

Revision date 19/10/2023

Revision Number 0.23

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

Product Name	Epoxy Resin ER2188, Part B NEW FORMULATION
Product Code(s)	ER2188B, EER2188RP50G, EER2188RP50GF, EER2188RP100G, EER2188RP100GF, EER2188RP250G, EER2188RP500G, EER2188RP1000G, EER2188RP1000GF, EER2188K5K, EER2188K10K, EER2188K25K, EER2188BB5K, ZE
Safety data sheet number	03782
Unique Formula Identifier (UFI)	RNKX-M165-100A-RV16
Pure substance/mixture	Mixture

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

Recommended use	Hardener
Uses advised against	No specific uses advised against are identified

1.3. Details of the supplier of the safety data sheet

<u>Manufacturer</u>	<u>Supplier</u>
ELECTROLUBE MacDermid Alpha Electronics Solutions ASHBY PARK, COALFIELD WAY, ASHBY DE LA ZOUCH, LEICESTERSHIRE LE65 1JR UNITED KINGDOM	HK WENTWORTH LIMITED 32 RUE DE TOURNENFILS 91540 MENNECY FRANCE
+44 (0)1530 419600 +44 (0)1530 416640 info@electrolube.com	+33 (0) 1 82 88 47 94 info@electrolube.com

For further information, please contact**E-mail address** info@electrolube.com**1.4. Emergency telephone number**

Emergency Telephone	POISON INFORMATION CENTRE (Beaumont Hospital, Republic of Ireland only) +353 (0)1 809 2166 (08:00 - 22:00)
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Emergency Telephone - IN CASE OF EMERGENCY CALL: +44 1865 407333 (24hr, Provided by Carechem 24)**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

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

Acute toxicity - Oral	Category 4 - (H302)
Skin corrosion/irritation	Category 1 Sub-category B - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Skin sensitisation	Category 1 - (H317)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains 3-aminomethyl-3,5,5-trimethylcyclohexylamine, benzyl alcohol, Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia, m-phenylenebis(methylamine), Formaldehyde, oligomeric reaction products with phenol, 3-cyclohexylaminopropylamine



Signal word

Danger

Hazard statements

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - EU (§28, 1272/2008)

P260 - Do not breathe vapours/spray.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing and eye/face protection.
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.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
3-aminomethyl-3,5,5-trimethylcyclohexylamine 2855-13-2	30-60	01-2119514687-32-0000	220-666-8	Aquatic Chronic 3 (H412) Skin Corr. 1B (H314) Skin Sens. 1A (H317) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Eye Dam. 1 (H318)	Skin Sens. 1A :: C>=0.001%	-	-
benzyl alcohol 100-51-6	10-30	01-2119492630-38-0000	202-859-9	Acute Tox. 4 (H332) Acute Tox. 4 (H302)	-	-	-
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia 9046-10-0	5-10	No data available	618-561-0	Aquatic Chronic 3 (H412) Skin Corr. 1B (H314) Eye Dam. 1 (H318)	-	-	-
m-phenylenebis(methylamine) 1477-55-0	5-10	01-2119480150-50-0000	216-032-5	Aquatic Chronic 3 (H412) Skin Corr. 1B (H314) Acute Tox. 4 (H332) Acute Tox. 4 (H302) Skin Sens. 1B (H317) Eye Dam. 1 (H318)	-	-	-
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine) 57214-10-5	5-10	No data available	500-137-0	Aquatic Chronic 1 (H410) Aquatic Acute 1 (H400)	-	-	-
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	5-10	No data available	500-005-2	Skin Sens. 1 (H317) Eye Irrit. 2 (H319) STOT SE 3 (H335)	-	-	-
3-cyclohexylaminopropylamine 3312-60-5	1-5	01-2120817177-54-0000	222-001-7	Aquatic Chronic 3 (H412) Skin Corr. 1B (H314) Acute Tox. 3 (H311) Acute Tox. 3 (H301) Eye Dam. 1 (H318)	-	-	-
xylene 1330-20-7	0.1-1	01-2119488216-32-0000	215-535-7	Aquatic Chronic 3 (H412) Asp. Tox. 1 (H304) Flam. Liq. 3 (H226) Acute Tox. 4 (H332) STOT RE 2 (H373)	-	-	-

				Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) Acute Tox. 4 (H312) STOT SE 3 (H335)			
Ethylbenzene 100-41-4	<0.1	01-2119489370-35-00 00	202-849-4	Asp. Tox. 1 (H304) Acute Tox. 4 (H332) STOT RE 2 (H373) Flam. Liq. 2 (H225)	-	-	-
Toluene 108-88-3	<0.1	01-2119471310-51-00 00	203-625-9	Asp. Tox. 1 (H304) STOT RE 2 (H373) Repr. 2 (H361d) Skin Irrit. 2 (H315) STOT SE 3 (H336) Flam. Liq. 2 (H225)	-	-	-

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

Acute Toxicity Estimate

Chemical name	Oral LD50 mg/kg	Dermal LD50 mg/kg	Inhalation LC50 - 4 hour - dust/mist - mg/L	Inhalation LC50 - 4 hour - vapour - mg/L	Inhalation LC50 - 4 hour - gas - ppm
3-aminomethyl-3,5,5-trimethylcyclohexylamine 2855-13-2	1030 + 1030	2000	5.01 1.07	No data available	No data available
benzyl alcohol 100-51-6	1230	2000	4.178	No data available	No data available
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia 9046-10-0	242	2980	No data available	No data available	No data available
m-phenylenebis(methylamine) 1477-55-0	660	2000	1.38 1.16	No data available	No data available
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	5000	2000	No data available	No data available	No data available
3-cyclohexylaminopropylamine 3312-60-5	No data available	632	No data available	No data available	No data available
xylene 1330-20-7	3500	4350	No data available	No data available	No data available
Ethylbenzene 100-41-4	3500	15400	17.4	No data available	No data available
Toluene 108-88-3	2600	12000	12.5	No data available	No data available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention. May cause an allergic skin reaction.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing vapours or mists. Use personal protective equipment as required. See section 8 for more information.

