Lithomex L15 B-Kp. / Lithomex L20 B-Kp.

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

1.1. Product identifier

Trade name/designation:

Lithomex L15 B-Kp. / Lithomex L20 B-Kp.

Article No.:
1293, 1047

UFI:
WR3K-G05N-SWD1-GEHG

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

Use of the substance/mixture:
Curing agent

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Lithomex A/S
Levedjdal 14D
8740 Braestrup
Denmark
Telephone: +45 86 22 11 22
E-mail: info@lithomex.dk

1.4. Emergency telephone number

24h: +45 82 12 12 12 (åbent 24 timer i døgnet)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	Calculation method.
Skin corrosion/irritation *(Skin Corr. 1B)*	H314: Causes severe skin burns and eye damage.	Calculation method.
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	Calculation method.
Serious eye damage/eye irritation *(Eye Dam. 1)*	H318: Causes serious eye damage.	Calculation method.
Reproductive toxicity *(Repr. 2)*	H361: Suspected of damaging fertility or the unborn child.	Calculation method.
STOT-repeated exposure *(STOT RE 2)*	H373: May cause damage to organs through prolonged or repeated exposure.	Calculation method.
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	Calculation method.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:

GHS05
Corrosion

GHS07
Exclamation mark

GHS08
Health hazard

Signal word: Danger

Hazard components for labelling:
3-aminomethyl-3,5,5-trimethylcyclohexylamine; Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols; 2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine; Phenol, 4,4'- (1-methylethylidene)bis-, polymer wit

Hazard statements for health hazards	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Hazard statements for environmental hazards	
H412	Harmful to aquatic life with long lasting effects.

Supplemental hazard information: none

Precautionary statements	
P101	If medical advice is needed, have product container or label at hand.

Precautionary statements Prevention	
P280	Wear protective gloves/protective clothing and eye protection/face protection.

Precautionary statements Response	
P302 + P352	IF ON SKIN: Wash with plenty of water and soap.
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/Emergency telephone number.

Precautionary statements Storage	
P405	Store locked up.

Precautionary statements Disposal	
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

Special rules for supplemental label elements for certain mixtures:
6,2 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
6,2 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
36,8 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (inhalative).
11,2 % percent of the mixture consists of components of unknown hazards to the aquatic environment.

2.3. Other hazards

Other adverse effects:
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

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 2855-13-2 EC No.: 220-666-8 Index No.: 612-067-00-9 REACH No.: 01-2119514687-32	**3-aminomethyl-3,5,5-trimethylcyclohexylamine** Acute Tox. 4 (H302), Eye Dam. 1 (H318), Skin Corr. 1B (H314), Skin Sens. 1A (H317) Danger **Specific concentration limit (SCL)** Skin Sens. 1A; H317: C ≥ 0.001% **Acute Toxicity Estimate** ATE (oral) 1,030 mg/kg ATE (dermal) 1,840 mg/kg	20 – < 40 weight-%
CAS No.: 100-51-6 EC No.: 202-859-9 REACH No.: 01-2119492630-38	**benzyl alcohol** Acute Tox. 4 (H302, H332), Eye Irrit. 2 (H319) Warning **Acute Toxicity Estimate** ATE (oral) 1,230 mg/L ATE (dermal) 2,000 mg/L ATE (inhalation, vapour) 4,378 mg/L	15 – < 25 weight-%
CAS No.: 61788-44-1 EC No.: 262-975-0 REACH No.: 01-2119980970-27	**Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols** Aquatic Chronic 2 (H411), Skin Irrit. 2 (H315), Skin Sens. 1A (H317) Warning **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/L ATE (dermal) > 2,000 mg/L	8 – < 14 weight-%
CAS No.: 9046-10-0 EC No.: 618-561-0 REACH No.: 01-2119557899-12	**Polyoxypropylendiamine** Aquatic Chronic 3 (H412), Eye Dam. 1 (H318), Skin Corr. 1C (H314) Danger **Acute Toxicity Estimate** ATE (oral) 2,855 mg/L ATE (dermal) 2,980 mg/L	8 – < 14 weight-%
CAS No.: 260549-92-6	**Decanedioic acid, compds. w/ 1,3-benzenedimethanamine** Eye Dam. 1 (H318) Danger **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 2,000 mg/kg	6 – < 12 weight-%
CAS No.: 68609-08-5 EC No.: 614-657-1	**Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl** Eye Dam. 1 (H318), Skin Corr. 1B (H314) Danger	4 – < 8 weight-%
CAS No.: 25513-64-8 EC No.: 247-063-2 REACH No.: 01-2119560598-25	**2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine** Acute Tox. 4 (H302), Eye Dam. 1 (H318), Skin Corr. 1A (H314), Skin Sens. 1A (H317) Danger **Acute Toxicity Estimate** ATE (oral) 910 mg/kg	2 – < 4 weight-%
CAS No.: 111850-23-8	**Phenol, 4,4'- (1-methylethylidene)bis-, polymer wit** Acute Tox. 4 (H302), Aquatic Chronic 3 (H412), Eye Dam. 1 (H318), Skin Corr. 1B (H314), Skin Sens. 1 (H317) Danger **Acute Toxicity Estimate** ATE (oral) 500 mg/kg	2 – < 4 weight-%

