



BE SURE. BUILD SURE.

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

Printing date 10.12.2024

Version number 33



Revision: 08.12.2024

1 Identification of the hazardous chemical and of the supplier

- **Product identifier**
- **Trade name** MC-Estrifan RIS - Komponente B
- **Recommended use of the chemical and restrictions on use** No further relevant information available.
- **Application of the substance / the mixture** Epoxy resin
Injektion
Hardening agent/ Curing agent
- **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

2 Hazard identification

- **Classification of the substance or mixture**
Acute Tox. 4 H302 Harmful if swallowed.
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 SE 3 H335 May cause respiratory irritation.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
- **Label elements**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**

GHS05 GHS07
- **Signal word** Danger
- **Hazard-determining components of labelling:** 2-methylpentane-1,5-diamine
Isophorone diamine

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- **Hazard statements**
 - Benzyl alcohol
 - polymer amine terminated
 - H302 Harmful if swallowed.
 - H314 Causes severe skin burns and eye damage.
 - H317 May cause allergic skin reaction.
 - H335 May cause respiratory irritation.
 - 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): Remove/take off immediately all contaminated clothing. Rinse skin with water/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).
 - P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition and information of the ingredients of the hazardous chemical

- **Chemical characterisation: Mixtures**
- **Description:** Binding agent with colouring agents.
Mixture consisting of the following components.

· **Dangerous components:**

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	30-60%
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	30-60%
	polymer amine terminated Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1, H317	10-30%
CAS: 100-51-6	Benzyl alcohol Acute Tox. 4, H302; Acute Tox. 4, H332; Eye Irrit. 2, H319	10-30%
CAS: 9046-10-0	Polyoxypropylenediamine Skin Corr. 1, H314; Eye Dam. 1, H318; Aquatic Chronic 3, H412	≥5-<10%
CAS: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol Skin Corr. 1, H314; Eye Dam. 1, H318; Acute Tox. 4, H302	≥1-<1.5%

- **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** Immediately remove any clothing contaminated with the product. Take affected persons into the open air.
- **After inhalation** Supply fresh air.
- **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** Drink copious amounts of water and provide fresh air. Instantly call for doctor.

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** Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Prevent material from reaching sewage system, holes and cellars.
- **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. Ensure adequate ventilation.
- **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.

7 Handling and storage

- **Handling**
- **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.

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- **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:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Storage class** 8B

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

· DNELs

CAS: 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)

CAS: 2855-13-2 Isophorone diamine

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

CAS: 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)

CAS: 9046-10-0 Polyoxypropylenediamine

Oral	DNEL	0.04 mg/kg bw/Tag (ArL)
Dermal	DNEL	2.5 mg/kg bw/day (ArL)

CAS: 90-72-2 2,4,6-tris(dimethylaminomethyl)phenol

Inhalative	DNEL	0.31 mg/m ³ (ArL)
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· PNECs

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

PNEC 0.042 mg/l (Mew)
0.42 mg/l (Freshwater)

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: 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)

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: 90-72-2 2,4,6-tris(dimethylaminomethyl)phenol

PNEC 0.2 mg/l (Sewage Treatment Plant)
0.0084 mg/l (Mew)
0.084 mg/l (Freshwater)

· 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 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.

· 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:

Protective gloves.

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Material of 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.

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 breakthrough time must be obtained from the protective glove manufacturer and must be observed.

Eye protection:

Not required.

Body protection:

Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:

Form:	Fluid
Colour:	Transparent
Smell:	Amine-like

pH-value: Not applicable.
Not determined.

Change in condition

Melting point/freezing point	Not determined
Initial boiling point and boiling range	193 °C

Flash point: Not applicable

Auto-ignition temperature 435 °C

Auto-ignition temperature Product is not selfigniting.

Explosive properties: Product is not explosive.

Critical values for explosion:

Lower:	1.3 Vol %
Upper:	13 Vol %

Steam pressure at 20 °C: 0.1 hPa

Vapour pressure at 50 °C: 0.7 hPa

Density at 20 °C 1.01 g/cm³

Solubility in / Miscibility with

Water: Not miscible or difficult to mix

Viscosity:

dynamic: Not determined.

