

VME Plus, Comp. A

Revision date: 04.12.2020

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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UFI: TV44-V0SY-400K-QUSN

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Adhesive mortar for fastening elements A-component (resin)

Uses advised against

no restriction

1.3. Details of the supplier of the safety data sheet

Company name:	MKT Metall-Kunststoff-Technik GmbH & Co. KG	
Street:	Auf dem Immel 2	
Place:	D-67685 Weilerbach	
Telephone:	+49(0)6374-91 16-0	Telefax: +49(0)6374-91 16-60
e-mail:	info@mkt.de	
Internet:	www.mkt.de	

1.4. Emergency telephone number:

+49 (0) 89-19240 (Giftnotruf München, German and English 24/7)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Irrit. 2

Respiratory or skin sensitisation: Skin Sens. 1

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Causes skin irritation.

Causes serious eye irritation.

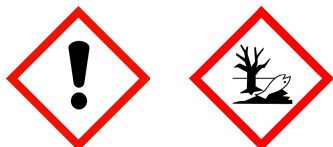
May cause an allergic skin reaction.

Toxic to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane;

1,6-hexanediol diglycidyl ether

Signal word: Warning**Pictograms:****Hazard statements**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

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Precautionary statements

P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

2.3. Other hazards

People who are allergic to epoxide should avoid the use of the product.
Use only outdoors or in a well-ventilated area.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
1675-54-3	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane			30 - < 60 %
	216-823-5	603-073-00-2	01-2119456619-26	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H319 H317 H411			
16096-31-4	1,6-hexanediol diglycidyl ether			10 - < 15 %
	240-260-4		01-2119463471-41	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H317 H412			

Full text of H and EUH statements: see section 16.

Specific concentration limits and M-factors

CAS No	EC No	Chemical name	Quantity
	Specific concentration limits and M-factors		
1675-54-3	216-823-5	2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	30 - < 60 %
	Skin Irrit. 2; H315: $\geq 5 - 100$ Eye Irrit. 2; H319: $\geq 5 - 100$		

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Take off immediately all contaminated clothing and wash it before reuse. Get medical advice/attention if you feel unwell.

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. Medical treatment necessary.

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

Causes skin irritation.

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May cause an allergic skin reaction.
Causes serious eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Foam
Extinguishing powder
Water spray jet
Carbon dioxide (CO₂)

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Pyrolysis products, toxic
Carbon monoxide

5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Provide adequate ventilation.

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Collect spillage. Take up mechanically, placing in appropriate containers for disposal. Suitable material for taking up: Sand
Treat the recovered material as prescribed in the section on waste disposal.
Retain contaminated washing water and dispose it.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Use only outdoors or in a well-ventilated area.
Wear personal protection equipment (refer to section 8).
Avoid contact with skin, eyes and clothes.
When using do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

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Requirements for storage rooms and vessels

- Keep container tightly closed.
- Store in a place accessible by authorized persons only.
- Keep only in the original container in a cool, well-ventilated place.

Hints on joint storage

- Do not store together with: Oxidising agent, strong
- Do not use for products which come into contact with the food stuffs.

Further information on storage conditions

storage temperature: 5 - 35°C

7.3. Specific end use(s)

Adhesive mortar for fastening elements A-component (resin)

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
16096-31-4	1,6-hexanediol diglycidyl ether			
Worker DNEL, long-term		inhalation	systemic	10,57 mg/m ³
Worker DNEL, long-term		inhalation	local	0,44 mg/m ³
Worker DNEL, long-term		dermal	systemic	6,0 mg/kg bw/day
Worker DNEL, long-term		dermal	local	0,0226 mg/cm ²
Consumer DNEL, long-term		inhalation	systemic	5,29 mg/m ³
Consumer DNEL, long-term		inhalation	local	0,27 mg/m ³
Consumer DNEL, long-term		dermal	systemic	3,0 mg/kg bw/day
Consumer DNEL, long-term		dermal	local	0,0136 mg/cm ²
Consumer DNEL, acute		inhalation	systemic	5,29 mg/m ³
Consumer DNEL, acute		dermal	systemic	1,7 mg/kg bw/day
Consumer DNEL, acute		dermal	local	0,0136 mg/cm ²
Consumer DNEL, long-term		oral	systemic	1,5 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	1,5 mg/kg bw/day