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

Symptoms	Burning sensation. Itching. Rashes. Hives. Coughing and/ or wheezing. Difficulty in breathing.
Effects of Exposure	No information available.

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

Note to doctors	Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. May cause sensitisation in susceptible persons. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the
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surrounding environment.

Large Fire

CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours. Product is or contains a sensitiser. May cause sensitisation by skin contact.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid breathing vapours or mists.

Other information

Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections

See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with

skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash it before reuse. Avoid breathing vapours or mists.

General hygiene considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
benzyl alcohol 100-51-6	-	-	-	TWA: 5.0 mg/m ³	-
m-phenylenebis(methylamine) 1477-55-0	-	TWA: 0.1 mg/m ³ STEL 0.1 mg/m ³ Ceiling: 0.1 mg/m ³	STEL: 0.1 mg/m ³ D*	-	-
xylene 1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ *	TWA: 50 ppm TWA: 221 mg/m ³ STEL 100 ppm STEL 442 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ D*	STEL: 100 ppm STEL: 442 mg/m ³ TWA: 50 ppm TWA: 221.0 mg/m ³ K*	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ *
Ethylbenzene 100-41-4	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ *	TWA: 100 ppm TWA: 440 mg/m ³ STEL 200 ppm STEL 880 mg/m ³ H*	TWA: 20 ppm TWA: 87 mg/m ³ STEL: 125 ppm STEL: 551 mg/m ³ D*	STEL: 545 mg/m ³ TWA: 435 mg/m ³ K*	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ *
Toluene 108-88-3	TWA: 50 ppm TWA: 192 mg/m ³ *	TWA: 50 ppm TWA: 190 mg/m ³ STEL 100 ppm STEL 380 mg/m ³ H*	TWA: 20 ppm TWA: 77 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ D*	STEL: 100 ppm STEL: 384.0 mg/m ³ TWA: 50 ppm TWA: 192.0 mg/m ³ K*	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ *
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland

benzyl alcohol 100-51-6	-	TWA: 40 mg/m ³ Ceiling: 80 mg/m ³	-	-	TWA: 10 ppm TWA: 45 mg/m ³
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	-	TWA: 5.0 mg/m ³	-	-	-
m-phenylenebis(methyla mine) 1477-55-0	-	-	Ceiling: 0.02 ppm Ceiling: 0.1 mg/m ³ H*	-	Ceiling: 0.1 mg/m ³ iho*
xylene 1330-20-7	* STEL: 100 ppm STEL: 442 mg/m ³ TWA: 50 ppm TWA: 221 mg/m ³	TWA: 200 mg/m ³ Ceiling: 400 mg/m ³ D*	TWA: 25 ppm TWA: 109 mg/m ³ H* STEL: 442 mg/m ³ STEL: 100 ppm	TWA: 50 ppm TWA: 200 mg/m ³ STEL: 100 ppm STEL: 450 mg/m ³ A*	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 100 ppm STEL: 440 mg/m ³ iho*
Ethylbenzene 100-41-4	* STEL: 200 ppm STEL: 884 mg/m ³ TWA: 100 ppm TWA: 442 mg/m ³	TWA: 200 mg/m ³ Ceiling: 500 mg/m ³ D*	TWA: 50 ppm TWA: 217 mg/m ³ H* STEL: 434 mg/m ³ STEL: 100 ppm	S+ TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ A*	TWA: 50 ppm TWA: 220 mg/m ³ STEL: 200 ppm STEL: 880 mg/m ³ iho*
Toluene 108-88-3	* STEL: 100 ppm STEL: 384 mg/m ³ TWA: 50 ppm TWA: 192 mg/m ³	TWA: 200 mg/m ³ Ceiling: 500 mg/m ³ D*	TWA: 25 ppm TWA: 94 mg/m ³ H* STEL: 384 mg/m ³ STEL: 100 ppm	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ A*	TWA: 25 ppm TWA: 81 mg/m ³ STEL: 100 ppm STEL: 380 mg/m ³ iho*
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
3-aminomethyl-3,5,5-trim ethylcyclohexylamine 2855-13-2	-	-	skin sensitizer	-	-
benzyl alcohol 100-51-6	-	TWA: 5 ppm TWA: 22 mg/m ³ H*	TWA: 22 mg/m ³ TWA: 5 ppm Peak: 44 mg/m ³ Peak: 10 ppm *	-	-
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	-	TWA: 1.25 mg/m ³ TWA: 10 mg/m ³ Skin sensitizer	skin sensitizer	-	-
m-phenylenebis(methyla mine) 1477-55-0	STEL: 0.1 mg/m ³	-	skin sensitizer	-	-
xylene 1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ *	TWA: 50 ppm TWA: 220 mg/m ³ H*	TWA: 50 ppm TWA: 220 mg/m ³ Peak: 100 ppm Peak: 440 mg/m ³ *	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 150 ppm STEL: 650 mg/m ³ *	TWA: 221 mg/m ³ TWA: 50 ppm STEL: 442 mg/m ³ STEL: 100 ppm b*
Ethylbenzene 100-41-4	TWA: 20 ppm TWA: 88.4 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ *	TWA: 20 ppm TWA: 88 mg/m ³ H*	TWA: 20 ppm TWA: 88 mg/m ³ Peak: 40 ppm Peak: 176 mg/m ³ *	TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm STEL: 545 mg/m ³	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ b*
Toluene 108-88-3	TWA: 20 ppm TWA: 76.8 mg/m ³	TWA: 50 ppm TWA: 190 mg/m ³	TWA: 50 ppm TWA: 190 mg/m ³	TWA: 50 ppm TWA: 192 mg/m ³	TWA: 190 mg/m ³ TWA: 50 ppm

