Safety Data Sheet

according to Regulation (EC) No 1907/2006 - COMMISSION REGULATION (EU) 2020/878

VME Plus, Comp. A

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

1.1. Product identifier

VME Plus, Comp. A

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:

National Poisons Information Centre: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Skin Irrit. 2; H315
Eye Irrit. 2; H319
Skin Sens. 1; H317
Repr. 1B; H360F
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

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: Danger

Pictograms:

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing Vapour.

P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing and 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.

Special labelling of certain mixtures

EUH205	Contains epoxy constituents. May produce an allergic reaction.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

CAS No. 1675-54-3: inconclusive outcome (ECHA's endocrine disruptor (ED) assessment list)

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Restricted to professional users.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
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			
933999-84-9	1,6-Hexanediol diglycidyl ether			10 - < 15 %
	618-939-5		01-2119463471-41	
	Repr. 1B, Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H360F H315 H319 H317 H412			

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

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
1675-54-3	216-823-5	2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	30 - < 60 %
	dermal: LD50 = 23000 mg/kg; oral: LD50 = 15000 mg/kg Skin Irrit. 2; H315: >= 5 - 100 Eye Irrit. 2; H319: >= 5 - 100		
933999-84-9	618-939-5	1,6-Hexanediol diglycidyl ether	10 - < 15 %
	dermal: LD50 = >4900 mg/kg; oral: LD50 = 8500 mg/kg		

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

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 (CO_2)

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

General advice
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

For 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.

Advice on general occupational hygiene

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.

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
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			
DNEL type		Exposure route	Effect	Value
1675-54-3	2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane			
Worker , acute		dermal	systemic	8.3 mg/kg bw/day
Worker , acute		inhalation	systemic	12.3 mg/m³
933999-84-9	1,6-Hexanediol diglycidyl ether			
Worker DNEL,		dermal		1.7 mg/kg bw/day
Worker DNEL,		inhalation		2.9 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
933999-84-9	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

To date, no national critical limit values exist.

This mixture contains quartz (inorganic 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.

Individual protection measures, such as personal protective equipment

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)

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
Melting point/freezing point:	No data available

Boiling point or initial boiling point and boiling range:	No data available
Flammability:	Non-flammable.
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable
Decomposition temperature:	No data available
pH-Value:	The study does not need to be conducted because the substance is known to be insoluble in water.
Viscosity / kinematic:	not applicable
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

No data available

Partition coefficient n-octanol/water:	not applicable
Vapour pressure:	No data available
Density (at 20 °C):	1,45 g/cm³
Relative vapour density:	not applicable
Particle characteristics:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Self-ignition temperature

Solid:	not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:	No data available
Solid content:	No data available

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1675-54-3	2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane				
	oral	LD50 15000 mg/kg	Rat		
	dermal	LD50 23000 mg/kg	Rabbit		
933999-84-9	1,6-Hexanediol diglycidyl ether				
	oral	LD50 8500 mg/kg	Rat		
	dermal	LD50 >4900 mg/kg	Rabbit		

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye 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)
Contains epoxy constituents. May produce an allergic reaction.

Carcinogenic/mutagenic/toxic effects for reproduction

May damage fertility. (1,6-Hexanediol diglycidyl ether)
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:
1,6-Hexanediol diglycidyl ether

NOAEL F0, F1= 55 mg/kg
Species: rat, male
Exposure route: oral
Method: OECD 443

NOAEL F0, F1= 300 mg/kg
Species: rat, female
Exposure route: oral
Method: OECD 443

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.

11.2. Information on other hazards

Endocrine disrupting properties

CAS No. 1675-54-3: inconclusive outcome (ECHA's endocrine disruptor (ED) assessment list)

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
1675-54-3	2,2'-[(1-Methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane						
	Acute fish toxicity	LC50	2 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		
	Acute algae toxicity	ErC50	11 mg/l	72 h			
	Acute crustacea toxicity	EC50	1.8 mg/l	48 h	Daphnia magna (Big water flea)		
933999-84-9	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			
933999-84-9	1,6-Hexanediol diglycidyl ether			
	OECD 301D	47 %	28	

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
933999-84-9	1,6-Hexanediol diglycidyl ether	0,822

BCF

CAS No	Chemical name	BCF	Species	Source
933999-84-9	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 substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. 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

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 or ID 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 or ID 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

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 or ID 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 or ID 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 A215
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

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. Maritime transport in bulk according to IMO instruments

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 75

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

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). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	2 - obviously hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADN: Accord européen relativ 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%
NOEC: No Observed Effect Concentration
OECD: Oragnisation 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

Key literature references and sources for data

Website European Chemicals Agency: https://echa.europa.eu
Data sources: Supplier

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
Repr. 1B; H360F	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.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH205	Contains epoxy constituents. May produce an allergic reaction.

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 relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

Safety Data Sheet

according to Regulation (EC) No 1907/2006 - COMMISSION REGULATION (EU) 2020/878

VME Plus, Comp. B

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

1.1. Product identifier

VME Plus, Comp. B

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:

National Poisons Information Centre: +353 (1) 809 2166. (8.00 a.m. to 10.00 p.m. 7 days a week)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 4; H302
Skin Corr. 1A; H314
Eye Dam. 1; H318
Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

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.
H317	May cause an allergic skin reaction.

Precautionary statements

P260	Do not breathe dusts or mists.
P280	Wear protective gloves/protective clothing and 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 regulations.

