



SAFETY DATA SHEET

5110 Verti-Patch-Base

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

1.1 Product identifier

Product name : 5110 Verti-Patch-Base
Product description : repair product
Product type : Solid.

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

Identified uses	
Professional use Industrial use	
Uses advised against	Reason
Consumer use	Product is not intended for consumer use.

1.3 Details of the supplier of the safety data sheet

Rust-Oleum Europe - Martin Mathys NV, Kolenbergstraat 23, B-3545 Zelem, Belgium

Telephone no.: +32 (0) 13 460 200

Fax no.: +32 (0) 13 460 201

e-mail address of person responsible for this SDS : rpmeurohas@ro-m.com

1.4 Emergency telephone number

Supplier

Telephone number : +44 (0) 207 858 1228

Hours of operation : 24 / 7

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Skin Irrit. 2, H315

Eye Irrit. 2, H319

Skin Sens. 1, H317

Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms

:



Signal word

: Warning

Hazard statements

: Causes serious eye irritation.
 Causes skin irritation.
 May cause an allergic skin reaction.
 Harmful to aquatic life with long lasting effects.

Precautionary statements

General

: Not applicable.

Prevention

: P280 - Wear protective gloves and eye protection:
 - nitrile rubber gloves and Safety glasses with side shields.

Response

: P302 - IF ON SKIN:
 P352 - Wash with plenty of soap and water.
 P333 - If skin irritation or rash occurs:
 P313 - Get medical attention. Get medical attention.
 P305 - IF IN EYES:
 P351 - Rinse cautiously with water for several minutes.
 P338 - Remove contact lenses, if present and easy to do. Continue rinsing.
 P337 - If eye irritation persists:

Storage

: Not applicable.

Disposal

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients

: bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700; bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700; Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol; Oxirane, mono[(C10-16-alkyloxy)methyl] derivs.

Supplemental label elements

: Contains epoxy constituents. May produce an allergic reaction.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: Not applicable.

UFI Code

: 5330-30H1-2000-7W6V

Special packaging requirements

Containers to be fitted with child-resistant fastenings

: Not applicable.

Tactile warning of danger

: Not applicable.

2.3 Other hazards

Other hazards which do not result in classification

: None known.

The mixture may be a skin sensitiser. It may also be a skin irritant and repeated contact may increase this effect. The mixture may be a skin sensitiser. It may also be a severe skin irritant.

SECTION 3: Composition/information on ingredients**3.2 Mixtures**

: Mixture

Product/ingredient name	Identifiers	%	Classification	
			Regulation (EC) No. 1272/2008 [CLP]	Type
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	EC: 500-033-5 CAS: 25068-38-6 Index: 603-074-00-8	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	CAS: 28064-14-4	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	REACH #: 01-2119454392-40 EC: 500-006-8 CAS: 9003-36-5	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
Oxirane, mono[(C10-16-alkyloxy) methyl] derivs.	EC: 268-358-2 CAS: 68081-84-5	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	EC: 500-006-8 CAS: 28064-14-4	≤1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 See Section 16 for the full text of the H statements declared above.	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
 [2] Substance with a workplace exposure limit
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
 [5] Substance of equivalent concern
 [6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures**4.1 Description of first aid measures**

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.
- Eye contact** : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

SECTION 4: First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

There are no data available on the mixture itself. The mixture has been assessed following the conventional method of the CLP Regulation (EC) No 1272/2008 and is classified for toxicological properties accordingly. See Sections 2 and 3 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness.

Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin.

If splashed in the eyes, the liquid may cause irritation and reversible damage.

Ingestion may cause nausea, diarrhea and vomiting.

This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Based on the properties of the epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitizer and an irritant. It contains low molecular weight epoxy constituents which are irritating to eyes, mucous membrane and skin. Repeated skin contact may lead to irritation and to sensitisation, possibly with cross-sensitisation to other epoxies. Skin contact with the mixture and exposure to spray mist and vapour should be avoided.