	STEL: 100 ppm STEL: 384 mg/m ³ *	H*	Peak: 100 ppm Peak: 380 mg/m ³ *	STEL: 100 ppm STEL: 384 mg/m ³ *	STEL: 384 mg/m ³ STEL: 100 ppm b*
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
benzyl alcohol 100-51-6	-	-	-	TWA: 5 mg/m ³	TWA: 5 mg/m ³ O*
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	-	-	-	-	TWA: 3 mg/m ³
m-phenylenebis(methyla mine) 1477-55-0	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	-	cute* Ceiling: 0.018 ppm	-	-
xylene 1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ Sk*	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ cute*	TWA: 100 ppm TWA: 434 mg/m ³ STEL: 150 ppm STEL: 651 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ Ada*	STEL: 442 mg/m ³ STEL: 100 ppm TWA: 221 mg/m ³ TWA: 50 ppm O*
Ethylbenzene 100-41-4	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ Sk*	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ cute*	TWA: 20 ppm TWA: 87 mg/m ³	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ Ada*	STEL: 200 ppm STEL: 884 mg/m ³ TWA: 100 ppm TWA: 442 mg/m ³ O*
Toluene 108-88-3	TWA: 192 mg/m ³ TWA: 50 ppm STEL: 384 mg/m ³ STEL: 100 ppm Sk*	TWA: 50 ppm TWA: 192 mg/m ³ cute*	TWA: 20 ppm TWA: 75.4 mg/m ³	TWA: 14 ppm TWA: 50 mg/m ³ STEL: 40 ppm STEL: 150 mg/m ³ Ada*	STEL: 100 ppm STEL: 384 mg/m ³ TWA: 50 ppm TWA: 192 mg/m ³ O*
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
benzyl alcohol 100-51-6	-	-	-	-	TWA: 240 mg/m ³
m-phenylenebis(methyla mine) 1477-55-0	-	-	-	Ceiling: 0.1 mg/m ³	-
xylene 1330-20-7	STEL: 100 ppm STEL: 442 mg/m ³ TWA: 50 ppm TWA: 221 mg/m ³ Peau*	STEL: 100 ppm STEL: 442 mg/m ³ skin* TWA: 50 ppm TWA: 221 mg/m ³	TWA: 47.5 ppm TWA: 210 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ H*	TWA: 25 ppm TWA: 108 mg/m ³ STEL: 37.5 ppm STEL: 135 mg/m ³ H*	STEL: 200 mg/m ³ TWA: 100 mg/m ³ skóra*
Ethylbenzene 100-41-4	STEL: 200 ppm STEL: 884 mg/m ³ TWA: 100 ppm TWA: 442 mg/m ³ Peau*	STEL: 200 ppm STEL: 884 mg/m ³ skin* TWA: 100 ppm TWA: 442 mg/m ³	TWA: 48.6 ppm TWA: 215 mg/m ³ STEL: 97.3 ppm STEL: 430 mg/m ³ H*	TWA: 5 ppm TWA: 20 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³ H*	STEL: 400 mg/m ³ TWA: 200 mg/m ³ skóra*
Toluene 108-88-3	STEL: 100 ppm STEL: 384 mg/m ³ TWA: 50 ppm TWA: 192 mg/m ³ Peau*	STEL: 100 ppm STEL: 384 mg/m ³ skin* TWA: 50 ppm TWA: 192 mg/m ³	TWA: 39 ppm TWA: 150 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³	TWA: 25 ppm TWA: 94 mg/m ³ STEL: 37.5 ppm STEL: 141 mg/m ³ H*	STEL: 200 mg/m ³ TWA: 100 mg/m ³ skóra*
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
benzyl alcohol 100-51-6	-	-	-	TWA: 22 mg/m ³ TWA: 5 ppm	-

