Safety Data Sheet

according to UK REACH Regulation

HP-E15GL HARDENER

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

1.1. Product identifier

HP-E15GL HARDENER

UFI: V1MS-C7XT-EXPR-RGPV

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

Use of the substance/mixture

Adhesives, sealants

Uses advised against

Any use not mentioned in the product data sheet.

1.3. Details of the supplier of the safety data sheet

Company name:	HP-Textiles GmbH	
Street:	Otto-Hahn-Str. 22	
Place:	D-48480 Schapen	
Telephone:	+49 (0) 5905 94598-70	Telefax: +49 (0) 5905 94598-74
E-mail:	produktsicherheit@hp-textiles.com	
Contact person:	Safety department	
Internet:	www.hp-textiles.com	

1.4. Emergency telephone number:

+49 (0) 5905 945 410-8 / Only available during office hours.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Acute Tox. 4; H302
Skin Corr. 1A; H314
Eye Dam. 1; H318
Skin Sens. 1; H317
Repr. 2; H361d
STOT RE 1; H372
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine
1,4-bis(aminocyclohexyl)methane
3-aminomethyl-3,5,5-trimethylcyclohexylamine
2-piperazin-1-ylethylamine
Polyoxypropylendiamine
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols

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.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P405	Store locked up.
P501	Dispose of contents/container to Sondermüll.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine			25 - 50 %
	247-063-2		01-2119560598-25	
	Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1, Skin Sens. 1A; H302 H314 H318 H317			
1761-71-3	1,4-bis(aminocyclohexyl)methane			20 - < 25 %
	217-168-8		01-2119541673-38	
	Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, STOT RE 2; H302 H314 H318 H317 H373			
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			10 - 25 %
	220-666-8	612-067-00-9		
	Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1A; H302 H314 H318 H317			
140-31-8	2-piperazin-1-ylethylamine			10 - 25 %
	205-411-0	612-105-00-4	01-2119471486-30	
	Repr. 2, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1, Skin Sens. 1, STOT RE 1, Aquatic Chronic 3; H361d H311 H302 H314 H318 H317 H372 H412			
9046-10-0	Polyoxypropylendiamine			10 - 25 %
	618-561-0		01-2119557899-12	
	Skin Corr. 1C, Eye Dam. 1, Aquatic Chronic 3; H314 H318 H412			
10563-29-8	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine			5 - 10 %
	234-148-4		01-2119970376-29	
	Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1, Skin Sens. 1B; H302 H314 H318 H317			
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols			5 - 10 %
	701-443-9		01-2119980970-27	
	Skin Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H315 H317 H411			
104-15-4	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)			5 - 10 %
	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 - 50 %
	oral: LD50 = 910 mg/kg		
1761-71-3	217-168-8	1,4-bis(aminocyclohexyl)methane	20 - < 25 %
	dermal: LD50 = 2110 mg/kg; oral: LD50 = 480 mg/kg		
2855-13-2	220-666-8	3-aminomethyl-3,5,5-trimethylcyclohexylamine	10 - 25 %
	dermal: LD50 = > 2000 mg/kg; oral: ATE 1030 mg/kg Skin Sens. 1A; H317: >= 0,001 - 100		
140-31-8	205-411-0	2-piperazin-1-ylethylamine	10 - 25 %
	dermal: LD50 = 866 mg/kg; oral: LD50 = 2110 mg/kg		
9046-10-0	618-561-0	Polyoxypropylendiamine	10 - 25 %
	inhalation: LC50 = [0,74] mg/l (vapours); dermal: LD50 = 2980 mg/kg; oral: LD50 = 2885 mg/kg		
10563-29-8	234-148-4	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	5 - 10 %
	oral: LD50 = 1669 mg/kg		
	701-443-9	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	5 - 10 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		
104-15-4	203-180-0	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	5 - 10 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 2480 mg/kg STOT SE 3; H335: >= 20 - 100		

Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician. In the case of lung irritation: Primary treatment using corticoide spray, eg. Auxiloson spray, Pulmicort-dosage-spray. (Auxiloson and Pulmicort are registered trademarks.)