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 140-31-8 EC No.: 205-411-0 REACH No.: 01-2119471486-30	**2-piperazin-1-ylethylamine** Acute Tox. 3 (H311), Acute Tox. 4 (H302), Aquatic Chronic 3 (H412), Eye Dam. 1 (H318), Repr. 2 (H361), STOT RE 1 (H372), Skin Corr. 1B (H314), Skin Sens. 1 (H317)  Danger **Acute Toxicity Estimate** ATE (oral) 2,140 mg/kg ATE (dermal) 866 mg/kg	2 – < 4 weight-%
CAS No.: 90-72-2 EC No.: 202-013-9 Index No.: 603-069-00-0 REACH No.: 01-2119560597-27	**2,4,6-tris(dimethylaminomethyl)phenol** Acute Tox. 4 (H302), Eye Dam. 1 (H318), Skin Corr. 1C (H314)  Danger **Acute Toxicity Estimate** ATE (oral) 2,169 mg/kg	2 – < 4 weight-%
CAS No.: 68551-08-6 EC No.: 271-360-6	**Alcohols, C9-11-branched** Acute Tox. 4 (H302), Eye Dam. 1 (H318)  Danger **Acute Toxicity Estimate** ATE (oral) 500 mg/kg	2 – < 4 weight-%
CAS No.: 1065336-91-5	**Decanedioic acid, 1,10-bis(1,2,2,6,6-** Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Repr. 2 (H361f), Skin Sens. 1A (H317)  Warning M-factor (acute): 1 M-factor (chronic): 1 **Acute Toxicity Estimate** ATE (oral) 3,230 mg/kg ATE (dermal) > 3,170 mg/kg	< 1 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
Remove contaminated, saturated clothing immediately.

Following inhalation:
Provide fresh air. In case of respiratory tract irritation, consult a physician.

In case of skin contact:
After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.

After eye contact:
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.

Following ingestion:
Call a physician immediately.

Self-protection of the first aider:
No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Carbon dioxide (CO_2)
Extinguishing powder

Water spray jet
Fight larger fires with water spray or alcohol resistant foam.

Unsuitable extinguishing media:
Full water jet

5.2. Special hazards arising from the substance or mixture
During heating or in case of fire, toxic gases is possible.

Hazardous combustion products:
Carbon dioxide (CO_2)
Carbon monoxide

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information
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

6.1.1. For non-emergency personnel

Personal precautions:
Use personal protection equipment. Provide adequate ventilation.

Protective equipment:
Personal protection equipment: see section 8

Emergency procedures:
Remove all sources of ignition. Remove persons to safety. Provide adequate ventilation.

6.1.2. For emergency responders

Personal protection equipment:
Personal protection equipment: see section 8

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

6.3. Methods and material for containment and cleaning up

For containment:
Suitable material for taking up: Chemical binding agents, containing acids, Kieselguhr, Sand, Universal binder

For cleaning up:
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Provide adequate ventilation.

Other information:
Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
Safe handling: see section 7 ,
Personal protection equipment: see section 8
Disposal: see section 13

6.5. Additional information
Clear spills immediately.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:
Keep container tightly closed. Avoid contact with skin, eyes and clothes.

Fire prevent measures:
No special fire protection measures are necessary.

Environmental precautions:
Provide for retaining containers, e.g. floor pan without outflow.

Advices on general occupational hygiene
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500. When using do not eat, drink, smoke, sniff. Used working clothes should not be worn outside the work area. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:
No special measures are necessary.

Packaging materials:
Keep/Store only in original container.