				STEL: 10 ppm STEL: 44 mg/m ³ K*	
m-phenylenebis(methylamine) 1477-55-0	Ceiling: 0.1 mg/m ³ Cutânea*	-	-	-	-
xylene 1330-20-7	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ Cutânea*	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ P*	TWA: 50 ppm TWA: 221 mg/m ³ K* Ceiling: 442 mg/m ³	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ K*	TWA: 50 ppm TWA: 221 mg/m ³ STEL: 100 ppm STEL: 442 mg/m ³ vía dérmica*
Ethylbenzene 100-41-4	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ Cutânea*	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ P*	TWA: 100 ppm TWA: 442 mg/m ³ K* Ceiling: 884 mg/m ³	TWA: 100 ppm TWA: 442 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ K*	TWA: 100 ppm TWA: 441 mg/m ³ STEL: 200 ppm STEL: 884 mg/m ³ vía dérmica*
Dimethyl Siloxane 63148-62-9	-	TWA: 200 mg/m ³ STEL: 300 mg/m ³ P*	-	-	-
Toluene 108-88-3	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ Cutânea*	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ P*	TWA: 50 ppm TWA: 192 mg/m ³ K* Ceiling: 384 mg/m ³	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ K*	TWA: 50 ppm TWA: 192 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ vía dérmica*
Chemical name	Sweden		Switzerland		United Kingdom
benzyl alcohol 100-51-6	-		TWA: 5 ppm TWA: 22 mg/m ³ H*		-
m-phenylenebis(methylamine) 1477-55-0	-		S+ TWA: 0.1 mg/m ³ H*		-
xylene 1330-20-7	Bindande KGV: 100 ppm Bindande KGV: 442 mg/m ³ NGV: 50 ppm NGV: 221 mg/m ³ H*		TWA: 50 ppm TWA: 220 mg/m ³ STEL: 100 ppm STEL: 440 mg/m ³ H*		TWA: 50 ppm TWA: 220 mg/m ³ STEL: 100 ppm STEL: 441 mg/m ³ Sk*
Ethylbenzene 100-41-4	Bindande KGV: 200 ppm Bindande KGV: 884 mg/m ³ NGV: 50 ppm NGV: 220 mg/m ³ H*		TWA: 50 ppm TWA: 220 mg/m ³ STEL: 50 ppm STEL: 220 mg/m ³ H*		TWA: 100 ppm TWA: 441 mg/m ³ STEL: 125 ppm STEL: 552 mg/m ³ Sk*
Toluene 108-88-3	Bindande KGV: 100 ppm Bindande KGV: 384 mg/m ³ NGV: 50 ppm NGV: 192 mg/m ³ H*		TWA: 50 ppm TWA: 190 mg/m ³ STEL: 200 ppm STEL: 760 mg/m ³ H*		TWA: 50 ppm TWA: 191 mg/m ³ STEL: 100 ppm STEL: 384 mg/m ³ Sk*

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Chemical name	European Union	Austria	Bulgaria	Croatia	Czech Republic
xylene	-	1.5 g/L (urine -	-	1.50 mg/L - blood	820 µmol/mmol

1330-20-7		Methylhippuric acid after end of work day, at the end of a work week/end of the shift)		(Xylene) - at the end of the work shift 1.50 g/g Creatinine - urine (Methylhippuric acid) - at the end of the work shift	Creatinine (urine - Methylhippuric acid end of shift) 1400 mg/g Creatinine (urine - Methylhippuric acid end of shift)
Ethylbenzene 100-41-4	-	-	2000 mg/g Creatinine - urine (Mandelic acid and Phenylglyoxylic acid - total) - at the end of exposure or end of work shift	1.50 mg/L - blood (Ethylbenzene) - during exposure 1.50 g/g Creatinine - urine (Mandelic acid) - at the end of the work shift and at the end of the working week	1100 µmol/mmol Creatinine (urine - Mandelic acid end of shift) 1500 mg/g Creatinine (urine - Mandelic acid end of shift)
Toluene 108-88-3	-	10 g/dL Hemoglobin (blood - by the first screening and once yearly) 12 g/dL Hemoglobin (blood - by the first screening and once yearly) 3.2 million/µL Erythrocytes (blood - by the first screening and once yearly) 3.8 million/µL Erythrocytes (blood - by the first screening and once yearly) 4000 Leukocytes/µL (blood - by the first screening and once yearly) 13000 Leukocytes/µL (blood - by the first screening and once yearly) 130000 Thrombocytes/µL (blood - by the first screening and once yearly) 150000 Thrombocytes/µL (blood - by the first screening and once yearly) 0.8 mg/L (urine - o-Cresol after end of	1.6 mmol/mmol Creatinine - urine (Hippuric acid) - at the end of exposure or end of work shift	1.0 mg/L - blood (Toluene) - at the end of the work shift 20 ppm - final exhaled air (Toluene) - during exposure 2.50 g/g Creatinine - urine (Hippuric acid) - at the end of the work shift 1.0 mg/g Creatinine - urine (o-Cresol) - at the end of the work shift	1.6 µmol/mmol Creatinine (urine - o-Cresol end of shift) 1000 µmol/mmol Creatinine (urine - Hippuric acid end of shift) 1.5 mg/g Creatinine (urine - o-Cresol end of shift) 1600 mg/g Creatinine (urine - Hippuric acid end of shift)

		work day, at the end of a work week/end of the shift)			
Chemical name	Denmark	Finland	France	Germany DFG	Germany TRGS
xylene 1330-20-7	-	5.0 mmol/L (urine - Methylhippuric acid after the shift)	1500 mg/g creatinine - urine (Methylhippuric acid) - end of shift	2000 mg/L (urine - Methylhippuric(tolur-)acid (all isomers) end of shift) 2000 mg/L - BAT (end of exposure or end of shift) urine	2000 mg/L (urine - Methylhippuric(tolur-)acid (all isomers) end of shift)
Ethylbenzene 100-41-4	-	5.2 mmol/L (urine - Mandelic acid after the shift after a working week or exposure period)	1500 mg/g creatinine - urine (Mandelic acid) - end of shift at end of workweek	250 mg/g Creatinine (urine - Mandelic acid plus Phenylglyoxylic acid end of shift) 250 mg/g Creatinine - BAT (end of exposure or end of shift) urine 130 mg/g Creatinine - (end of exposure or end of shift) - urine 250 mg/g Creatinine - (end of exposure or end of shift) - urine 330 mg/g Creatinine - (end of exposure or end of shift) - urine 670 mg/g Creatinine - (end of exposure or end of shift) - urine 1300 mg/g Creatinine - (end of exposure or end of shift) - urine	250 mg/g Creatinine (urine - Mandelic acid plus Phenylglyoxylic acid end of shift)
Toluene 108-88-3	-	500 nmol/L (blood - Toluene in the morning after a working day)	1 mg/L - venous blood (Toluene) - end of shift 2500 mg/g creatinine - urine (Hippuric acid) - end of shift	600 µg/L (whole blood - Toluene immediately after exposure) 75 µg/L (urine - Toluene end of shift) 1.5 mg/L (urine - o-Cresol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts)	600 µg/L (whole blood - Toluene immediately after exposure) 75 µg/L (urine - Toluene end of shift) 1.5 mg/L (urine - o-Cresol (after hydrolysis) for long-term exposures: at the end of the shift after several shifts)