PNEC values

CAS No	Substance	Value
16096-31-4	1,6-hexanediol diglycidyl ether	
Freshwater		0,0115 mg/l
Marine water		0,00115 mg/l
Freshwater sediment		0,283 mg/kg
Marine sediment		0,283 mg/kg

Additional advice on limit values

This mixture contains quartz filler which is firmly bound in the pasty component, and thus not freely available during use, so that a risk of dust inhalation is excluded. Exposure limit values for respirable dusts are not relevant for this product.

8.2. Exposure controls

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Appropriate engineering controls

Provide adequate ventilation. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

Protective and hygiene measures

Take off contaminated clothing and wash it before reuse. Draw up and observe skin protection programme. Wash hands thoroughly after handling. When using do not eat, drink or smoke.

Eye/face protection

Wear eye protection/face protection. Wear safety glasses.

Hand protection

Recommended material: NBR (Nitrile rubber)
Breakthrough time: > 480 min
Thickness of the glove material: 0,7 mm
DIN-/EN-Norms: EN 374

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection with combination filter A1P2 (organic gases/vapors and particles) recommended.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid (pasty)	
Colour:	light beige	
Odour:	characteristic	
Odour threshold:	No data available	
pH-Value:		not determined

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	not applicable

Flammability

Solid:	not determined
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined

Auto-ignition temperature

Solid:	not determined
Gas:	not applicable

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Decomposition temperature: not determined

Oxidizing properties

Not oxidising.

Vapour pressure: not determined

Density (at 20 °C): 1,45 g/cm³

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Violent reaction with: Oxidising agent, strong

10.4. Conditions to avoid

Heat. Keep cool. Protect from sunlight.

10.5. Incompatible materials

Keep away from: Oxidizing agent

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
16096-31-4	1,6-hexanediol diglycidyl ether				
	oral	LD50 mg/kg 2190	Rat		OECD 401
	dermal	LD50 mg/kg > 2000	Rat		OECD 402
	inhalation (4 h) vapour	LC50 mg/l 0,035	Rat		

Irritation and corrosivity

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Causes skin irritation.

Causes serious eye irritation.

Sensitising effects

May cause an allergic skin reaction. (2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane; 1,6-hexanediol diglycidyl ether)

Carcinogenic/mutagenic/toxic effects for reproduction

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.

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
16096-31-4	1,6-hexanediol diglycidyl ether					
	Acute fish toxicity	LC50	30 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	
	Acute crustacea toxicity	EC50	47 mg/l	48 h	Daphnia magna (Big water flea)	

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
16096-31-4	1,6-hexanediol diglycidyl ether				
	OECD 301D	71 %	28		

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
16096-31-4	1,6-hexanediol diglycidyl ether	0,822

BCF

CAS No	Chemical name	BCF	Species	Source
16096-31-4	1,6-hexanediol diglycidyl ether	3,57		

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

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Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Subsequent waste code numbers of the European Waste Catalogue are considered as recommendations. Dispose of waste according to applicable legislation. Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

List of Wastes Code - residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

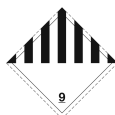
080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number:	UN 3077
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Epoxy resin)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9



Classification code:	M7
Special Provisions:	274 335 375 601
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Other applicable information (land transport)

No dangerous goods in packaging until 5 kg according special instruction 375 ADR/RID

Inland waterways transport (ADN)

14.1. UN number:	UN 3077
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14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Epoxy resin)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9



Classification code: M7
Special Provisions: 274 335 375 601
Limited quantity: 5 kg
Excepted quantity: E1

Other applicable information (inland waterways transport)

No dangerous goods in packaging until 5 kg according special instruction 375 ADN

Marine transport (IMDG)

14.1. UN number: UN 3077

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Epoxy resin)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9



Special Provisions: 274, 335, 966, 967, 969
Limited quantity: 5 kg
Excepted quantity: E1
EmS: F-A, S-F

