SAFETY DATA SHEET

M-Bond AE Resin

www.vpgsensors.com

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830 AS AMENDED BY UK REACH REGULATIONS SI 2019/758

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SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	M-Bond AE Resin
Product Code	Not applicable

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

Identified Use(s)	Adhesive
Uses advised against	Anything other than the above.

1.3 Details of the supplier of the safety data sheet

Company Identification	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom
Telephone	+44 (0) 1256 462131
Fax	+44 (0) 1256 471441
E-mail (competent person)	mm.uk@vpgsensors.com

1.4 Emergency telephone number

National Poisons Information Service (United Kingdom)	+44 (0) 3448 920111	24 hr. emergency phone number Healthcare Professionals ONLY
NHS 24	111	Members of Public
Emergency Phone No.	(00-1) 703-527-3887	CHEMTREC (24 hours)
Languages spoken	All official European languages.	

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain

Skin Irrit. 2; H315
Skin Sens. 1; H317
Eye Dam. 1; H318
Muta. 2; H341
STOT SE 2; H371 (CNS and blood effects)
Aquatic Chronic 2; H411

2.2 Label elements

According to the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain

Product name: M-Bond AE Resin

Contains: Bis-[4-(2,3-epoxipropoxi)phenyl] propane; Bisphenol A Diglycidyl Ether; 2,3-Epoxypropyl o-tolyl ether; Resorcinol.

Hazard Pictogram(s)

Signal Word(s): DANGER

Hazard Statement(s):
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.

	H318: Causes serious eye damage. H341: Suspected of causing genetic defects. H371: May cause damage to organs. H411: Toxic to aquatic life with long lasting effects.
Precautionary Statement(s)	P260: Do not breathe mist/vapours/spray. P273: Avoid release to the environment. P280: Wear protective gloves and eye/face protection. 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. P391: Collect spillage.
Supplemental information	None Known

2.3 Other hazards Not classified as PBT or vPvB. Does not cause endocrine disruption.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances - Not applicable.

3.2 Mixtures

Classification: The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard classification
Bis-[4-(2,3-epoxipropoxi)phenyl] propane	50 - < 75	1675-54-3	216-823-5	Not yet assigned in the supply chain	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Aquatic Chronic 2; H411
Bisphenol A Diglycidyl Ether (mw <700)	15 – < 25	25085-99-8	607-537-5	Not yet assigned in the supply chain	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Aquatic Chronic 2; H411
2,3-Epoxypropyl o-tolyl ether	3 - < 5	2210-79-9	218-645-3	Not yet assigned in the supply chain	Skin Irrit. 2; H315 Skin Sens. 1A; H317 Muta. 2; H341 Aquatic Chronic 2; H411
Resorcinol*	3 - < 5	108-46-3	203-585-2	Not yet assigned in the supply chain	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1B; H317 STOT SE 1; H370 (oral)- Blood, CNS) STOT SE 2; H371 (oral)- Respiratory effects Aquatic Acute 1; H400 Aquatic Chronic 3; H412

Specific concentration limit (SCL), Acute toxicity estimate (ATE) & M-factor

Chemical identity of the substance	CAS No.	EC No.	SCL	ATE	M-factor
Bis-[4-(2,3-epoxipropoxi)phenyl] propane	1675-54-3	216-823-5	Skin Irrit. 2; H315: C ≥ 5% Eye Irrit. 2; H319 : C ≥ 5%	-	-
2,3-Epoxypropyl o-tolyl ether	2210-79-9	218-645-3	-	-	Chronic: 0
Resorcinol*	108-46-3	203-585-2	-	Oral: ATE = 500mg/kg bw	Chronic: 1

For full text of H phrases see section 16. * Substance with a community workplace exposure limit

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Self-protection of the first aider	Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid all contact. Do not breathe vapour.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention.
Skin contact	IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. If irritation (redness, rash, blistering) develops, get medical attention. IF exposed or concerned: Get medical advice/attention.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Ingestion	IF SWALLOWED: Rinse mouth. Make victim drink plenty of water. Do not induce vomiting unless instructed to do so by medical personnel. Call a POISON CENTER/doctor if you feel unwell. IF exposed or concerned: Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. May cause damage to organs.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Notes to a physician: IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Following severe exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray.
Unsuitable extinguishing media	Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

May decompose in a fire giving off toxic fumes. Decomposes in a fire giving off toxic fumes: Phenolics, Carbon monoxide and Carbon dioxide.

5.3 Advice for firefighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Do not allow to enter drains, sewers or watercourses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe vapour. Avoid all contact. Do not ingest. If swallowed then seek immediate medical assistance. Isolate the area and allow vapours to disperse.