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing. In case of skin irritation, seek medical treatment.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Rinse mouth thoroughly with water. Let water be drunken in little sips (dilution effect). Observe risk of aspiration if vomiting occurs. Never give anything by mouth to an unconscious person or a person with cramps. When in doubt or if symptoms are observed, get medical advice.

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

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

Sand. Foam. Carbon dioxide (CO2). Extinguishing powder. In case of major fire and large quantities: Water spray jet. Water mist.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO2)

5.3. Advice for firefighters

In case of fire and/or explosion do not breathe fumes. In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Wear personal protection equipment (refer to section 8).
Do not breathe vapour/aerosol. Avoid contact with skin, eyes and clothes.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

Wear personal protection equipment (refer to section 8).

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

Other information

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.
Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear suitable protective clothing. (See section 8.)
Conditions to avoid: aerosol or mist formation
Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

When using do not eat, drink or smoke.

Further information on handling

Advices on general occupational hygiene: See section 8.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Only use containers specifically approved for the

substance/product.
Make sure spills can be contained (e.g. sump pallets or kerbed areas).

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Radioactive substances. Infectious substances.

Further information on storage conditions

Recommended storage temperature: 20°C
Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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
1761-71-3	1,4-bis(aminocyclohexyl)methane			
Worker DNEL, long-term		inhalation	systemic	0,13 mg/m³
Worker DNEL, long-term		dermal	systemic	0,053 mg/kg bw/day
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine			
Consumer DNEL, acute		oral	systemic	0,3 mg/kg bw/day
Worker DNEL, acute		inhalation	local	0,073 mg/m³
Worker DNEL, long-term		inhalation	local	0,073 mg/m³
Consumer DNEL, long-term		oral	systemic	0,3 mg/kg bw/day
140-31-8	2-piperazin-1-ylethylamine			
Worker DNEL, long-term		inhalation	systemic	10,6 mg/m³
Worker DNEL, acute		inhalation	systemic	10,6 mg/m³
Worker DNEL, long-term		inhalation	local	0,015 mg/m³
Worker DNEL, acute		inhalation	local	80 mg/m³
Worker DNEL, long-term		dermal	systemic	3,33 mg/kg bw/day
9046-10-0	Polyoxypropylendiamine			
Worker DNEL, long-term		inhalation	systemic	1.36 mg/m³
Worker DNEL, long-term		dermal	systemic	2.5 mg/kg bw/day
10563-29-8	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine			
Worker DNEL, long-term		inhalation	systemic	3.7 mg/m³
Worker DNEL, acute		inhalation	systemic	7.5 mg/m³
Worker DNEL, long-term		dermal	systemic	0.67 mg/kg bw/day
Worker DNEL, long-term		inhalation	local	3.7 mg/m³
Worker DNEL, acute		inhalation	local	7.5 mg/m³
Consumer DNEL, long-term		inhalation	systemic	0.65 mg/m³
Consumer DNEL, long-term		inhalation	local	0.65 mg/m³
Consumer DNEL, long-term		oral	systemic	0.2 mg/kg bw/day
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols			
Worker DNEL, long-term		inhalation	systemic	1,21 mg/m³
Worker DNEL, long-term		dermal	systemic	2,87 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,299 mg/m³
Consumer DNEL, long-term		dermal	systemic	0 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,17 mg/kg bw/day
104-15-4	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)			
Worker DNEL, long-term		inhalation	systemic	53.6 mg/m³
Worker DNEL, long-term		dermal	systemic	7.6 mg/kg bw/day

