

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2016/918

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

1.1 Product identifier

Product name : Centrecoat Elastomeric Solar Reflective Roof Coating
Product description : Paint.
Product type : Liquid.

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

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

1.3 Details of the supplier of the safety data sheet

Promain UK Ltd, Promain House, Knowl Piece, Hitchin, Hertfordshire, SG4 0TY
 Telephone no.: 01462 421333

e-mail address of person responsible for this SDS : info@promain.co.uk

1.4 Emergency telephone number

Supplier

Telephone number : +44 (0) 1462 421333

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]

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

Signal word : No signal word.

Hazard statements : Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Not applicable.

SECTION 2: Hazards identification

Prevention	: Not applicable.
Response	: Not applicable.
Storage	: Not applicable.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: Not applicable.
Supplemental label elements	: Contains epoxy constituents. May produce an allergic reaction. Contains nickel and 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction. Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: Not applicable.
<u>Special packaging requirements</u>	
Containers to be fitted with child-resistant fastenings	: Not applicable.
Tactile warning of danger	: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
titanium dioxide	REACH #: 01-2119489379-17 EC: 236-675-5 CAS: 13463-67-7	≤1	Carc. 2, H351	[1]
ammonia	REACH #: 01-2119488876-14 EC: 215-647-6 CAS: 1336-21-6 Index: 007-001-01-2	≤0,3	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411	[1]
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	REACH #: 01-2119456619-26 EC: 500-033-5 CAS: 25068-38-6 Index: 603-074-00-8	≤0,3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
nickel	EC: 231-111-4 CAS: 7440-02-0 Index: 028-002-00-7	≤0,3	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372 Aquatic Chronic 3, H412	[1] [2]

SECTION 3: Composition/information on ingredients

bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	REACH #: 01-2119454392-40 CAS: 28064-14-4	≤0,3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
pyrithione zinc	REACH #: 01-2119511196-46 EC: 236-671-3 CAS: 13463-41-7	≤0,1	Acute Tox. 3, H301 Acute Tox. 2, H330 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=10)	[1]
terbutryn	EC: 212-950-5 CAS: 886-50-0	≤0,1	Acute Tox. 4, H302 Skin Sens. 1B, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 (M=100) See Section 16 for the full text of the H statements declared above.	[1]

Notes

The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter ≤ 10 µm.

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

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.
- 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.

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

SECTION 4: First aid measures

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.

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.

Contains bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700, nickel, bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700, 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

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 : In a fire or if heated, a pressure increase will occur and the container may burst. 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
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.

Additional information : No unusual hazard if involved in a fire.

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. Avoid breathing vapour or mist. 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** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

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

- : 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.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

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. Do not store below the following temperature: 0°C (32°F). Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight.

Keep container tightly closed.

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 information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
nickel	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. TWA: 0,5 mg/m ³ , (as Ni) 8 hours.

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

Product/ingredient name	Type	Exposure	Value	Population	Effects
titanium dioxide	DNEL	Long term Inhalation	10 mg/m ³	Workers	Local
	DNEL	Long term Oral	700 mg/kg bw/day	General population [Consumers]	Systemic
bisphenol-A-epoxy resin, avg.mol. wght. ≤ 700	DNEL	Short term Dermal	8,3 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	12,3 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	8,3 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	12,3 mg/m ³	Workers	Systemic
	DNEL	Short term Dermal	3,6 mg/kg bw/day	General population [Consumers]	Systemic

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	DNEL	Short term Inhalation	0,75 mg/m ³	General population [Consumers]	Systemic
	DNEL	Short term Oral	0,75 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Dermal	3,6 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	0,75 mg/m ³	General population [Consumers]	Systemic
	DNEL	Long term Oral	0,75 mg/kg bw/day	General population [Consumers]	Systemic

PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
titanium dioxide	Fresh water	0,127 mg/l	-
	Marine	>1 mg/l	-
	Sewage Treatment Plant	>100 mg/l	-
	Fresh water sediment	>1000 mg/kg	-
	Marine water sediment	>100 mg/kg	-
	Soil	100 mg/kg	-
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Fresh water	3 µg/l	-
	Marine	0,3 µg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	0,5 mg/kg dwt	-
	Marine water sediment	0,5 mg/kg dwt	-
	Sediment	0,05 mg/kg dwt	-

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. 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: safety glasses with side-shields. 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.