				1.5 mg/L (urine - o-Cresol (after hydrolysis) end of shift) 600 µg/L - BAT (immediately after exposure) blood 75 µg/L - BAT (end of exposure or end of shift) urine 1.5 mg/L - BAT (for long-term exposures: at the end of the shift after several shifts) urine 1.5 mg/L - BAT (end of exposure or end of shift) urine	1.5 mg/L (urine - o-Cresol (after hydrolysis) end of shift)
Chemical name	Hungary	Ireland	Italy MDLPS	Italy AIDII	
xylene 1330-20-7	1500 mg/g Creatinine (urine - Methyl hippuric acid end of shift) 860 µmol/mmol Creatinine (urine - Methyl hippuric acid end of shift)	1.5 g/g Creatinine (urine - Methylhippuric acids end of shift)	-	1.5 g/g Creatinine - urine (Methylhippuric acid) - end of shift	
Ethylbenzene 100-41-4	1500 mg/g Creatinine (urine - Mandelic acid at end of workweek, end of shift) 1110 µmol/mmol Creatinine (urine - Mandelic acid at end of workweek, end of shift)	0.7 g/g Creatinine (urine - sum of Mandelic acid and Phenylglyoxylic acid end of shift at end of workweek) 0.7 g (end-exhaled air - not critical)	-	0.15 g/g Creatinine - urine (Sum of Mandelic acid and Phenylglyoxylic acid) - end of shift at end of workweek	
Toluene 108-88-3	1 mg/g Creatinine (urine - o-Cresol end of shift) 1 µmol/mmol Creatinine (urine - o-Cresol end of shift)	0.02 mg/L (blood - Toluene prior to last shift of workweek) 0.03 mg/L (urine - Toluene end of shift) 0.3 mg/g Creatinine (urine - o-Cresol end of shift)	-	0.3 mg/g Creatinine - urine (o-Cresol (with hydrolysis)) - end of shift 0.03 mg/L - urine (Toluene) - end of shift 0.02 mg/L - blood (Toluene) - prior to last shift of workweek	
Chemical name	Latvia	Luxembourg	Romania	Slovakia	
xylene 1330-20-7	-	-	3 g/L - urine (Methylhippuric acid) - end of shift	1.5 mg/L (blood - Xylene end of exposure or work shift) 2000 mg/L (urine - Methylhippuric acid end of exposure or work shift)	
Ethylbenzene 100-41-4	-	-	1.5 g/g Creatinine - urine (Mandelic acid) - end of work week	12 mg/L (urine - 2 and 4-Ethylphenol end of exposure or work shift) 1600 mg/L (urine - Mandelic acid and	

				Phenylglycolic acid end of exposure or work shift)
Toluene 108-88-3	1.6 g/g Creatinine - urine (Hippuric acid) - end of shift 0.05 mg/L - blood (Toluene) - end of shift	-	2 g/L - urine (Hippuric acid) - end of shift 3 mg/L - urine (o-Cresol) - end of shift	600 µg/L (blood - Toluene end of exposure or work shift) 1.5 mg/L (urine - o-Cresol after all work shifts) 1.5 mg/L (urine - o-Cresol end of exposure or work shift) 1600 mg/g creatinine (- Hippuric acid end of exposure or work shift)
Chemical name	Slovenia	Spain	Switzerland	United Kingdom
xylene 1330-20-7	2 g/L - urine (Methylhippuric acid (all isomers)) - at the end of the work shift	1 g/g Creatinine (urine - Methylhippuric acids end of shift)	2 g/L (urine - Methylhippuric acid end of shift)	650 mmol/mol creatinine - urine (Methyl hippuric acid) - post shift
Ethylbenzene 100-41-4	250 mg/g Creatinine - urine (Mandelic acid and Phenylglyoxylic acid) - at the end of the work shift	700 mg/g Creatinine (urine - Mandelic acid plus Phenylglyoxylic acid end of workweek)	600 mg/g creatinine (urine - Mandelic acid and Phenylglyoxylic acid end of shift)	-
Toluene 108-88-3	600 µg/L - blood (Toluene) - immediately after exposure 1.5 mg/L - urine (o-Cresol (after hydrolysis)) - at the end of the work shift; for long-term exposure: at the end of the work shift after several consecutive workdays 75 µg/L - urine (Toluene) - at the end of the work shift	0.6 mg/L (urine - o-Cresol end of shift) 0.05 mg/L (blood - Toluene start of last shift of workweek) 0.08 mg/L (urine - Toluene end of shift)	600 µg/L (whole blood - Toluene end of shift) 6.48 µmol/L (whole blood - Toluene end of shift) 2 g/g creatinine (urine - Hippuric acid end of shift, and after several shifts (for long-term exposures)) 1.26 mmol/mmol creatinine (urine - Hippuric acid end of shift, and after several shifts (for long-term exposures)) 0.5 mg/L (urine - o-Cresol end of shift, and after several shifts (for long-term exposures)) 4.62 µmol/L (urine - o-Cresol end of shift, and after several shifts (for long-term exposures)) 75 µg/L (urine - Toluol end of shift)	-