Consumer DNEL, long-term	inhalation	systemic	7.6 mg/m³
Consumer DNEL, long-term	dermal	systemic	2.5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	2.5 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
Freshwater (intermittent releases)		0,315 mg/l
Marine water		0,01 mg/l
Freshwater sediment		0,622 mg/kg
Marine sediment		0,062 mg/kg
Micro-organisms in sewage treatment plants (STP)		72 mg/l
Soil		10 mg/kg
1761-71-3	1,4-bis(aminocyclohexyl)methane	
Freshwater		0,08 mg/l
Freshwater (intermittent releases)		0,08 mg/l
Marine water		0,008 mg/l
Freshwater sediment		136,6 mg/kg
Marine sediment		13,7 mg/kg
Micro-organisms in sewage treatment plants (STP)		3,2 mg/l
Soil		27,3 mg/kg
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	
Freshwater		0,06 mg/l
Freshwater (intermittent releases)		0,23 mg/l
Marine water		0,006 mg/l
Freshwater sediment		5,784 mg/kg
Marine sediment		0,578 mg/kg
Micro-organisms in sewage treatment plants (STP)		3,18 mg/l
Soil		1,121 mg/kg
140-31-8	2-piperazin-1-ylethylamine	
Freshwater		0,058 mg/l
Freshwater (intermittent releases)		0,58 mg/l
Marine water		0,006 mg/l
Freshwater sediment		215 mg/kg
Marine sediment		21,5 mg/kg
Micro-organisms in sewage treatment plants (STP)		250 mg/l
Soil		1 mg/kg
9046-10-0	Polyoxypropylendiamine	
Freshwater		0.015 mg/l
Marine water		0.014 mg/l
Freshwater sediment		0.132 mg/kg
Marine sediment		0.125 mg/kg
Secondary poisoning		6.93 mg/kg
Micro-organisms in sewage treatment plants (STP)		7.5 mg/l
Soil		0.018 mg/kg

10563-29-8	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	
Freshwater		0,0092 mg/l
Marine water		0,00092 mg/l
Freshwater sediment		0.034 mg/kg
Marine sediment		0.00336 mg/kg
Micro-organisms in sewage treatment plants (STP)		18.1 mg/l
Soil		0.00132 mg/kg
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	
Freshwater		0,0115 mg/l
Freshwater (intermittent releases)		0,0135 mg/l
Marine water		0,00115 mg/l
Freshwater sediment		1,564 mg/kg
Marine sediment		0,156 mg/kg
Secondary poisoning		7,64 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,305 mg/kg
104-15-4	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	
Freshwater		0.073 mg/l
Marine water		0.0073 mg/l
Freshwater sediment		0.058 mg/kg
Marine sediment		0.006 mg/kg
Micro-organisms in sewage treatment plants (STP)		58 mg/l
Soil		0.016 mg/kg

Additional advice on limit values

No information available.

8.2. Exposure controls




Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. BS/EN 166 / EN ISO 16321

Hand protection

Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm

Breakthrough time >= 8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time >= 8 h

PVC (Polyvinyl chloride).

Breakthrough time >= 8 h

The selected protective gloves have to satisfy the specifications of EU Directive EC/2016/425 and the standard EN 374 derived from it.
Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Lab apron.
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.
Respiratory protection necessary at:
-Exceeding exposure limit values
-Insufficient ventilation and aerosol or mist formation
Suitable respiratory protective equipment: Combination filtering device (EN 14387) Type A-P2
The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Thermal hazards

No information available.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	yellowish
Odour:	characteristic

		Test method
Melting point/freezing point:	No information available.	
Boiling point or initial boiling point and boiling range:	>200 °C	
Flammability:	No information available.	
Lower explosion limits:	1,2 vol. %	
Upper explosion limits:	10,5 vol. %	
Flash point:	>100 °C	
Auto-ignition temperature:	365 °C	
Decomposition temperature:	No information available.	
pH-Value:	No information available.	
Viscosity / kinematic: (at 25 °C)	25 - 50 mm²/s	
Water solubility:	almost immiscible	
Solubility in other solvents		
No information available.		
Partition coefficient n-octanol/water:	No information available.	
Vapour pressure: (at 20 °C)	<1 hPa	
Vapour pressure: (at 50 °C)	No information available.	ASTM D 2879
Density (at 23 °C):	0,96 g/cm³	ASTM D 1475
Bulk density:	No information available.	ISO 3507
Relative vapour density:	No information available.	