SECTION 8: Exposure controls/personal protection

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)

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. (EN 467)

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: organic vapour (Type A) and particulate filter (EN 141).

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	: Liquid.
Colour	: Silvery.
Odour	: Not available.
Odour threshold	: Not available.
pH	: 8 to 9
Melting point/freezing point	: 0°C
Initial boiling point and boiling range	: >100°C
Flash point	: [Product does not sustain combustion.]
Evaporation rate	: <1 (butyl acetate = 1)
Flammability (solid, gas)	: Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and shocks and mechanical impacts. Non-flammable but will burn on prolonged exposure to flame or high temperature.
Upper/lower flammability or explosive limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: >1 [Air = 1]
Relative density	: 1,03 to 1,06
Solubility(ies)	: Soluble in the following materials: cold water and hot water.

SECTION 9: Physical and chemical properties

- Partition coefficient: n-octanol/ water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Dynamic (room temperature): 5000 to 6000 mPa·s
- Explosive properties** : Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.
No unusual hazard if involved in a fire.
- 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.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced. If involved in a fire, toxic gases including CO, CO₂ and smoke can be generated.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LC50 Inhalation Dusts and mists	Rat - Male, Female	3,43 to 5,09 mg/l	4 hours
	LD50 Dermal	Rabbit	>10 g/kg	-
	LD50 Oral	Rat	>24 g/kg	-
ammonia	LC50 Inhalation Vapour	Human/30 min	5000 mg/m ³	0,5 hours
	LC50 Inhalation Vapour	Rat	7035 mg/m ³	30 minutes
	LC50 Inhalation Vapour	Rat	2000 mg/m ³	4 hours
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	LD50 Oral	Rat	350 mg/kg	-
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Mouse	20 g/kg	-
pyrithione zinc	LD50 Oral	Rat	30 g/kg	-
	LC50 Inhalation Dusts and mists	Rat	140 mg/m ³	4 hours
	LD50 Dermal	Rabbit	100 mg/kg	-
terbutryn	LD50 Oral	Rat	177 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>2200 mg/l	4 hours

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	LD50 Dermal	Rabbit	>10200 mg/kg	-
	LD50 Oral	Rat	2045 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
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms	-
ammonia	Eyes - Severe irritant	Rabbit	-	Intermittent 250	-
	Eyes - Severe irritant	Rabbit	-	Micrograms 0,5 minutes	-
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Skin - Mild irritant	Rabbit	-	1 milligrams	-
	Skin - Oedema	Rabbit	1 to 1,5	-	-
	Skin - Erythema/Eschar	Rabbit	1,5 to 2	-	-
	Eyes - Cornea opacity	Rabbit	<1,7	-	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 microliters	-
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700 terbutryn	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
	Eyes - Moderate irritant	Rabbit	-	76 milligrams	-
	Skin - Mild irritant	Rabbit	-	380 milligrams	-

Conclusion/Summary

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

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

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

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
titanium dioxide	skin	Guinea pig	Not sensitizing
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	skin	Mouse	Not sensitizing
	skin	Mouse	Sensitising
	skin	Guinea pig	Sensitising

Conclusion/Summary

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

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

Mutagenicity

SECTION 11: Toxicological information

Product/ingredient name	Test	Experiment	Result
titanium dioxide	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Positive
	OECD 471	Experiment: In vitro Subject: Bacteria	Positive
	OECD 478	Experiment: In vivo Subject: Mammalian-Animal	Negative