Other applicable information (marine transport)

No dangerous goods in packaging until 5kg according 2.10.2.7 IMDG Code

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3077

14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Epoxy resin)

14.3. Transport hazard class(es): 9

14.4. Packing group: III

Hazard label: 9



Special Provisions: A97 A158 A179 A197
Limited quantity Passenger: 30 kg G
Passenger LQ: Y956
Excepted quantity: E1
IATA-packing instructions - Passenger: 956
IATA-max. quantity - Passenger: 400 kg
IATA-packing instructions - Cargo: 956
IATA-max. quantity - Cargo: 400 kg

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Other applicable information (air transport)

No dangerous goods in packaging until 5 kg according A197 IATA-DGA

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

**14.6. Special precautions for user**

No information available.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Information according to 2012/18/EU E2 Hazardous to the Aquatic Environment (SEVESO III):

Additional information

VOC content: < 0,1 % (DIN EN ISO 11890-2)

To follow: 850/2004/EC , 79/117/EEC , 689/2008/EC

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,3.

Abbreviations and acronyms

ADN: Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation
(European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR: Accord européen sur le transport des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
BCF: Bioconcentration factor
CAS: Chemical Abstracts Service
CLP: Classification, Labeling and Packaging
DMEL: Derived Minimal Effect level
DNEL: Derived No Effect Level
EC50: Effective concentration, 50%
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations (DRG) for the air transport (IATA)
ICAO: International Civil Aviation Organization
IC50: Inhibitory concentration, 50%
IMDG: International Maritime Code for Dangerous Goods
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

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NOEC: No Observed Effect Concentration

OECD: Organisation for Economic Co-operation and Development

PBT: persistent, bioaccumulative and toxic

vPvB: very persistent and very bioaccumulative

PNEC: Predicted No Effect Concentration

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses (Regulations Concerning the International Carriage of Dangerous Goods by Rail)

VOC: Volatile organic compound

Aquatic Chronic 2: Long-term aquatic hazard, Category 2

Aquatic Chronic 3: Long-term aquatic hazard, Category 3

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

Skin Irrit. 2: Serious eye damage/eye irritation, Category 2

Skin Sens. 1: Skin sensitization, Category 1

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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UFI: JJE4-00H2-200K-JAN5

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

compound mortar B-component (hardener)

Uses advised against

no restriction

1.3. Details of the supplier of the safety data sheet

Company name: MKT Metall-Kunststoff-Technik GmbH & Co. KG

Street: Auf dem Immel 2

Place: D-67685 Weilerbach

Telephone: +49(0)6374-91 16-0

Telefax: +49(0)6374-91 16-60

e-mail: info@mkt.de

Internet: www.mkt.de

1.4. Emergency telephone number:

+49 (0) 89-19240 (Giftnotruf München, German and English 24/7)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Harmful if swallowed.

Causes severe skin burns and eye damage.

Causes serious eye damage.

May cause an allergic skin reaction.

Harmful to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine;

m-Phenylenebis(methylamine);

2,4,6-Tris(dimethylaminomethyl)phenol

Signal word: Danger**Pictograms:****Hazard statements**

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

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H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P501 Dispose of contents/container to an approved waste disposal plant in accordance with local/national regulation.

2.3. Other hazards

Contains Amines. May produce an allergic reaction.
Use only outdoors or in a well-ventilated area.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name	Quantity
	EC No Index No REACH No	
	GHS Classification	
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	25 - < 35 %
	247-063-2 01-2119560598-25	
	Acute Tox. 4, Skin Corr. 1, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 3; H302 H314 H318 H317 H412	
1477-55-0	m-Phenylenebis(methylamine)	1 - < 10 %
	216-032-5 01-2119480150-50	
	Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1B, Aquatic Chronic 3; H332 H302 H314 H318 H317 H412	
90-72-2	2,4,6-Tris(dimethylaminomethyl)phenol	5 - < 10 %
	202-013-9 01-2119560597-27	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H302 H315 H319	
104-15-4	p-Toluenesulphonic acid	1 - < 5 %
	203-180-0 016-030-00-2 01-2119538811-39	
	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3; H315 H319 H335	

Full text of H and EUH statements: see section 16.