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

none

Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	No information available.
Gas:	No information available.

Oxidizing properties

none

Other safety characteristics

Evaporation rate:	No information available.
Solvent separation test:	No information available.
Solvent content:	No information available.
Solid content:	No information available.
Sublimation point:	No information available.
Softening point:	No information available.
Pour point:	No information available.
Viscosity / dynamic: (at 25 °C)	25 - 50 mPa·s
Flow time:	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Refer to chapter 10.5.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO_2)

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

No information available.

Acute toxicity

Harmful if swallowed.

ATEmix calculated

ATE (oral) 852,1 mg/kg; ATE (dermal) 5972 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
25513-64-8	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine				
	oral	LD50 910 mg/kg	Rat	Study report (1965)	other: comparable to guideline study wit
1761-71-3	1,4-bis(aminocyclohexyl)methane				
	oral	LD50 480 mg/kg	Rat	Study report (1987)	EPA OPP 81-1
	dermal	LD50 2110 mg/kg	Rabbit	Study report (1986)	EPA OPP 81-2
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine				
	oral	ATE 1030 mg/kg			
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2010)	OECD Guideline 402
140-31-8	2-piperazin-1-ylethylamine				
	oral	LD50 2110 mg/kg	Rat	Am Ind Hyg Assoc J, vol 23 ; p. 95 (1962	Groups of 5 male rats were dosed with th
	dermal	LD50 866 mg/kg	Rabbit	Am Ind Hyg Assoc J, vol 23 ; p. 95 (1962	Essentially followed the method of Draiz
9046-10-0	Polyoxypropylendiamine				
	oral	LD50 2885 mg/kg	Rat	ECHA Dossier	
	dermal	LD50 2980 mg/kg	Rabbit.	ECHA Dossier	
	inhalation vapour	LC50 [0,74] mg/l	8 h Rat	ECHA Dossier	
10563-29-8	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine				
	oral	LD50 1669 mg/kg	Rat	ECHA Dossier	OECD 401
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1994)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2009)	OECD Guideline 402
104-15-4	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)				
	oral	LD50 2480 mg/kg	Rat	GESTIS	
	dermal	LD50 > 2000 mg/kg	Rabbit	ECHA Dossier	READ ACROSS

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; 1,4-bis(aminocyclohexyl)methane; 3-aminomethyl-3,5,5-trimethylcyclohexylamine; 2-piperazin-1-ylethylamine; N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine; Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of damaging the unborn child. (2-piperazin-1-ylethylamine)
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: 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

Causes damage to organs through prolonged or repeated exposure. (2-piperazin-1-ylethylamine)

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 has not been tested.