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
3-aminomethyl-3,5,5-trimethylcyclohexylamine 2855-13-2	-	-	0.073 mg/m ³ [5] [6] 0.073 mg/m ³ [5] [7]

Chemical name	Oral	Dermal	Inhalation
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	-	28 mg/kg bw/day [4] [6]	98.7 mg/m ³ [4] [6]
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia 9046-10-0	-	2.5 mg/kg bw/day [4] [6]	1.36 mg/m ³ [4] [6]
m-phenylenebis(methylamine) 1477-55-0	-	0.33 mg/kg bw/day [4] [6]	1.2 mg/m ³ [4] [6] 0.2 mg/m ³ [5] [6]
xylene 1330-20-7	-	212 mg/kg bw/day [4] [6]	221 mg/m ³ [4] [6] 442 mg/m ³ [4] [7] 221 mg/m ³ [5] [6] 442 mg/m ³ [5] [7]
Ethylbenzene 100-41-4	-	180 mg/kg bw/day [4] [6]	77 mg/m ³ [4] [6] 293 mg/m ³ [5] [7]
Toluene 108-88-3	-	384 mg/kg bw/day [4] [6]	192 mg/m ³ [4] [6] 384 mg/m ³ [4] [7] 192 mg/m ³ [5] [6] 384 mg/m ³ [5] [7]

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
3-aminomethyl-3,5,5-trimethylcyclohexylamine 2855-13-2	0.526 mg/kg bw/day [4] [6]	-	-
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	10 mg/kg bw/day [4] [6]	-	14.8 mg/m ³ [4] [6]
xylene 1330-20-7	12.5 mg/kg bw/day [4] [6]	-	65.3 mg/m ³ [4] [6] 260 mg/m ³ [4] [7] 65.3 mg/m ³ [5] [6] 260 mg/m ³ [5] [7]
Ethylbenzene 100-41-4	1.6 mg/kg bw/day [4] [6]	-	15 mg/m ³ [4] [6]
Toluene 108-88-3	8.13 mg/kg bw/day [4] [6]	-	56.5 mg/m ³ [4] [6] 226 mg/m ³ [4] [7] 56.5 mg/m ³ [5] [6] 226 mg/m ³ [5] [7]

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
3-aminomethyl-3,5,5-trimethylcyclohexylamine 2855-13-2	0.06 mg/L	0.23 mg/L	0.006 mg/L	-	-

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	0.172 mg/L	1.72 mg/L	17.2 µg/L	0.172 mg/L	-
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia 9046-10-0	0.015 mg/L	0.15 mg/L	0.0142 mg/L	-	-
m-phenylenebis(methylami ne) 1477-55-0	0.094 mg/L	0.152 mg/L	0.0094 mg/L	-	-
xylene 1330-20-7	0.327 mg/L	0.327 mg/L	0.327 mg/L	-	-
Toluene 108-88-3	0.68 mg/L	0.68 mg/L	0.68 mg/L	-	-

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
3-aminomethyl-3,5,5-trimet hylcyclohexylamine 2855-13-2	5.784 mg/kg sediment dw	0.578 mg/kg sediment dw	3.18 mg/L	1.121 mg/kg soil dw	-
Formaldehyde, oligomeric reaction products with phenol 9003-35-4	0.647 mg/kg sediment dw	64.7 µg/kg sediment dw	-	28.4 µg/kg soil dw	-
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia 9046-10-0	0.132 mg/kg sediment dw	0.125 mg/kg sediment dw	7.5 mg/L	0.0176 mg/kg soil dw	6.93 mg/kg food
m-phenylenebis(methylami ne) 1477-55-0	12.4 mg/kg sediment dw	1.24 mg/kg sediment dw	10 mg/L	2.44 mg/kg soil dw	-
xylene 1330-20-7	12.46 mg/kg sediment dw	12.46 mg/kg sediment dw	6.58 mg/L	2.31 mg/kg soil dw	-
Toluene 108-88-3	16.39 mg/kg sediment dw	16.39 mg/kg sediment dw	13.61 mg/L	2.89 mg/kg soil dw	-

8.2. Exposure controls

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

Hand protection	Wear suitable gloves. Impervious gloves.
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	Light amber
Odour	No information available.
Odour threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point	No data available	None known
Initial boiling point and boiling range	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature		None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	200 mPa s @ 23°C	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapour pressure	No data available	None known
Relative density	No data available	None known
Bulk density	0.92 kg/l	
Liquid Density	No data available	
Relative vapour density	No data available	None known
Particle characteristics		

Particle Size	No information available
Particle Size Distribution	No information available

9.2. Other information

9.2.1. Information with regards to physical hazard classes

Explosive properties	Not considered to be explosive.
Oxidising properties	Does not meet the criteria for classification as oxidizing.

9.2.2. Other safety characteristics

No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No information available.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	None under normal processing.
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10.4. Conditions to avoid

Conditions to avoid	Exposure to air or moisture over prolonged periods. Excessive heat.
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10.5. Incompatible materials

Incompatible materials	Acids. Bases. Oxidising agent.
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10.6. Hazardous decomposition products

Hazardous decomposition products	None known based on information supplied.
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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Corrosive by inhalation.
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(based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Harmful by inhalation.