Requirements for storage rooms and vessels:
Shafts and sewers must be protected from entry of the product.

Hints on storage assembly:
Do not store together with: Food and feedingstuffs

Storage class (TRGS 510, Germany): 8A – Combustible corrosive substances

Further information on storage conditions:
Recommended storage temperature: 15 °C - 20 °C

7.3. Specific end use(s)

Industrial sector specific solutions:
Epoxide resin products, sensitizing, low solvent content

GISCODE:
RE50

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

No data available

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS No.: 2855-13-2 EC No.: 220-666-8	0.073 mg/cm³	① DNEL worker ② Long-term – inhalation, local effects
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	22 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	450 mg/m³	① DNEL worker ② Acute - inhalation, systemic effects
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	8 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	47 mg/kg bw/day	① DNEL worker ② Acute – dermal, systemic effects
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols CAS No.: 61788-44-1 EC No.: 262-975-0	4.11 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects

Substance name	DNEL value	① DNEL type ② Exposure route
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0	1.36 mg/cm³	① DNEL worker ② Acute - inhalation, systemic effects
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0	2.5 mg/kg bw/day	① DNEL worker ② Long-term - dermal, local effects
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	10.6 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects

Substance name	PNEC Value	① PNEC type
3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS No.: 2855-13-2 EC No.: 220-666-8	0.06 mg/L	① PNEC aquatic, freshwater
3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS No.: 2855-13-2 EC No.: 220-666-8	0.006 mg/L	① PNEC aquatic, marine water
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	1 mg/L	① PNEC aquatic, freshwater
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	0.1 mg/L	① PNEC aquatic, marine water
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	5.27 mg/kg bw/day	① PNEC sediment, freshwater
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9	0.527 mg/kg bw/day	① PNEC sediment, marine water
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0	0.015 mg/L	① PNEC aquatic, freshwater
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS No.: 25513-64-8 EC No.: 247-063-2	0.102 mg/L	① PNEC aquatic, freshwater
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS No.: 25513-64-8 EC No.: 247-063-2	0.01 mg/L	① PNEC aquatic, marine water
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	0.058 mg/L	① PNEC aquatic, freshwater
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	0.0058 mg/L	① PNEC aquatic, marine water
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	250 mg/L	① PNEC sewage treatment plant
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	215 mg/kg	① PNEC sediment, freshwater
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	215 mg/kg	① PNEC sediment, marine water

Substance name	PNEC Value	① PNEC type
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	42.9 mg/kg	① PNEC soil, freshwater
2,4,6-tris(dimethylaminomethyl)phenol CAS No.: 90-72-2 EC No.: 202-013-9	0.084 mg/L	① PNEC aquatic, freshwater
2,4,6-tris(dimethylaminomethyl)phenol CAS No.: 90-72-2 EC No.: 202-013-9	0.0084 mg/L	① PNEC aquatic, marine water

8.2. Exposure controls

8.2.1. Appropriate engineering controls

See section 7. No additional measures necessary.

8.2.2. Personal protection equipment

Eye/face protection:

Eye glasses with side protection
DIN-/EN-Norms EN 166

Skin protection:

Hand protection
By short-term hand contact: PVC (polyvinyl chloride)
By long-term hand contact:
Suitable material: NBR (Nitrile rubber), FKM (fluoro rubber)
Thickness of the glove material: ≥ 0,5 mm
Unsuitable material: Thick fabric., Chromate-free leather
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. Breakthrough times and swelling properties of the material must be taken into consideration. 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.
Tested protective gloves must be worn: EN ISO 374

Body protection:
Suitable protective clothing: Protective clothing

Respiratory protection:

Respiratory protection necessary at: insufficient ventilation
short-term: Recommended Filter type: A-P2
Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (DGUV 112-190).