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 fish toxicity	LC50	174 mg/l	96 h	Leuciscus idus (golden orfe)	ECHA Dossier	
	Acute algae toxicity	ErC50 mg/l	43,5	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	31,5	48 h	Daphnia magna	ECHA Dossier	
	Fish toxicity	NOEC mg/l	>= 10,9	30 d	Danio rerio	ECHA Dossier	OECD Guideline 210
	Crustacea toxicity	NOEC mg/l	1,02	21 d	Daphnia magna	ECHA Dossier	OECD Guideline 211
1761-71-3	1,4-bis(aminocyclohexyl)methane						
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Leuciscus idus	REACh Registration Dossier	other: German industrial standard test g
	Acute algae toxicity	ErC50 mg/l	2164	72 h	Desmodesmus subspicatus	Study report (1990)	other: German Industrial Standard DIN 38
	Acute crustacea toxicity	EC50 mg/l	9,24	48 h	Daphnia magna	REACh Registration Dossier	other: Directive 79/831/EEC, Annex V, Pa
	Fish toxicity	NOEC	> 1 mg/l	14 d	freshwater fish	REACh Registration Dossier	Estimation of a chronic NOEC according t
	Crustacea toxicity	NOEC	4 mg/l	21 d		REACh Registration Dossier	
	Acute bacteria toxicity	EC50 mg/l ( )	ca. 156	0,5 h	Pseudomonas putida	REACh Registration Dossier	other: German Industrial Standard DIN 38
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine						
	Acute fish toxicity	LC50	110 mg/l	96 h	Leuciscus idus	REACh Registration Dossier	EU Method C.1
	Acute algae toxicity	ErC50	37 mg/l	72 h	Desmodesmus subspicatus	REACh Registration Dossier	EU Method C.3
	Acute crustacea toxicity	EC50	23 mg/l	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Crustacea toxicity	NOEC	3 mg/l	21 d	Daphnia magna	REACh Registration Dossier	other: OECD 202, part 2
140-31-8	2-piperazin-1-ylethylamine						
	Acute fish toxicity	LC50 mg/l	2190	96 h	Pimephales promelas	Publication (1986)	American Public Health Association
	Acute algae toxicity	ErC50 mg/l	> 1000	72 h	Raphidocelis subcapitata	Study report (1990)	OECD Guideline 201
	Acute crustacea toxicity	EC50	58 mg/l	48 h	Daphnia magna	Study report (1989)	OECD Guideline 202
9046-10-0	Polyoxypropylendiamine						

	Acute fish toxicity	LC50	>15 mg/l	96 h	Oncorhynchus mykiss	ECHA Dossier	
	Acute algae toxicity	ErC50 mg/l	141,72	72 h	Skeletonema costatum	ECHA Dossier	
	Acute crustacea toxicity	EC50 mg/l	418,34	48 h	Acartia tonsa	ECHA Dossier	
	Algae toxicity	NOEC	100 mg/l	3 d	Skeletonema costatum	ECHA Dossier	
	Crustacea toxicity	NOEC	200 mg/l	2 d	Acartia tonsa	ECHA Dossier	
10563-29-8	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine						
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Danio rerio	ECHA Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50	21 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	9,22	48 h	Daphnia magna	ECHA Dossier	ISO 6341 15
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols						
	Acute fish toxicity	LC50 mg/l	1,77	96 h	Danio rerio	REACh Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	1,35	72 h	Desmodesmus subspicatus	REACh Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50	4,6 mg/l	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202
	Fish toxicity	NOEC mg/l	> 0,1879	35 d	Danio rerio	REACh Registration Dossier	OECD Guideline 210
	Crustacea toxicity	NOEC	0,2 mg/l	21 d	Daphnia magna	REACh Registration Dossier	OECD Guideline 211
104-15-4	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)						
	Acute fish toxicity	LC50 mg/l	> 500	96 h	Leuciscus idus melanotus	ECHA Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50	70 mg/l	72 h	Pseudokirchneriella subcapitata	ECHA Dossier	READ ACROSS
	Acute crustacea toxicity	EC50 mg/l	> 103	48 h	Daphnia magna	ECHA Dossier	READ ACROSS

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			
	EU Method C.4-A	7%	28	ECHA Dossier
	Not readily biodegradable (according to OECD criteria)			
9046-10-0	Polyoxypropylendiamine			
	OECD Guideline 301 B	0%	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
10563-29-8	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine			
	ISO 7827	100%	28	ECHA Dossier
	Biodegradable.			
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols			
	OECD Guideline 310	4%	28	ECHA Dossier
	Not easily bio-degradable (according to OECD-criteria).			
104-15-4	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)			
	weight of evidence	50-100%	28	ECHA Dossier
	Easily biodegradable (concerning to the criteria of the OECD)			

