5 mg/m ³ (Ark)

· **PNECs**

100-51-6 Benzyl alcohol

PNEC	0.527 mg/l (Marine water sediment) 0.1 mg/l (Mew) 1 mg/l (Fresh water sediment)
PNEC	0.456 mg/kg dwt (Bod) 5.27 mg/kg dwt (Fresh water sediment)

2855-13-2 Isophorone diamine

PNEC	0.006 mg/l (Mew) 0.06 mg/l (Suw)
PNEC	0.578 mg/kg dwt (Sediment) 5.784 mg/kg dwt (Fresh water sediment)

15520-10-2 2-methylpentane-1,5-diamine

PNEC	0.042 mg/l (Mew) 0.42 mg/l (Suw)
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· **Additional information:** The lists that were valid during the compilation were used as basis.

· **8.2 Exposure controls**

· **Appropriate engineering controls**

No further data; see section 7.

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- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures**
 - Keep away from foodstuffs, beverages and food.
 - Instantly remove any soiled and impregnated garments.
 - Wash hands during breaks and at the end of the work.
 - Avoid contact with the eyes and skin.
- **Hand protection**
 - Protective gloves.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
 - The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye/face protection**
 - Safety glasses
 - Tightly sealed safety glasses.
- **Body protection:**
 - Protective work clothing.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Colour:** Yellow
- **Smell:** Characteristic
- **Melting point/freezing point:** Not determined
- **Boiling point or initial boiling point and boiling range** 205 °C
- **Lower and upper explosion limit**
- **Lower:** 1.3 Vol %
- **Upper:** 13 Vol %
- **Flash point:** 101 °C
- **Auto-ignition temperature:** 380 °C
- **pH** Not determined.
- **Viscosity:**
- **Kinematic viscosity** Not determined.
- **dynamic at 20 °C:** 420 mPas
- **Solubility**
- **Water:** Partly miscible
- **Steam pressure at 20 °C:** 0.1 hPa
- **Density and/or relative density**
- **Density at 20 °C** 1 g/cm³

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· 9.2 Other information

· Appearance:

· Form:

Fluid

· Important information on protection of health and environment, and on safety.

· Self-inflammability:

Product is not selfigniting.

· Explosive properties:

Product is not explosive. However, formation of explosive air/steam mixtures is possible.

· 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.

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- **10.6 Hazardous decomposition products:** No dangerous decomposition products known

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:**

100-51-6 Benzyl alcohol

Oral	LD50	1230 mg/kg (rat)
	NOAEL 2nd year study	200 mg/kg (mouse) 200 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
Inhalative	LC50/4 h	>4178 mg/l (rat)

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)

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)

64-17-5 ethyl alcohol

Oral	LD50	7060 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4 h	>20 mg/l (rat)

69-72-7 salicylic acid

Oral	LD50	891 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (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 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** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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· **11.2 Information on other hazards**

· **Endocrine disrupting properties**

69-72-7	salicylic acid	List II; III
78-93-3	butanone	List II

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

100-51-6 Benzyl alcohol

IC50/72h	700 mg/l (algae)
LC50/96h	460 mg/l (<i>Pimephales promelas</i>) 10 mg/l (<i>Lepomis macrochirus</i>)

2855-13-2 Isophorone diamine

LC50/96h	110 mg/l (<i>Leucidus idus</i>)
EC50	1120 mg/l (<i>Pseudomonas putida</i>)
EC50/48h	23 mg/l (<i>Daphnia magna</i>)
NOEC	1.5 mg/l (<i>Desmodesmus subspicatus</i>) 3 mg/l (<i>Daphnia magna</i>)
ErC50/72h	>50 mg/l (<i>Desmodesmus subspicatus</i>)

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 (<i>Daphnia magna</i>)

64-17-5 ethyl alcohol

EC50/24h	858 mg/l (<i>Artemia salina</i>)
LC50/24h	11200 mg/l (<i>Salmo gairdneri</i>)
LC50/96h	15300 mg/l (<i>Pimephales promelas</i>)
EC50/4h	5800 mg/l (<i>Paramecium caudatum</i>)
LC50/48h	5012 mg/l (<i>Ceriodaphnia dubia</i>)
EC50/48h	>10000 mg/l (<i>Daphnia magna</i>)
EC50/3d	275 mg/l (<i>Chlorella vulgaris</i>)
EC10/3d	11.5 mg/l (<i>Chlorella vulgaris</i>)

· **12.2 Persistence and degradability**

No further relevant information available.

· **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.

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- **12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.
- **12.7 Other adverse effects**
- **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.

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

SECTION 14: Transport information

- **14.1 UN number or ID number**
- **ADR, IMDG, IATA** UN2735
- **14.2 UN proper shipping name**
- **ADR, IMDG, IATA** AMINES, LIQUID, CORROSIVE, N.O.S. (Isophorone diamine, Tetraethylenepentamine)
- **14.3 Transport hazard class(es)**
- **ADR**
- **Class** 8 (C7) Corrosive substances.
- **Label** 8
- **IMDG, IATA**
- **Class** 8 Corrosive substances.
- **Label** 8
- **14.4 Packing group**
- **ADR, IMDG, IATA** II
- **14.5 Environmental hazards:**
- **Marine pollutant:** No
- **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

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· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· 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
· Remarks:	1 kg Gebinde: Begrenzte Mengen
· 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. (ISOPHORONE DIAMINE , TETRAETHYLENEPENTAMINE), 8, II

SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture	No further relevant information available.
· 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.

· Relevant phrases	H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H361d Suspected of damaging the unborn child.
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H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

· **Department issuing data specification sheet:**

· **Abbreviations and acronyms:**

Environment protection department.

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

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (UK REACH)

PNEC: Predicted No-Effect Concentration (UK REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

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

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

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1B: Skin sensitisation – Category 1B

Repr. 2: Reproductive toxicity – Category 2

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

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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

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