8.2.3. Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: light yellow
flammability: Yes

Form: Liquid
Odour: characteristic

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	*No data available*		
Melting point	*No data available*		
Freezing point	*No data available*		
Initial boiling point and boiling range	200 °C		
Decomposition temperature	*not applicable*		
Flash point	100 °C		
Evaporation rate	*No data available*		
Auto-ignition temperature	*No data available*		
Upper/lower flammability or explosive limits	*not applicable*		
Vapour pressure	*No data available*		
Vapour density	*not applicable*		
Density	1.015 g/cm³	20 °C	
Relative density	*not applicable*		
Bulk density	*not applicable*		
Water solubility	Immiscible		
Partition coefficient: n-octanol/water	*not applicable*		
Dynamic viscosity	*No data available*		
Kinematic viscosity	*No data available*		

9.2. Other information
There is no additional information.

SECTION 10: Stability and reactivity

10.1. Reactivity
No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability
The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
reacts with:: Acid, concentrated, Alkali (lye), concentrated, Oxidising agent, strong

10.4. Conditions to avoid
There are no data available on the mixture itself.

10.5. Incompatible materials
Alkali (lye), concentrated
Oxidising agent, strong
Acid, concentrated

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

3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS No.: 2855-13-2 EC No.: 220-666-8
ATE (oral)[1]: 1,030 mg/kg
LD_{50} oral: 1,030 mg/kg (Rat)
LD_{50} dermal: 1,840 mg/kg (Rabbit)

benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9
ATE inhalativ Dämpfe: 24.8 mg/L
LD_{50} oral: 1,230 mg/L (Rat)
LD_{50} dermal: 2,000 mg/L (Rabbit)
LC_{50} Acute inhalation toxicity (vapour): 4,378 mg/L 4 h (Rat)
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols CAS No.: 61788-44-1 EC No.: 262-975-0
LD_{50} oral: >2,000 mg/L (Rat)
LD_{50} dermal: >2,000 mg/L (Rabbit)
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0
LD_{50} oral: 2,855 mg/L (Rat)
LD_{50} dermal: 2,980 mg/L (Rabbit)
Decanedioic acid, compds. w/ 1,3-benzenedimethanamine CAS No.: 260549-92-6
LD_{50} oral: >2,000 mg/kg (Rat)
LD_{50} dermal: >2,000 mg/kg (Rabbit)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS No.: 25513-64-8 EC No.: 247-063-2
LD_{50} oral: 910 mg/kg (Rat)
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0
LD_{50} oral: 2,140 mg/kg (Rat)
LD_{50} dermal: 866 mg/kg (Rabbit)
2,4,6-tris(dimethylaminomethyl)phenol CAS No.: 90-72-2 EC No.: 202-013-9
LD_{50} oral: 2,169 mg/kg (rat)
Alcohols, C9-11-branched CAS No.: 68551-08-6 EC No.: 271-360-6
LD_{50} oral: 500 mg/kg (Ratte)
Decanedioic acid, 1,10-bis(1,2,2,6,6- CAS No.: 1065336-91-5
LD_{50} oral: 3,230 mg/kg
LD_{50} dermal: >3,170 mg/kg

[1]: Acute Toxicity Estimate. Harmonised (legal) classification.

Acute oral toxicity:
Harmful if swallowed.

Acute dermal toxicity:
Based on available data, the classification criteria are not met.

Acute inhalation toxicity:
Based on available data, the classification criteria are not met.

Skin corrosion/irritation:
Causes severe burns.

Serious eye damage/irritation:
Causes serious eye damage.

Respiratory or skin sensitisation:
May cause an allergic skin reaction.

Germ cell mutagenicity:
Based on available data, the classification criteria are not met.

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

Reproductive toxicity:
Suspected of damaging fertility or the unborn child.

STOT-single exposure:
Based on available data, the classification criteria are not met.

STOT-repeated exposure:
May cause damage to organs through prolonged or repeated exposure.

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

11.2. Information on other hazards

Endocrine disrupting properties:

The mixture contains a substance due to endocrine disrupting properties (but without classification).