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

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
1761-71-3	1,4-bis(aminocyclohexyl)methane	2,03
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	0,99
140-31-8	2-piperazin-1-ylethylamine	-1,48
9046-10-0	Polyoxypropylendiamine	1,344
10563-29-8	N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine	-0,56
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	3,67
104-15-4	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	ca. -1,17

BCF

CAS No	Chemical name	BCF	Species	Source
1761-71-3	1,4-bis(aminocyclohexyl)methane	< 6	Cyprinus carpio	REACh Registration D
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexy lamine	2,63	Fish	REACh Registration D
140-31-8	2-piperazin-1-ylethylamine	> 2,8	Cyprinus carpio	Publication (1992)
	Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols	168	Cyprinus carpio	REACh Registration D

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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

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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

Wassergefährdungsklasse 2 - wassergefährdend

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Dispose of waste according to applicable legislation. Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

200127 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); paint, inks, adhesives and resins containing 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

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 2735
14.2. UN proper shipping name:	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONDIAMINE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8

Classification code:	C7
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 2735
14.2. UN proper shipping name:	POLYAMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONDIAMINE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III

Hazard label: 8

Classification code: C7
Special Provisions: 274
Limited quantity: 5 L
Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 2735
14.2. UN proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONDIAMINE)
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8

Marine pollutant: NO
Special Provisions: 223, 274
Limited quantity: 5 L
Excepted quantity: E1
EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 2735
14.2. UN proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (ISOPHORONDIAMINE)
14.3. Transport hazard class(es): 8
14.4. Packing group: III
Hazard label: 8

Special Provisions: A3 A803
Limited quantity Passenger: 1 L
Passenger LQ: Y841
Excepted quantity: E1
IATA-packing instructions - Passenger: 852
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 856
IATA-max. quantity - Cargo: 60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

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

14.7. Maritime transport in bulk according to IMO instruments

not relevant

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, Entry 75

Directive 2010/75/EU on industrial emissions:	0 % in the intended hardened condition
Directive 2004/42/EC on VOC in paints and varnishes:	0 % in the intended hardened condition
Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878)
The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].
REACH 1907/2006 Appendix XVII, No (mixture): 3

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

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
1,4-bis(aminocyclohexyl)methane
3-aminomethyl-3,5,5-trimethylcyclohexylamine
Polyoxypropylendiamine
N'-(3-aminopropyl)-N,N-dimethylpropane-1,3-diamine
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)

SECTION 16: Other information

Changes

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Abbreviations and acronyms

Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Skin Irrit: Skin irritation
Eye Dam: Eye damage
Eye Irrit: Eye irritation
Skin Sens: Skin sensitisation
Repr: Reproductive toxicity
STOT SE: Specific target organ toxicity - single exposure
STOT RE: Specific target organ toxicity - repeated exposure
Aquatic Chronic: Chronic aquatic hazard
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS Chemical Abstracts Service
CLP: Classification, Labelling and Packaging of substances and mixtures
DNEL: Derived No Effect Level
d: day(s)
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European LIst of Notified Chemical Substances
ECHA: European Chemicals Agency
EWC: European Waste Catalogue
IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
h: hour
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect concentration
NLP: No-Longer Polymers
N/A: not applicable
OECD: Organisation for Economic Co-operation and Development
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
REACH: Registration, Evaluation, Authorisation of Chemicals
SVHC: substance of very high concern
TRGS: Technische Regeln für Gefahrstoffe
UN: United Nations
VOC: Volatile Organic Compounds

Classification for mixtures and used evaluation method according to GB CLP Regulation

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
Repr. 2; H361d	Calculation method
STOT RE 1; H372	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Further Information

Classification according to Regulation (EC) No 1272/2008 [CLP] - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data and / or calculated and / or estimated.

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.)