2.3. Other hazards

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

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	
	Classification (Regulation (EC) No 1272/2008)			
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. 1A, Eye Dam. 1, Skin Sens. 1A; H302 H314 H318 H317			
1477-55-0	m-Phenylenebis(methylamine)			1 - < 8 %
	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	603-069-00-0	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 Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
25513-64-8	247-063-2	2,2,4(or 2,4,4)-Trimethylhexane-1,6-diamine	25 - < 35 %
	oral: LD50 = 910 mg/kg		
1477-55-0	216-032-5	m-Phenylenebis(methylamine)	1 - < 8 %
	inhalation: LC50 = 1,34 mg/l (dusts or mists); dermal: LD50 = > 3100 mg/kg; oral: LD50 = 930 mg/kg		
90-72-2	202-013-9	2,4,6-Tris(dimethylaminomethyl)phenol	5 - < 10 %
	oral: LD50 = 2169 mg/kg		
104-15-4	203-180-0	p-Toluenesulphonic acid	1 - < 5 %
	inhalation: LC50 = 50 - 100 mg/l (vapours) STOT SE 3; H335: >= 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.

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 (CO_2)

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

General advice

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

For 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.

Advice on general occupational hygiene

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.

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

Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
1477-55-0	m-Xylene alpha,alpha'-diamine (m-phenylenebis(methylamine))	-	0.1		TWA (8 h)	

DNEL/DMEL values

CAS No	Substance			
DNEL type		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/m³
Worker DNEL, long-term		inhalation	local	0,2 mg/m³
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/m³
Consumer DNEL, long-term		dermal	systemic	2,5 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	8,7 mg/m³
Consumer DNEL, long-term		oral	systemic	0,05 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment		Value
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
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 (inorganic 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.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/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)

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
Melting point/freezing point:	No data available
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	No data available
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable
Decomposition temperature:	No data available
pH-Value:	The study does not need to be conducted because the substance is known to be insoluble in water.
Viscosity / kinematic:	not applicable
Water solubility:	The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

No data available

Partition coefficient n-octanol/water:	not applicable
Vapour pressure:	No data available
Density (at 20 °C):	1,42 g/cm³
Relative vapour density:	not applicable
Particle characteristics:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive.

Self-ignition temperature

Solid: not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:	No data available
Solid content:	No data available

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity
Harmful if swallowed.

ATEmix calculated
ATE (oral) 1568 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 12,5 mg/l

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	LD50 910 mg/kg	Rat		
1477-55-0	m-Phenylenebis(methylamine)				
	oral	LD50 930 mg/kg	Rat		OECD 401
	dermal	LD50 > 3100 mg/kg	Rabbit		OECD 402
	inhalation (4 h) dust/mist	LC50 1,34 mg/l	Rat		OECD 403
90-72-2	2,4,6-Tris(dimethylaminomethyl)phenol				
	oral	LD50 2169 mg/kg	Rat		OECD 401
104-15-4	p-Toluenesulphonic acid				
	inhalation vapour	LC50 50 - 100 mg/l	Rat		

Irritation and corrosivity
Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/eye irritation: 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
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.

11.2. Information on other hazards

Endocrine disrupting properties
This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

SECTION 12: Ecological information

12.1. Toxicity

The product is not: Ecotoxic.

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	43,5 mg/l	72 h	Selenastrum capricornutum		OECD 201
	Fish toxicity	NOEC	10,9 mg/l	30 d	Danio rerio (zebrafish)		OECD 210
	Algae toxicity	NOEC	16 mg/l	3 d	Selenastrum capricornutum		OECD 201
	Crustacea toxicity	NOEC	1,02 mg/l	21 d	Daphnia magna (Big water flea)		OECD 211
1477-55-0	m-Phenylenebis(methylamine)						
	Acute fish toxicity	LC50	87,6 mg/l	96 h	Oryzias latipes (Ricefish)		OECD 203
	Acute algae toxicity	ErC50	32,1 mg/l	72 h	Selenastrum capricornutum		OECD 201
	Acute crustacea toxicity	EC50	15,2 mg/l	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	6,25 mg/l	3 d	Desmodesmus subspicatus		OECD 201
104-15-4	p-Toluenesulphonic acid						
	Acute fish toxicity	LC50	325 mg/l	96 h	Leuciscus idus (golden orfe)		OECD 203
	Acute algae toxicity	ErC50	73 mg/l	72 h	Selenastrum capricornutum		OECD 201
	Acute crustacea toxicity	EC50	>103 mg/l	48 h	Daphnia magna (Big water flea)		OECD 202

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	
1477-55-0	m-Phenylenebis(methylamine)			
		49 %	28	
90-72-2	2,4,6-Tris(dimethylaminomethyl)phenol			
		4 %	28	

12.3. Bioaccumulative potential

The product has not been tested.

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	-0,66
104-15-4	p-Toluenesulphonic acid	0,41

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 substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.
The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. 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

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 or ID 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
Transport category:	2
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID 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 or ID 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 or ID 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:	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. Maritime transport in bulk according to IMO instruments

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 75

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

Additional information

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.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADN: Accord européen relativ 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%
NOEC: No Observed Effect Concentration
OECD: Oragnisation 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 3: Long-term aquatic hazard, Category 3

Key literature references and sources for data

Website European Chemicals Agency: https://echa.europa.eu
Data sources: Supplier

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. 1A; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	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 relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)