SECTION 12: Ecological information

12.1. Toxicity

3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS No.: 2855-13-2 EC No.: 220-666-8
LC_{50}: 110 mg/L 4 d (fish, Danio rerio (zebrafish))
LC_{50}: 110 mg/L 4 d (leuciscus idus)
LC_{50}: >15 mg/L
EC_{50}: 50 mg/L 3 d (Algae/water plant, Scenedesmus subspicatus)
EC_{50}: 23 mg/L 2 d (crustaceans, Daphnia magna (Big water flea))
EC_{50}: 23 mg/L (crustaceans, Daphnia magna)
ErC_{50}: >50 mg/L
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9
LC_{50}: 460 mg/L 4 d (fish, Pimephales promelas (fathead minnow))
LC_{50}: 360 mg/L 2 d (crustaceans, Daphnia magna (Big water flea)) OECD 202
EC_{50}: 230 mg/L 2 d (crustaceans, Daphnia magna)
EC_{50}: 770 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)
NOEC: 310 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201
EC_{50}: 230 mg/L
IC_{50}: 770 mg/L
LC_{50}: 460 mg/L
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols CAS No.: 61788-44-1 EC No.: 262-975-0
LC_{50}: 14.8 mg/L 4 d (fish)
EC_{50}: 3.14 mg/L 3 d (Algae/water plant)
EC_{50}: 1 – 10 mg/L 2 d (crustaceans)
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0
LC_{50}: 772.14 mg/L 4 d (fish, Cyprinodon variegatus) OECD Guideline 203 (Fish, Acute Toxicity Test)
EC_{50}: 2.1 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum))
EC_{50}: >15 mg/L 4 d (fish, Oncorhynchus mykiss (previous name: Salmo gairdneri))
EC_{50}: 80 mg/L 2 d (crustaceans, Daphnia magna)
NOEC: 0.32 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum))
NOEC: 15 mg/L 4 d (fish, Oncorhynchus mykiss (previous name: Salmo gairdneri))
NOEC: 18 mg/L 2 d (crustaceans, Daphnia magna)
IC_{50}: 141.72 mg/L 3 d (Algae/water plant, Skeletonema costatum) ISO 10253 (Water quality - Marine Algal Growth Inhibition Test with Skeletonema costatum and Phaeodactylum tricornutum)
LOEC: 1 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum))

Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl CAS No.: 68609-08-5 EC No.: 614-657-1
LC_{50}: 2.22 mg/L 2 d (fish, Danio rerio (previous name: Brachydanio rerio))
LC_{50}: 1.62 mg/L 3 d (fish, Danio rerio (previous name: Brachydanio rerio))
LC_{50}: 1.62 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio))
EC_{50}: 2.5 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum))
EC_{50}: 1.59 mg/L 2 d (crustaceans, Daphnia magna)
NOEC: 2.07 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum))
NOEC: 0.964 mg/L 1 d (fish, Danio rerio (previous name: Brachydanio rerio))
NOEC: 0.964 mg/L 2 d (fish, Danio rerio (previous name: Brachydanio rerio))
NOEC: 0.964 mg/L 3 d (fish, Danio rerio (previous name: Brachydanio rerio))
NOEC: 0.964 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio))
NOEC: 0.705 mg/L 2 d (crustaceans, Daphnia magna)
LOEC: 2.64 mg/L 1 d (fish, Danio rerio (previous name: Brachydanio rerio))
LOEC: 2.64 mg/L 2 d (fish, Danio rerio (previous name: Brachydanio rerio))
LOEC: 2.64 mg/L 3 d (fish, Danio rerio (previous name: Brachydanio rerio))
LOEC: 2.64 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio))
LOEC: 1.569 mg/L 2 d (crustaceans, Daphnia magna)
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS No.: 25513-64-8 EC No.: 247-063-2
LC_{50}: 174 mg/L 2 d (fish, Leuciscus idus)
EC_{50}: 43.5 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)
EC_{50}: 31.5 mg/L 1 d (crustaceans, Daphnia magna) other: DIN 38412 part 11
NOEC: 16 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)
NOEC: ≥10.9 mg/L 30 d (fish, Danio rerio (previous name: Brachydanio rerio)) OECD Guideline 210 (Fish, Early-Life Stage Toxicity Test)
NOEC: 1.02 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)
LOEC: 40 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)
LOEC: >10.9 mg/L 30 d (fish, Danio rerio (previous name: Brachydanio rerio)) OECD Guideline 210 (Fish, Early-Life Stage Toxicity Test)
LOEC: 1.02 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0
LC_{50}: 58 mg/L 2 d (crustaceans, Daphnia magna (Big water flea))
LC_{50}: 2,190 mg/L 4 d (fish, Pimephales promelas)
EC_{50}: >1,000 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)
EC_{50}: 58 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
NOEC: 1,030 mg/L 4 d (fish, Pimephales promelas)
NOEC: 10 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
EC_{50}: 58 mg/L 2 d (Daphnia Magna)
LC_{50}: 2,190 mg/L 4 d (Pimephales Promelas)
2,4,6-tris(dimethylaminomethyl)phenol CAS No.: 90-72-2 EC No.: 202-013-9
LC_{50}: >100 mg/L 4 d (fish, Cyprinus carpio) OECD Guideline 203 (Fish, Acute Toxicity Test)
EC_{50}: 25.5 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum))
EC_{50}: >100 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
NOEC: 1.13 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum))