Based on the properties of epoxy constituent(s) and considering toxicological data on similar mixtures, this mixture may be a skin sensitizer and a severe irritant. It contains epoxy based reactive diluents which are moderate to severely irritating to eyes, mucous membrane and skin and are strong sensitizers. Repeated skin contact may lead to irritation and to hyper-sensitivity, possibly with cross-sensitisation to other epoxies. Single oral exposure to doses of the epoxy based reactive diluents at or close to the lethal dose has been shown to cause transient neurotoxic effects in animals in some cases. However, uptake through skin and by inhalation has not caused such effects in animals. Prolonged exposure to high concentration may cause adverse effects in target organs such as liver and kidney.

Contains bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700 , bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700 , Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol, Oxirane, mono[(C10-16-alkyloxy)methyl] derivs., May produce an allergic reaction.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

See toxicological information (Section 11)

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Recommended: alcohol-resistant foam, CO₂, powders, water spray.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

: Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

Small spill : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

- 7.1 Precautions for safe handling** : Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Keep away from heat, sparks and flame. No sparking tools should be used. Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this mixture. Avoid inhalation of dust from sanding. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see Section 8). Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or watercourses.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations.

Notes on joint storage

Keep away from: oxidising agents, strong alkalis, strong acids.

Additional information on storage conditions

Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

SECTION 8: Exposure controls/personal protection

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: safety glasses with side-shields. (EN 166)

Skin protection

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The breakthrough time must be greater than the end use time of the product.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Always ensure that gloves are free from defects and that they are stored and used correctly.

The performance or effectiveness of the glove may be reduced by physical/chemical damage and poor maintenance.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: > 8 hours (breakthrough time): nitrile rubber (0.5mm) gloves

The recommendation for the type or types of glove to use when handling this product is based on information from the following source:

EN 374

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear overalls or long sleeved shirt.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: disposable particulate mask

SECTION 8: Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Solid.
Colour	: Yellow.
Odour	: Mild. [Slight]
Odour threshold	: Not available.
pH	: Not available.
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: >200°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Upper/lower flammability or explosive limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: 1,16
Solubility(ies)	: Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.
Explosive properties	: Not available.
Oxidising properties	: Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : Stable under recommended storage and handling conditions (see Section 7).
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.
- 10.5 Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

SECTION 10: Stability and reactivity

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Mouse	20000 mg/kg	-
	LD50 Oral	Rat	13600 mg/kg	-
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Oxirane, mono[(C10-16-alkyloxy)methyl] derivs.	LD50 Oral	Rat	>5000 mg/kg	-
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	LD50 Oral	Rat	>5000 mg/kg	-

Conclusion/Summary : Based on available data, the classification criteria are not met.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 microliters	-
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700 Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-

Conclusion/Summary

Skin : Causes skin irritation.

Eyes : Causes serious eye irritation.

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

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	skin	Guinea pig	Sensitising
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	skin	Guinea pig	Sensitising

Conclusion/Summary

Skin : May cause an allergic skin reaction.

SECTION 11: Toxicological information**Respiratory** : Based on available data, the classification criteria are not met.**Mutagenicity**

Product/ingredient name	Test	Experiment	Result
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Positive
	OECD 471	Subject: Bacteria	Positive
	OECD 474	Subject: Mammalian-Animal	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met.**Carcinogenicity****Conclusion/Summary** : Based on available data, the classification criteria are not met.**Reproductive toxicity**

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Negative	-	-	Rat	Oral: 540 mg/kg	-

Conclusion/Summary : Based on available data, the classification criteria are not met.**Teratogenicity**

Product/ingredient name	Result	Species	Dose	Exposure
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Negative - Route of exposure unreported	Rabbit - Female	>300 mg/kg	-

Conclusion/Summary : Based on available data, the classification criteria are not met.**Specific target organ toxicity (single exposure)**

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure****Potential immediate effects** : Not available.**Potential delayed effects** : Not available.**Long term exposure****Potential immediate effects** : Not available.**Potential delayed effects** : Not available.**Potential chronic health effects**

Not available.

Conclusion/Summary : Based on available data, the classification criteria are not met.**General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.**Carcinogenicity** : No known significant effects or critical hazards.**Mutagenicity** : No known significant effects or critical hazards.

SECTION 11: Toxicological information**Teratogenicity** : No known significant effects or critical hazards.**Developmental effects** : No known significant effects or critical hazards.**Fertility effects** : No known significant effects or critical hazards.**Other information** : Not available.**SECTION 12: Ecological information****12.1 Toxicity**

There are no data available on the mixture itself.
Do not allow to enter drains or watercourses.