Eye contact

Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

Skin contact

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns. May cause sensitisation by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Ingestion

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

Redness. Burning. May cause blindness. Coughing and/ or wheezing. Itching. Rashes. Hives.

Acute toxicity

Numerical measures of toxicity

No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	731.50 mg/kg
ATEmix (dermal)	2,130.50 mg/kg
ATEmix (inhalation-gas)	4,623.10 ppm
ATEmix (inhalation-vapour)	11.30 mg/l
ATEmix (inhalation-dust/mist)	2.80 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
3-aminomethyl-3,5,5-trimethylcy clohexylamine	= 1030 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 5.01 mg/L (Rat) 4 h 1.07 - 5.01 mg/L (Rat) 4 h
benzyl alcohol	= 1230 mg/kg (Rat)	= 2 g/kg (Rabbit)	> 4178 mg/m ³ (Rat) 4 h
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	= 242 mg/kg (Rat)	= 2980 mg/kg (Rabbit)	> 0.74 mg/L (Rat) 8 h
m-phenylenebis(methylamine)	= 660 mg/kg (Rat)	= 2 g/kg (Rabbit)	= 1.38 mg/L (Rat) 4 h = 1.16 mg/L (Rat) 4 h
Formaldehyde, oligomeric reaction products with phenol	> 5 g/kg (Rat)	> 2000 mg/kg (Rat)	-
3-cyclohexylaminopropylamine	-	632 - 2000 mg/kg (Rabbit)	> 7.5 mg/L (Rat) 1 h
xylene	= 3500 mg/kg (Rat)	> 4350 mg/kg (Rabbit)	= 29.08 mg/L (Rat) 4 h

Ethylbenzene	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.4 mg/L (Rat) 4 h
Toluene	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Classification based on data available for ingredients. Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Classification based on data available for ingredients. Causes serious eye damage. Causes burns.
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	Based on available data, the classification criteria are not met.

Chemical name	European Union
Toluene	Repr. 2

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

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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11.2.2. Other information

Other adverse effects	No information available.
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SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
3-aminomethyl-3,5,5-trimethylcyclohexylamine	EC50: =37mg/L (72h, <i>Desmodesmus subspicatus</i>)	-	-	EC50: 14.6 - 21.5mg/L (48h, <i>Daphnia magna</i>)
benzyl alcohol	-	LC50: =460mg/L (96h, <i>Pimephales promelas</i>) LC50: =10mg/L (96h, <i>Lepomis macrochirus</i>)	-	EC50: =23mg/L (48h, water flea)
m-phenylenebis(methylamine)	-	LC50: =87.6mg/L (96h, <i>Oryzias latipes</i>)	-	-
Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)	-	LC50: =25.9mg/L (96h, <i>Oncorhynchus mykiss</i>)	-	-
xylene	EC50: =11mg/L (72h, <i>Pseudokirchneriella subcapitata</i>)	LC50: =13.4mg/L (96h, <i>Pimephales promelas</i>) LC50: 2.661 - 4.093mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 13.5 - 17.3mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 13.1 - 16.5mg/L (96h, <i>Lepomis macrochirus</i>) LC50: =19mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 7.711 - 9.591mg/L (96h, <i>Lepomis macrochirus</i>) LC50: 23.53 - 29.97mg/L (96h, <i>Pimephales promelas</i>) LC50: =780mg/L (96h, <i>Cyprinus carpio</i>) LC50: >780mg/L (96h, <i>Cyprinus carpio</i>) LC50: 30.26 - 40.75mg/L (96h, <i>Poecilia reticulata</i>)	-	EC50: =3.82mg/L (48h, water flea) LC50: =0.6mg/L (48h, <i>Gammarus lacustris</i>)
Ethylbenzene	EC50: =4.6mg/L (72h, <i>Pseudokirchneriella subcapitata</i>) EC50: >438mg/L (96h, <i>Pseudokirchneriella subcapitata</i>)	LC50: 11.0 - 18.0mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: =4.2mg/L (96h, <i>Oncorhynchus mykiss</i>) LC50: 7.55 - 11mg/L (96h,	-	EC50: 1.8 - 2.4mg/L (48h, <i>Daphnia magna</i>)

	EC50: 2.6 - 11.3mg/L (72h, Pseudokirchneriella subcapitata) EC50: 1.7 - 7.6mg/L (96h, Pseudokirchneriella subcapitata)	Pimephales promelas) LC50: =32mg/L (96h, Lepomis macrochirus) LC50: 9.1 - 15.6mg/L (96h, Pimephales promelas) LC50: =9.6mg/L (96h, Poecilia reticulata)		
Toluene	EC50: >433mg/L (96h, Pseudokirchneriella subcapitata) EC50: =12.5mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 15.22 - 19.05mg/L (96h, Pimephales promelas) LC50: =12.6mg/L (96h, Pimephales promelas) LC50: 5.89 - 7.81mg/L (96h, Oncorhynchus mykiss) LC50: 14.1 - 17.16mg/L (96h, Oncorhynchus mykiss) LC50: =5.8mg/L (96h, Oncorhynchus mykiss) LC50: 11.0 - 15.0mg/L (96h, Lepomis macrochirus) LC50: =54mg/L (96h, Oryzias latipes) LC50: =28.2mg/L (96h, Poecilia reticulata) LC50: 50.87 - 70.34mg/L (96h, Poecilia reticulata)	-	EC50: 5.46 - 9.83mg/L (48h, Daphnia magna) EC50: =11.5mg/L (48h, Daphnia magna)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
3-aminomethyl-3,5,5-trimethylcyclohexylamine	0.99
benzyl alcohol	1.05
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	1.34
m-phenylenebis(methylamine)	0.18
Formaldehyde, oligomeric reaction products with phenol	3.564
3-cyclohexylaminopropylamine	0.73
xylene	3.15
Ethylbenzene	3.6
Toluene	2.73

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB above the threshold of declaration.