Alcohols, C9-11-branched CAS No.: 68551-08-6 EC No.: 271-360-6
LC_{50}: 100 mg/L 4 d (fish)
EC_{50}: 100 mg/L 3 d (Algae/water plant)
NOEC: 10 mg/L (Algae/water plant)
Decanedioic acid, 1,10-bis(1,2,2,6,6- CAS No.: 1065336-91-5
LC_{50}: 0.9 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio)) OECD Guideline 203 (Fish, Acute Toxicity Test)
EC_{50}: 0.42 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)) OECD Guideline 201 (Alga, Growth Inhibition Test)
NOEC: 0.22 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)) OECD Guideline 201 (Alga, Growth Inhibition Test)
NOEC: 0.22 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio)) OECD Guideline 203 (Fish, Acute Toxicity Test)
NOEC: 1 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)
LOEC: 1.6 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)

Aquatic toxicity:
Harmful to aquatic life with long lasting effects.

Additional ecotoxicological information:
Do not allow uncontrolled discharge of product into the environment.

12.2. Persistence and degradability

benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9
Biodegradation: Yes, rapidly

Additional information:
The product has not been tested.

12.3. Bioaccumulative potential

3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS No.: 2855-13-2 EC No.: 220-666-8
Log K_{OW}: 1.9
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9
Log K_{OW}: 1.1
Bioconcentration factor (BCF): 1
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0
Log K_{OW}: 1.34
Decanedioic acid, compds. w/ 1,3-benzenedimethanamine CAS No.: 260549-92-6
Log K_{OW}: 1.3
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl CAS No.: 68609-08-5 EC No.: 614-657-1
Log K_{OW}: 2.36
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS No.: 25513-64-8 EC No.: 247-063-2
Log K_{OW}: 1.63
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0
Log K_{OW}: 2.9
Bioconcentration factor (BCF): ≤ 6.3 Species: Cyprinus carpio
Decanedioic acid, 1,10-bis(1,2,2,6,6- CAS No.: 1065336-91-5
Log K_{OW}: 2.8

Partition coefficient: n-octanol/water:
not applicable

Accumulation / Evaluation:
The product has not been tested.

12.4. Mobility in soil
The product has not been tested.

12.5. Results of PBT and vPvB assessment

3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS No.: 2855-13-2 EC No.: 220-666-8
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
benzyl alcohol CAS No.: 100-51-6 EC No.: 202-859-9
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Reaction mass of (1-phenylethyl)phenols and bis-(1-phenylethyl)phenols CAS No.: 61788-44-1 EC No.: 262-975-0
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Decanedioic acid, compds. w/ 1,3-benzenedimethanamine CAS No.: 260549-92-6
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl CAS No.: 68609-08-5 EC No.: 614-657-1
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS No.: 25513-64-8 EC No.: 247-063-2
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Phenol, 4,4'- (1-methylethylidene)bis-, polymer wit CAS No.: 111850-23-8
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
2,4,6-tris(dimethylaminomethyl)phenol CAS No.: 90-72-2 EC No.: 202-013-9
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Alcohols, C9-11-branched CAS No.: 68551-08-6 EC No.: 271-360-6
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Decanedioic acid, 1,10-bis(1,2,2,6,6- CAS No.: 1065336-91-5
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6. Endocrine disrupting properties
The mixture contains a substance due to endocrine disrupting properties (but without classification).

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV
Directive 2008/98/EC (Waste Framework Directive)

HP 6	Acute Toxicity
HP 8	Corrosive
HP 10	Toxic for reproduction
HP 13	Sensitising
HP 14	Ecotoxic

Waste treatment options
Appropriate disposal / Product:
Dispose of waste according to applicable legislation. Delivery to an approved waste disposal company.

Appropriate disposal / Package:
Handle contaminated packages in the same way as the substance itself.

Other disposal recommendations:
Delivery to an approved waste disposal company.