The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Product/ingredient name	Result	Species	Exposure
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Acute EC50 1,4 to 1,7 mg/l	Daphnia spec.	48 hours
	Acute IC50 >42,6 mg/l	Algae	18 hours
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	Acute LC50 3,1 mg/l	Fish	96 hours
	Acute EC50 3,5 mg/l	Daphnia spec.	48 hours
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Acute LC50 5,7 mg/l	Fish	96 hours
	Acute EC50 1,8 mg/l	Algae	72 hours
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	Acute EC50 2 mg/l	Daphnia spec.	24 hours
	Acute EC50 1,6 mg/l	Daphnia spec.	48 hours
	Acute IC50 >100 mg/l	Bacteria	3 hours
	Acute LC50 0,55 mg/l	Fish	96 hours
	Acute LC50 2 mg/l	Fish	96 hours
	Chronic NOEC 0,3 mg/l	Daphnia spec.	21 days
	Acute EC50 3,5 mg/l	Daphnia spec.	48 hours
	Acute LC50 5,7 mg/l	Fish	96 hours

Conclusion/Summary : Harmful to aquatic life with long lasting effects.**12.2 Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	OECD 302B	12 % - Not readily - 28 days	-	-
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	OECD 301B	10 to 16 % - Not readily - 28 days	-	-
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	-	0 % - Not readily - 28 days	-	-
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	OECD 301B	10 to 16 % - Not readily - 28 days	-	-
	OECD 301B	10 to 16 % - Not readily - 28 days	-	-

Conclusion/Summary : This product has not been tested for biodegradation. Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	-	-	Not readily
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	-	-	Not readily
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	-	-	Not readily
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	2.64 to 3.78	31	low
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	2,7	-	low
Oxirane, mono[(C10-16-alkyloxy)methyl] derivs.	>3	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

13.1 Waste treatment methods**Product**

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

Disposal considerations : Do not allow to enter drains or watercourses. Dispose of according to all federal, state and local applicable regulations. If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned. For further information, contact your local waste authority.

European waste catalogue (EWC)

SECTION 13: Disposal considerations

The European Waste Catalogue classification of this product, when disposed of as waste, is:

Waste code	Waste designation
10 13 11	wastes from cement-based composite materials other than those mentioned in 10 13 09 and 10 13 10

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Disposal considerations : Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers. Empty containers must be scrapped or reconditioned. Dispose of containers contaminated by the product in accordance with local or national legal provisions.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.
Additional information	-	-	-	-

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU Regulation (EC) No. 1907/2006 (REACH)****Annex XIV - List of substances subject to authorisation****Annex XIV**

None of the components are listed.

Substances of very high concern

None of the components are listed.

SECTION 15: Regulatory information

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

VOC for Ready-for-Use Mixture : 2004/42/EC - IIA/j: 500g/l (2010). <= 10g/l VOC.

Europe inventory : All components are listed or exempted.

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

References : EH40/2005 Workplace exposure limits
Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2016/918

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

CN code : 3214 10 10

International lists

National inventory

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Japan : **Japan inventory (ENCS)**: Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.
New Zealand : Not determined.
Philippines : Not determined.
Republic of Korea : Not determined.
Taiwan : Not determined.
Turkey : Not determined.

SECTION 15: Regulatory information**United States** : All components are listed or exempted.**15.2 Chemical safety assessment** : No Chemical Safety Assessment has been carried out.**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

Abbreviations and acronyms

: ATE = Acute Toxicity Estimate
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
 DMEL = Derived Minimal Effect Level
 DNEL = Derived No Effect Level
 EUH statement = CLP-specific Hazard statement
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RRN = REACH Registration Number
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
Skin Sens. 1, H317	Expert judgment
Aquatic Chronic 3, H412	Expert judgment

Full text of H-phrases referred to in sections 2 and 3**Full text of abbreviated H statements**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Aquatic Chronic 2, H411	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITISATION - Category 1

Date of printing : 30/07/2018**Date of issue/ Date of revision** : 30/07/2018**Date of previous issue** : 30/07/2018**Version** : 3.01**Notice to reader**

The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.