Specific concentration limits and M-factors

CAS No	EC No	Chemical name	Quantity
		Specific concentration limits and M-factors	
104-15-4	203-180-0	p-Toluenesulphonic acid	1 - < 5 %
		STOT SE 3; H335: $\geq 20 - 100$	

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. Take off immediately all contaminated clothing and wash it before reuse. Get medical advice/attention if you feel unwell.

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After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. Medical treatment necessary.

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

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Foam
Extinguishing powder
Water spray jet
Carbon dioxide (CO₂)

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Pyrolysis products, toxic
Carbon monoxide

5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Provide adequate ventilation.

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Collect spillage. Take up mechanically, placing in appropriate containers for disposal. Suitable material for taking up: Sand
Treat the recovered material as prescribed in the section on waste disposal.
Retain contaminated washing water and dispose it.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8

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Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

- Use only outdoors or in a well-ventilated area.
- Wear personal protection equipment (refer to section 8).
- Avoid contact with skin, eyes and clothes.
- When using do not eat, drink or smoke.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

- Keep container tightly closed.
- Store in a place accessible by authorized persons only.
- Keep only in the original container in a cool, well-ventilated place.

Hints on joint storage

- Do not store together with: Oxidising agent, strong, Organic peroxides
- Do not use for products which come into contact with the food stuffs.

Further information on storage conditions

- Keep container tightly closed in a cool place.
- storage temperature: 5 - 35°C

7.3. Specific end use(s)

see section 1.2

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine			
	Consumer DNEL, long-term	oral	systemic	0,05 mg/kg bw/day
1477-55-0	m-Phenylenebis(methylamine)			
	Worker DNEL, long-term	inhalation	systemic	1,2 mg/m ³
	Worker DNEL, long-term	inhalation	local	0,2 mg/m ³
	Worker DNEL, long-term	dermal	systemic	0,33 mg/kg bw/day
104-15-4	p-Toluenesulphonic acid			
	Worker DNEL, long-term	dermal	systemic	7,6 mg/kg bw/day
	Worker DNEL, long-term	inhalation	systemic	53,6 mg/m ³
	Consumer DNEL, long-term	dermal	systemic	2,5 mg/kg bw/day
	Consumer DNEL, long-term	inhalation	systemic	8,7 mg/m ³
	Consumer DNEL, long-term	oral	systemic	0,05 mg/kg bw/day

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PNEC values

CAS No	Substance	Value
Environmental compartment		
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	
Freshwater		0,102 mg/l
Marine water		0,01 mg/l
Freshwater sediment		0,662 mg/kg
Marine sediment		0,062 mg/kg
Micro-organisms in sewage treatment plants (STP)		72 mg/l
1477-55-0	m-Phenylenebis(methylamine)	
Freshwater		0,094 mg/l
Marine water		0,009 mg/l
Freshwater sediment		0,43 mg/kg
Marine sediment		0,043 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,045 mg/kg
90-72-2	2,4,6-Tris(dimethylaminomethyl)phenol	
Freshwater		0,084 mg/l
Marine water		0,0084 mg/l
Micro-organisms in sewage treatment plants (STP)		0,2 mg/l
104-15-4	p-Toluenesulphonic acid	
Freshwater		0,073 mg/l
Marine water		0,0073 mg/l
Freshwater sediment		0,0577 mg/kg
Marine sediment		0,00577 mg/kg
Soil		0,016 mg/kg

Additional advice on limit values

This mixture contains quartz filler which is firmly bound in the pasty component, and thus not freely available during use, so that a risk of dust inhalation is excluded. Exposure limit values for respirable dusts are not relevant for this product.

8.2. Exposure controls



Appropriate engineering controls

Provide adequate ventilation. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

Protective and hygiene measures

Take off contaminated clothing and wash it before reuse. Draw up and observe skin protection programme. Wash hands thoroughly after handling. When using do not eat, drink or smoke.

Eye/face protection

Wear eye/face protection. Wear safety glasses.