13.2. Additional information
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
UN 2735	UN 2735	UN 2735	UN 2735
14.2. UN proper shipping name			
AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, Polyoxypropylendiamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, Polyoxypropylendiamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, Polyoxypropylendiamine, Phenol, styrenated)	AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine, Polyoxypropylendiamine)
14.3. Transport hazard class(es)			
 8	 8	 8	 8
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
No	No	No	No
14.6. Special precautions for user			
Special Provisions: 274 **Limited quantity (LQ):** 5 L **Excepted Quantities (EQ):** E1 **Hazard identification number (Kemler No.):** 80 **Classification code:** C7 **Tunnel restriction code:** (E)	**Special Provisions:** 274 **Limited quantity (LQ):** 5 L **Excepted Quantities (EQ):** E1 **Classification code:** C7	**Special Provisions:** 223 | 274 **Limited quantity (LQ):** 5 L **Excepted Quantities (EQ):** E1 **EmS-No.:** F-A, S-B	**Special Provisions:** A3 **Limited quantity (LQ):** Y841 **Excepted Quantities (EQ):** E1

14.7. Maritime transport in bulk according to IMO instruments
No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU legislation
Other regulations (EU):
Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:
Volatile organic compound (VOC) content: 24 weight-%

15.1.2. National regulations

[DK] National regulations

Other regulations, restrictions and prohibition regulations

Lists of substances and processes that are considered to be carcinogenic
MAL-Code (Måleteknisk Arbejdshygiejnisk Luftbehov (Regulation for the labeling concerning inhalation hazards, Denmark): 5-5

15.2. Chemical Safety Assessment

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

SECTION 16: Other information

16.1. Indication of changes

not relevant

16.2. Abbreviations and acronyms

See overview table at www.euphrac.eu
GefStoffV: Hazardous Substances Ordinance (Ordinance on Hazardous Substances, Germany)
DNEL (Derived No Effect Level) - Exposure limit below which a substance should be added after the Knowledge of science does not lead to any impairment of human health
PNEC (predicted no effect concentration) - predicted concentration of one usually environmentally hazardous substance, to which no environmental impact
BOELV (EU) - EU occupational exposure limit values
IOELV (EU) - EU workplace exposure limits 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 Labeling of Chemicals
AGW: Occupational exposure limit
TRGS: Technical Guideline Hazardous Substances
MAK Value - Maximum Workplace Concentration TWA - Time Weighted Average
STEL - Short-term exposure limit Occupational exposure limit - Permitted Occupational exposure
STOT RE - Specific target organ toxicity (repeated exposure)
Acute Tox. - Acute toxicity
PBT - Substances that are persistent, bioaccumulating and toxic
vPvB - Substances that are very persistent and very bioaccumulative
ADR: Accord sur le transport des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant the transport of marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

16.3. Key literature references and sources for data

European Chemicals Agency (ECHA), ECHA CHEM Registered substances
OECD The Global Portal to Information on Chemical Substances (ChemPortal)
Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances
Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

Substance name	Type	source of supply
Polyoxypropylendiamine CAS No.: 9046-10-0 EC No.: 618-561-0	LC_{50}; EC_{50}; NOEC; IC_{50}; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl CAS No.: 68609-08-5 EC No.: 614-657-1	LC_{50}; EC_{50}; NOEC; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/

Substance name	Type	source of supply
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine CAS No.: 25513-64-8 EC No.: 247-063-2	LC_{50}; EC_{50}; NOEC; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/
2-piperazin-1-ylethylamine CAS No.: 140-31-8 EC No.: 205-411-0	LC_{50}; EC_{50}; NOEC	Source: European Chemicals Agency, http://echa.europa.eu/
2,4,6-tris(dimethylaminomethyl)phenol CAS No.: 90-72-2 EC No.: 202-013-9	LC_{50}; EC_{50}; NOEC	Source: European Chemicals Agency, http://echa.europa.eu/
Decanedioic acid, 1,10-bis(1,2,2,6,6- CAS No.: 1065336-91-5	LC_{50}; EC_{50}; NOEC; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	Calculation method.
Skin corrosion/irritation *(Skin Corr. 1B)*	H314: Causes severe skin burns and eye damage.	Calculation method.
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	Calculation method.
Serious eye damage/eye irritation *(Eye Dam. 1)*	H318: Causes serious eye damage.	Calculation method.
Reproductive toxicity *(Repr. 2)*	H361: Suspected of damaging fertility or the unborn child.	Calculation method.
STOT-repeated exposure *(STOT RE 2)*	H373: May cause damage to organs through prolonged or repeated exposure.	Calculation method.
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	Calculation method.

16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Hazard statements	
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.
H332	Harmful if inhaled.
H361	Suspected of damaging fertility or the unborn child.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.6. Training advice
No data available

16.7. Additional 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.

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