6.2 Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste

6.4 Reference to other sections — See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling — Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Contaminated clothing should be laundered before reuse.

7.2 Conditions for safe storage, including any incompatibilities — Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep away from heat, sources of ignition and direct sunlight.

Storage temperature — Ambient. Keep at temperature not exceeding (℃): 27

Storage life — Stable under normal conditions.

Incompatible materials — Keep away from: Flammable liquids, Strong Oxidizing agents, Corrosive Substances, Strong Acids and strong mineral and organic bases, especially primary and secondary aliphatic amines.

Storage class (TRGS 510) — LGK 10

7.3 Specific end use(s) — See Section: 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational exposure limits

European Union

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Notes
Resorcinol	108-46-3	10	45	-	-	Sk, 6

Source: IOELV: Indicative Occupational Exposure Limit Value

United Kingdom

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Resorcinol	108-46-3	10	46	20	92	Sk

Source: UK WEL: Workplace Exposure Limit (UK HSE EH40)

Notations:
Sk: Can be absorbed through skin.
6: Existing scientific data on health effects appear to be particularly limited

8.1.2 Biological limit value — Not established.

8.1.3 PNECs and DNELs — Not established.

8.2 Exposure controls

8.2.1 Appropriate engineering controls — Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. A washing facility/water for eye and skin cleaning purposes should be present.

8.2.2 Individual protection measures, such as personal protective equipment — General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Do not breathe vapour. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be laundered before reuse. Do not eat, drink or smoke at the work place.

Eye/ face protection — Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

	Skin protection 	**Hand protection:** Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer. **Body protection:** Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
	Respiratory protection 	Use only in well-ventilated areas. In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. Select a filter suitable for organic gases and vapours. Recommended: EN143, Filter type A.
	Thermal hazards	Not applicable
8.2.3	**Environmental exposure controls**	Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Amber - Liquid
Odour	Faint Epoxy Odour
Odour threshold	Faint
pH	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	Not flammable
Upper/lower flammability or explosive limits	No data available
Vapour pressure	1 @ 118℃ (mmHg)
Vapour density	>3.8 (Air = 1)
Relative density	1.15 (H2O = 1)
Solubility(ies)	The substance is essentially insoluble in water.
Partition coefficient: n-octanol/water	Not applicable
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information None

SECTION 10: STABILITY AND REACTIVITY

10.1	**Reactivity**	Stable under normal conditions.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	Hazardous polymerisation will not occur.
10.4	**Conditions to avoid**	Keep away from heat, sources of ignition and direct sunlight. Keep at temperature not exceeding (℃): 27
10.5	**Incompatible materials**	Flammable liquids, Strong Oxidizing agents, Corrosive Substances, Strong Acids and strong mineral and organic bases, especially primary and secondary aliphatic amines.
10.6	**Hazardous decomposition products**	Decomposes in a fire giving off toxic fumes: Phenolics, Carbon monoxide and Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity - Ingestion	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LD50 > 2000 mg/kg bw/day
Acute toxicity - Inhalation	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l. (Vapour)
Acute toxicity - Skin contact	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LD50 > 2000 mg/kg bw/day
Skin corrosion/irritation	Mixture: Skin Irrit. 2: H315: Causes skin irritation.
Bis-[4-(2,3-epoxipropoxi)phenyl] propane	Skin Irrit. 2: H315: Causes skin irritation. (SCL ≥ 5%). GB Mandatory classification and labelling list Slightly irritating to skin. (rabbit) (OECD 404)
Bisphenol A Diglycidyl Ether (mw <700)	Skin Irrit. 2: H315: Causes skin irritation. No data. EU classification and labelling inventory, ≥ 790 Notifiers
2,3-Epoxypropyl o-tolyl ether	Skin Irrit. 2: H315: Causes skin irritation. GB Mandatory classification and labelling list Not irritating to skin (rabbit) (OECD 404)
Resorcinol	Skin Irrit. 2: H315: Causes skin irritation. GB Mandatory classification and labelling list Test Result: Irritating to skin. (in vivo; FHSLA)
Serious eye damage/irritation	Mixture: Eye Dam. 1; H318: Causes serious eye damage.
Bis-[4-(2,3-epoxipropoxi)phenyl] propane:	Eye Irrit. 2; H319: Causes serious eye irritation. (SCL ≥ 5%) GB Mandatory classification and labelling list Not irritating to eyes (rabbit) (OECD 405)
Bisphenol A Diglycidyl Ether (mw <700)	Eye Irrit. 2; H319: Causes serious eye irritation. No data. EU classification and labelling inventory, ≥ 790 Notifiers
Resorcinol:	Eye Dam. 1; H318: Causes serious eye damage. GB Mandatory classification and labelling list Test Result: Causes serious eye damage. (In vivo; FHSLA) (Flickinger, 1976) ECHA Registration Endpoint summary
Respiratory or skin sensitisation	Mixture: Skin Sens. 1: H317: May cause an allergic skin reaction.
Bis-[4-(2,3-epoxipropoxi)phenyl] propane	Skin Sens. 1: H317: May cause an allergic skin reaction. GB Mandatory classification and labelling list Positive - sensitising. (Mouse) (OECD 429) ECHA Registration Endpoint summary
Bisphenol A Diglycidyl Ether (mw <700)	Skin Sens. 1: H317: May cause an allergic skin reaction. No data. EU classification and labelling inventory, ≥ 790 Notifiers
2,3-Epoxypropyl o-tolyl ether	Skin Sens. 1: H317: May cause an allergic skin reaction. GB Mandatory classification and labelling list Test Result: Positive (OECD 406) ECHA Registration Endpoint summary
Resorcinol	Skin Sens. 1: H317: May cause an allergic skin reaction. Test Result: Positive (OECD 429) ECHA Registration Endpoint summary
Germ cell mutagenicity	Mixture: Muta. 2: H341: Suspected of causing genetic defects.
2,3-Epoxypropyl o-tolyl ether	Muta. 2: H341: Suspected of causing genetic defects. (Dermal) GB Mandatory classification and labelling list. Test Result: Positive (OECD 471, Bacterial mutation test) ECHA Registration Endpoint summary
Carcinogenicity	Mixture: Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Mixture: Based upon the available data, the classification criteria are not met.
STOT - single exposure	Mixture: STOT SE 2; H371: May cause damage to organs. STOT SE 1;H370: Causes damage to organs: central nervous system, blood effects Maximum non-lethal dose: 200 mg/kg bw. STOT SE 2; H371: May cause damage to organs: Respiratory system ECHA registration dossier