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kinematic at 20 °C: 19 s (DIN 53211/4)

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.
- **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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

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

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: 2855-13-2 Isophorone diamine

Oral	LD50	1030 mg/kg (ATE) 1030 mg/kg (rat)
Dermal	NOAEL	250 mg/kg (rat)
	LD50	1840 mg/kg (rabbit) >2000 mg/kg (rat)
		1840 mg/kg (rabbit)

CAS: 100-51-6 Benzyl alcohol

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

CAS: 9046-10-0 Polyoxypropylenediamine

Oral	LD50	2855 mg/kg (Rat)
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Dermal	LD50	2885 mg/kg (rat) 2980 mg/kg (Kan) 2980 mg/kg (rabbit)
	CAS: 90-72-2 2,4,6-tris(dimethylaminomethyl)phenol	
Oral	LD50	mg/kg (rat)
	NOAEL	15 mg/kg (rat)

· **Primary irritant effect:**

· **Skin corrosion or irritation**

Caustic effect on skin and mucous membranes.

· **Serious eye damage or eye irritation**

Strong caustic effect.

· **Respiratory / skin sensitization**

No sensitizing effect known.

· **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:

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

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: 2855-13-2 Isophorone diamine

LC50/96h 110 mg/l (fish)

110 mg/l (Leucidus idus)

EC50 1120 mg/l (Pseudomonas putida)

EC50/48h 23 mg/l (daphnia)

23 mg/l (Daphnia magna)

NOEC 1.5 mg/l (Desmodesmus subspicatus)

3 mg/l (Daphnia magna)

ErC50/72h >50 mg/l (Desmodesmus subspicatus)

>50 mg/l (algae)

CAS: 100-51-6 Benzyl alcohol

IC50/72h 700 mg/l (algae)

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LC50/96h	460 mg/l (<i>Pimephales promelas</i>) 10 mg/l (<i>Lepomis macrochirus</i>)
CAS: 9046-10-0 Polyoxypropylenediamine	
EC50/72h	15 mg/l (algae)
LC50/96h	>15 mg/l (fish)
EC50/48h	80 mg/l (daphnia)
CAS: 90-72-2 2,4,6-tris(dimethylaminomethyl)phenol	
EC50/72h	84 mg/l (<i>Desmodesmus subspicatus</i>)
LC50/96h	175 mg/l (Cyp) 718 mg/l (<i>Daphnia magna</i>)
NOEC	2 mg/l (BEL) 6.25 mg/l (<i>Desmodesmus subspicatus</i>)

- **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.
- **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.

14 Transportation information

- **UN-Number**
- **ADR, IMDG, IATA** UN2735

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<ul style="list-style-type: none"> · UN proper shipping name · ADR, IMDG, IATA 	<p>AMINES, LIQUID, CORROSIVE, N.O.S. (2-methylpentane-1,5-diamine, ISOPHORONEDIAMINE)</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · ADR · Class · Label 	<p>8 (C7) Corrosive substances. 8</p>
<ul style="list-style-type: none"> · IMDG, IATA · Class · Label 	<p>8 Corrosive substances. 8</p>
<ul style="list-style-type: none"> · Packing group · ADR, IMDG, IATA 	<p>II</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	<p>No</p>
<ul style="list-style-type: none"> · Special precautions for user · Kemler Number: · EMS Number: · Segregation groups · Stowage Category · Segregation Code 	<p>Warning: Corrosive substances. 80 F-A,S-B (SGG18) Alkalis A SG35 Stow "separated from" SGG1-acids</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: · ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code · Remarks: 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 E 1 kg Gebinde: Begrenzte Mengen</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 2735 AMINES, LIQUID, CORROSIVE, N.O.S. (2-METHYLPENTANE-1,5-DIAMINE, ISOPHORONEDIAMINE), 8, II</p>

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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
CAS: 100-51-6	Benzyl alcohol
CAS: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol

- **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

- **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
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
Eye Irrit. 2: Serious eye damage or eye irritation – Category 2
Skin Sens. 1: Skin sensitization – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
Aquatic Chronic 3: Hazardous to the aquatic environment - chronic hazard – Category 3

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

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