Hand protection

Recommended material: NBR (Nitrile rubber)

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Breakthrough time: > 480 min
Thickness of the glove material: 0,7 mm
DIN-/EN-Norms: EN 374

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection with combination filter A1P2 (organic gases/vapors and particles) recommended.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid (pasty)
Colour:	grey / red
Odour:	characteristic
Odour threshold:	No data available

pH-Value: not determined

Changes in the physical state

Melting point: not determined

Initial boiling point and boiling range: not determined

Flash point: not applicable

Flammability

Solid: not determined

Gas: not applicable

Lower explosion limits: not determined

Upper explosion limits: not determined

Auto-ignition temperature

Solid: not determined

Gas: not applicable

Decomposition temperature: not determined

Oxidizing properties

Not oxidising.

Vapour pressure: not determined

Density (at 20 °C): 1,42 g/cm³

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

not determined

Partition coefficient: not determined

Vapour density: not determined

Evaporation rate: not determined

9.2. Other information

Solid content: not determined

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SECTION 10: Stability and reactivity
10.1. Reactivity

see section 10.3

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Violent reaction with: Oxidising agent

10.4. Conditions to avoid

see section 7.2

10.5. Incompatible materials

Oxidising agent, strong

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity

Harmful if swallowed.

ATEmix calculated

ATE (oral) 1051,3 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine				
	oral	ATE 500 mg/kg			
1477-55-0	m-Phenylenebis(methylamine)				
	oral	LD50 930 mg/kg	Rat		
	dermal	LD50 2000 mg/kg	Rabbit		
	inhalation (1 h) vapour	LC50 3,89 mg/l	Rat		
	inhalation aerosol	ATE 1,5 mg/l			
90-72-2	2,4,6-Tris(dimethylaminomethyl)phenol				
	oral	LD50 2169 mg/kg	Rat		
	dermal	LD50 1280 mg/kg	Rat		

Irritation and corrosivity

Causes severe skin burns and eye damage.

Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine; m-Phenylenebis(methylamine))

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

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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.

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine					
	Acute algae toxicity	ErC50 mg/l	43,5	72 h	Selenastrum capricornutum	OECD 201
	Fish toxicity	NOEC mg/l	10,9	30 d	Brachydanio rerio (zebra-fish)	OECD 210
	Crustacea toxicity	NOEC mg/l	1,02	21 d	Daphnia magna (Big water flea)	OECD 211
1477-55-0	m-Phenylenebis(methylamine)					
	Acute fish toxicity	LC50 mg/l	87,6	96 h	Oryzias latipes (Ricefish)	OECD 203
	Acute algae toxicity	ErC50 mg/l	32,1	72 h	Selenastrum capricornutum	OECD 201
	Acute crustacea toxicity	EC50 mg/l	15,2	48 h	Daphnia magna (Big water flea)	OECD 202
	Crustacea toxicity	NOEC	4,7 mg/l	21 d	Daphnia magna (Big water flea)	OECD 211
90-72-2	2,4,6-Tris(dimethylaminomethyl)phenol					
	Acute fish toxicity	LC50	175 mg/l	96 h	Cyprinus carpio (Common Carp)	
	Acute algae toxicity	ErC50	84 mg/l	72 h	Desmodesmus subspicatus	OECD 201
	Algae toxicity	NOEC mg/l	6,25	3 d		

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine			
		7 %	28	

12.3. Bioaccumulative potential

The product has not been tested.

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Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	-0,3
1477-55-0	m-Phenylenebis(methylamine)	0,18
90-72-2	2,4,6-Tris(dimethylaminomethyl)phenol	0,219
104-15-4	p-Toluenesulphonic acid	0,93

BCF

CAS No	Chemical name	BCF	Species	Source
1477-55-0	m-Phenylenebis(methylamine)	2,69		

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The product has not been tested.