Chemical name	PBT and vPvB assessment
3-aminomethyl-3,5,5-trimethylcyclohexylamine	The substance is not PBT / vPvB
benzyl alcohol	The substance is not PBT / vPvB
Reaction products of di-, tri- and tetra-propoxylated propane-1,2-diol with ammonia	The substance is not PBT / vPvB
m-phenylenebis(methylamine)	The substance is not PBT / vPvB
Formaldehyde, oligomeric reaction products with phenol	The substance is not PBT / vPvB
xylene	The substance is not PBT / vPvB
Ethylbenzene	The substance is not PBT / vPvB
Toluene	The substance is not PBT / vPvB

12.6. Endocrine disrupting properties

Endocrine disrupting properties The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number UN1760
14.2 UN proper shipping name Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3 Transport hazard class(es) 8
14.4 Packing group II
Description UN1760, Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8, II
14.5 Environmental hazards Yes
14.6 Special precautions for user
Special Provisions A3, A803
ERG Code 8L

IMDG

14.1 UN number or ID number	UN1760
14.2 UN proper shipping name	Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3 Transport hazard class(es)	8
14.4 Packing group	II
Description	UN1760, Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8, II, Marine pollutant
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	274
EmS-No	F-A, S-B
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	UN1760
14.2 UN proper shipping name	Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3 Transport hazard class(es)	8
14.4 Packing group	II
Description	UN1760, Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8, II, Environmentally Hazardous
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	274
Classification code	C9

ADR

14.1 UN number or ID number	UN1760
14.2 UN proper shipping name	Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine)
14.3 Transport hazard class(es)	8
14.4 Packing group	II
Description	UN1760, Corrosive liquid, n.o.s. (3-aminomethyl-3,5,5-trimethylcyclohexylamine), 8, II, (E), Environmentally Hazardous
14.5 Environmental hazards	Yes
14.6 Special precautions for user	
Special Provisions	274
Classification code	C9
Tunnel restriction code	(E)

SECTION 15: Regulatory information

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

Chemical name	French RG number
3-aminomethyl-3,5,5-trimethylcyclohexylamine - 2855-13-2	RG 49, RG 49bis, RG 66
benzyl alcohol - 100-51-6	RG 84
Formaldehyde, oligomeric reaction products with phenol - 9003-35-4	RG 43
xylene - 1330-20-7	RG 4bis, RG 84
Ethylbenzene - 100-41-4	RG 84
Toluene - 108-88-3	RG 4bis, RG 84

ER2188B, EER2188RP50G, EER2188RP50GF,
EER2188RP100G, EER2188RP100GF,
EER2188RP250G, EER2188RP500G,
EER2188RP1000G, EER2188RP1000GF,
EER2188K5K, EER2188K10K, EER2188K25K,
EER2188BB5K, ZE - Epoxy Resin ER2188, Part B
NEW FORMULATION

Revision date 19/10/2023

Water hazard class (WGK) obviously hazardous to water (WGK 2)

Chemical name	Netherlands - List of Carcinogens	Netherlands - List of Mutagens	Netherlands - List of Reproductive Toxins
xylene	-	-	Development Category 2
Toluene	-	-	Development Category 2

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
3-aminomethyl-3,5,5-trimethylcyclohexylamine - 2855-13-2	Use restricted. See item 75.	-
xylene - 1330-20-7	Use restricted. See item 75.	-
Toluene - 108-88-3	Use restricted. See item 48. Use restricted. See item 75.	-

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

ER2188B, EER2188RP50G, EER2188RP50GF,
 EER2188RP100G, EER2188RP100GF,
 EER2188RP250G, EER2188RP500G,
 EER2188RP1000G, EER2188RP1000GF,
 EER2188K5K, EER2188K10K, EER2188K25K,
 EER2188BB5K, ZE - Epoxy Resin ER2188, Part B
 NEW FORMULATION

Revision date 19/10/2023

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
 EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
 ENCS - Japan Existing and New Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 KECL - Korean Existing and Evaluated Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AIIC - Australian Inventory of Industrial Chemicals
 NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

H225 - Highly flammable liquid and vapour
 H226 - Flammable liquid and vapour
 H301 - Toxic if swallowed
 H302 - Harmful if swallowed
 H304 - May be fatal if swallowed and enters airways
 H311 - Toxic in contact with skin
 H312 - Harmful 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
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H361d - Suspected of damaging the unborn child
 H373 - May cause damage to organs through prolonged or repeated exposure
 H400 - Very toxic to aquatic life
 H410 - Very toxic to aquatic life with long lasting effects
 H412 - Harmful to aquatic life with long lasting effects

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method

**ER2188B, EER2188RP50G, EER2188RP50GF,
EER2188RP100G, EER2188RP100GF,
EER2188RP250G, EER2188RP500G,
EER2188RP1000G, EER2188RP1000GF,
EER2188K5K, EER2188K10K, EER2188K25K,
EER2188BB5K, ZE - Epoxy Resin ER2188, Part B
NEW FORMULATION**

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Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 19/10/2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

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End of Safety Data Sheet