	STOT - repeated exposure	Mixture: Based upon the available data, the classification criteria are not met.
	Aspiration hazard	Mixture: Based upon the available data, the classification criteria are not met.
11.2	**Other information**	None

SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Mixture: Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. Estimated Mixture LC50 1 to ≤ 10 mg/l (Fish)
	Bis-[4-(2,3-epoxipropoxi)phenyl] propane	Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. Acute: LC50 (fish) mg/l (96 hour): 1.5 (OECD 203)
	Bisphenol A Diglycidyl Ether	Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. No data. EU classification and labelling inventory, ≥ 790 Notifiers
	2,3-Epoxypropyl o-tolyl ether	Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. GB Mandatory classification and labelling list. LC50 (fish) mg/l: 2.8 – 5.1 (OECD 203)
	Resorcinol	Aquatic Acute 1; H400: Very toxic to aquatic life. LC50 (fish) mg/l (96 hour): 26.8 Aquatic Chronic 3; H412: Harmful to aquatic life with long lasting effects. EC50 Danio rerio (zebrafish) mg/l (7 day): 54.8 ECHA registration dossier
12.2	**Persistence and degradability**	No data for the mixture as a whole.
	Bis-[4-(2,3-epoxipropoxi)phenyl] propane	Not readily biodegradable Water % Degradation: 5% (28 days) (OECD 301 F)
	Bisphenol A Diglycidyl Ether	No data available
	2,3-Epoxypropyl o-tolyl ether	Not readily biodegradable Water % Degradation: ~1 - ~4% (28 days) (OECD 301 B)
	Resorcinol	Readily biodegradable. Water % Degradation: 100% (14 days) (OECD 301 C)
12.3	**Bioaccumulative potential**	No data for the mixture as a whole.
	Bis-[4-(2,3-epoxipropoxi)phenyl] propane	The substance has low potential for bioaccumulation. Bioconcentration factor (BCF) : 31 ((Q)SAR) (Unnamed publication, 2010)
	Bisphenol A Diglycidyl Ether	No data available
	2,3-Epoxypropyl o-tolyl ether	No data - Can be waived on basis of: Log Koc : ≤ 3
	Resorcinol	The substance has low potential for bioaccumulation. Bioconcentration factor (BCF) : 3.16 (EPA, 2000)
12.4	**Mobility in soil**	No data for the mixture as a whole.
	Bis-[4-(2,3-epoxipropoxi)phenyl] propane	The substance has moderate mobility in soil. Log Koc: 2.65 ((Q)SAR) (Unnamed publication, 2010)
	Bisphenol A Diglycidyl Ether	No data available
	2,3-Epoxypropyl o-tolyl ether	The substance has moderate mobility in soil. Log Koc: 2.32 (OECD 121)
	Resorcinol	The substance has high mobility in soil. Log Koc: 0.98 (Schuurmann, G et al. 2006)
12.5	**Results of PBT and vPvB assessment**	Not classified as PBT or vPvB.
12.6	**Other adverse effects**	None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	This material and its container must be disposed of as hazardous waste. Dispose of wastes in an approved waste disposal facility. Waste classification according to Directive 2008/98/EC (Waste Framework Directive)**:** HP 4 Irritant — skin irritation and eye damage HP 5 Specific Target Organ Toxicity/Aspiration Toxicity HP 11 Mutagenic HP13 Sensitising HP 14 Ecotoxic
13.2	**Additional information**	Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