12.6. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Subsequent waste code numbers of the European Waste Catalogue are considered as recommendations. Dispose of waste according to applicable legislation. Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

List of Wastes Code - residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

SECTION 14: Transport information

Land transport (ADR/RID)

- 14.1. UN number:** UN 3259
- 14.2. UN proper shipping name:** AMINES, SOLID, CORROSIVE, N.O.S. (2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine; m-Phenylenebis(methylamine))
- 14.3. Transport hazard class(es):** 8

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14.4. Packing group:

II

Hazard label:

8



Classification code:

C8

Special Provisions:

274

Limited quantity:

1 kg

Excepted quantity:

E2

Transport category:

2

Hazard No:

80

Tunnel restriction code:

E

Inland waterways transport (ADN)
14.1. UN number:

UN 3259

14.2. UN proper shipping name:

AMINES, SOLID, CORROSIVE, N.O.S. (2,2,4(or
2,4,4)-trimethylhexane-1,6-diamine; m-Phenylenebis(methylamine))

14.3. Transport hazard class(es):

8

14.4. Packing group:

II

Hazard label:

8



Classification code:

C8

Special Provisions:

274

Limited quantity:

1 kg

Excepted quantity:

E2

Marine transport (IMDG)
14.1. UN number:

UN 3259

14.2. UN proper shipping name:

AMINES, SOLID, CORROSIVE, N.O.S. (2,2,4(or
2,4,4)-trimethylhexane-1,6-diamine; m-Phenylenebis(methylamine))

14.3. Transport hazard class(es):

8

14.4. Packing group:

II

Hazard label:

8



Special Provisions:

274

Limited quantity:

1 kg

Excepted quantity:

E2

EmS:

F-A, S-B

Air transport (ICAO-TI/IATA-DGR)
14.1. UN number:

UN 3259

14.2. UN proper shipping name:

AMINES, SOLID, CORROSIVE, N.O.S. (2,2,4(or
2,4,4)-trimethylhexane-1,6-diamine; m-Phenylenebis(methylamine))

14.3. Transport hazard class(es):

8

14.4. Packing group:

II

Hazard label:

8

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Special Provisions:	A3 A803	
Limited quantity Passenger:	5 kg	
Passenger LQ:	Y844	
Excepted quantity:	E2	
IATA-packing instructions - Passenger:		859
IATA-max. quantity - Passenger:		15 kg
IATA-packing instructions - Cargo:		863
IATA-max. quantity - Cargo:		50 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No information available.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3: 2,4,6-Tris(dimethylaminomethyl)phenol

Information according to 2012/18/EU Not subject to 2012/18/EU (SEVESO III) (SEVESO III):

Additional information

VOC content: 21,7 % (DIN EN ISO 11890-2)

To follow: 850/2004/EC , 79/117/EEC , 689/2008/EC

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 2 - obviously hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,3,7,8,11,16.

Abbreviations and acronyms

ADN: Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation

(European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

ADR: Accord européen sur le transport des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

BCF: Bioconcentration factor

CAS: Chemical Abstracts Service

CLP: Classification, Labeling and Packaging

DMEL: Derived Minimal Effect level

DNEL: Derived No Effect Level

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EC50: Effective concentration, 50%
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations (DRG) for the air transport (IATA)
 ICAO: International Civil Aviation Organization
 IC50: Inhibitory concentration, 50%
 IMDG: International Maritime Code for Dangerous Goods
 LC50: Lethal concentration, 50%
 LD50: Lethal dose, 50%
 NOEC: No Observed Effect Concentration
 OECD: Organisation for Economic Co-operation and Development
 PBT: persistent, bioaccumulative and toxic
 vPvB: very persistent and very bioaccumulative
 PNEC: Predicted No Effect Concentration
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
 RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses (Regulations Concerning the International Carriage of Dangerous Goods by Rail)
 VOC: Volatile organic compound
 Acute Tox. 4: Acute toxicity, Category 4
 Aquatic Chronic 3: Long-term aquatic hazard, Category 3
 Eye Dam. 1: Serious eye damage/eye irritation, Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation, Category 2
 Skin Corr. 1B: Skin corrosion/irritation, Category 1B
 Skin Irrit. 2: Serious eye damage/eye irritation, Category 2
 Skin Sens. 1: Skin sensitization, Category 1

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	Calculation method
Skin Corr. 1; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
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.
H412	Harmful to aquatic life with long lasting effects.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)