		ADR/RID	ADN	IMDG	IATA/ICAO
14.1	**UN number**	UN 3082	UN 3082	UN 3082	UN 3082
14.2	**UN proper shipping name**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.			
14.3	**Transport hazard class(es)**	9	9	9	9
14.4	**Packing group**	III	III	III	III
14.5	**Environmental hazards**	Environmentally hazardous	Environmentally hazardous	Classified as a marine pollutant.	Environmentally hazardous

14.6	**Special precautions for user**	See Section: 2
14.7	**Transport in bulk according to Annex II of Marpol and the IBC Code**	No information available.

SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**		
15.1.1	**EU regulations**		
	Authorisations and/or restrictions on use		Not restricted for the intended use(s) of the product.
	Registry of SVHC intentions until outcome		
		Resorcinol	Listed- Endocrine Disruptor (Human Health)
	GB regulations		
	Authorisations and/or restrictions on use		Not restricted for the intended use(s) of the product.
15.1.2	**National regulations**		
	Germany		
	Water hazard class (WGK)		Obviously hazardous to water (WKG 2) (Self classification)
15.2	**Chemical Safety Assessment**		A chemical safety assessment is not required under REACH.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: V1.0 – Not applicable

References:
Existing Safety Data Sheet (SDS),
GB Mandatory classification and labelling list and Existing ECHA registration(s) for Bis-[4-(2,3-epoxipropoxi)phenyl]propane (CAS No. 1675-54-3), 2,3-Epoxypropyl o-tolyl ether (CAS No. 2210-79-9) and Resorcinol (CAS No. 108-46-3).
The classification and labelling inventory for Bisphenol A Diglycidyl Ether (CAS No. 25085-99-8).

Literature References:

Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830. Compiled in accordance with REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

Classification of the substance or mixture. The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain	**Classification procedure**
Skin Irrit. 2; H315	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
Eye Dam 1; H318	Threshold Calculation
Muta. 2; H341	Threshold Calculation
STOT SE 2; H371	Threshold Calculation
Aquatic Chronic 2; H411	Summation Calculation

Legend
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived no effect level
EU	European Union
EC	European Community
ECHA	European Chemicals Agency
EN	European Standard
EC50	Effect concentration; 50 %
EL50	Effective loading rate; 50 %
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC50	Lethal concentration at which 50% of the population is killed
LD50	Lethal dose at which 50% of the population is killed
LTEL	Long term exposure limit
NOAEC	No observed adverse effect concentration
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time Weighted Average
STEL	Short term exposure limit
vPvB	very Persistent and very Bioaccumulative
UN	United Nations

Hazard classification / Classification code:	**Hazard Statement(s)**
Acute Tox. 4; Acute toxicity Category 4	H302: Harmful if swallowed.
Skin Irrit. 2; Skin Irritation Category 2	H315: Causes skin irritation.
Eye Dam. 1; Eye damage, category 1	H318: Causes serious eye damage.
Eye Irrit. 2; Eye Irritation Category 2	H319: Causes serious eye irritation.
Skin Sens. 1; Skin Sensitisation, Category 1	H317: May cause an allergic skin reaction.
Muta. 2; Germ cell mutagenicity Category 2	H341: Suspected of causing genetic defects.
STOT SE 1; Specific target organ toxicity — single exposure Category 1	H370: Causes damage to organs.
STOT SE 2; Specific target organ toxicity — single exposure Category 2	H371: May cause damage to organs.
Aquatic Acute 1; Hazardous to the aquatic environment, acute, Category 1	H400: Very toxic to aquatic life.
Aquatic Chronic 2; Hazardous to the aquatic environment, Chronic , Category 2	H411: Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3; Hazardous to the aquatic environment, Chronic , Category 3	H412: Harmful to aquatic life with long lasting effects.

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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