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

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Negative - Oral - TDLo	Rat	-	2 years; 7 days per week
	Negative - Dermal - TDLo	Rat - Female	1000 mg/kg	2 years; 5 days per week
	Negative - Dermal - TDLo	Mouse - Male	100 mg/kg	2 years; 3 days per week

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
titanium dioxide	Negative	Negative	Negative	Rat - Male, Female	Oral: 100 to 3001000 mg/kg	20 days; 7 days per week
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Negative	-	-	Rat	Oral: 750 mg/kg	-

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

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Negative - Oral	Rat - Female	>540 mg/kg	-
	Negative - Dermal	Rabbit - Female	>300 mg/kg	-
	Negative - Oral	Rabbit - Female	>180 mg/kg	-

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

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ammonia	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
nickel	Category 1	-	-

Aspiration hazard

Not available.

SECTION 11: Toxicological information**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

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	Chronic NOAEL Oral	Rat	3500 mg/kg	-
	Chronic NOAEL Inhalation Dusts and mists	Rat	10 mg/m ³	24 hours
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Sub-chronic NOAEL Oral	Rat	50 mg/kg	90 days
	Sub-chronic NOAEL Dermal	Rat	100 mg/kg	90 days
	Sub-chronic NOEL Dermal	Rat	10 mg/kg	90 days

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

General : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

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
titanium dioxide	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 6,5 mg/l Fresh water	Daphnia spec. - Daphnia pulex - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
ammonia	Acute EC50 110 mg/l	Daphnia spec.	48 hours
	Acute LC50 7 mg/l	Fish	48 hours
	Acute LC50 17 mg/l	Fish	24 hours
	Acute LC50 15000 µg/l Fresh water	Fish - Gambusia affinis - Adult	96 hours
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Acute IC50 >11 mg/l	Algae	72 hours
	Acute LC50 2,1 mg/l	Daphnia spec.	48 hours
	Acute LC50 1,5 mg/l	Fish	96 hours
nickel	Chronic NOEC 0,3 mg/l	Daphnia spec. - Daphnia magna	21 days
	Acute EC50 2 ppm Marine water	Algae - Macrocyctis pyrifera - Young	4 days
	Acute EC50 450 µg/l Fresh water	Aquatic plants - Lemna minor	4 days

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bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	Acute EC50 1000 µg/l Marine water Acute IC50 0,31 mg/l Marine water	Daphnia spec. - Daphnia magna Crustaceans - Americamysis bahia - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 48 hours
	Acute LC50 47,5 ng/L Fresh water Chronic NOEC 100 mg/l Marine water Chronic NOEC 3,5 µg/l Fresh water Acute EC50 3,5 mg/l	Fish - Heteropneustes fossilis Algae - Glenodinium halli Fish - Cyprinus carpio Daphnia spec.	96 hours 72 hours 4 weeks 48 hours
pyrithione zinc	Acute LC50 5,7 mg/l Acute EC50 0,51 µg/l Marine water	Fish Algae - Thalassiosira pseudonana	96 hours 96 hours
	Acute EC50 38 µg/l Fresh water Acute EC50 80 µg/l Fresh water	Crustaceans - Ilyocypris dentifera Crustaceans - Chydorus sphaericus	48 hours 48 hours
terbutryn	Acute EC50 8,25 ppb Fresh water Acute EC50 61 µg/l Fresh water	Daphnia spec. - Daphnia magna Daphnia spec. - Daphnia magna - Nauplii	48 hours 48 hours
	Acute LC50 2,68 ppb Fresh water Chronic EC10 0,36 µg/l Marine water	Fish - Pimephales promelas Algae - Thalassiosira pseudonana	96 hours 96 hours
	Chronic NOEC 2,7 ppb Marine water Acute EC50 0,1 µg/l Fresh water	Daphnia spec. - Daphnia magna Algae - Fragilaria capucina ssp. rumpens	21 days 96 hours
	Acute EC50 2 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 2,66 ppm Fresh water Acute IC50 0,0055 mg/l Acute LC50 579,3 mg/l Fresh water	Daphnia spec. - Daphnia magna Algae Crustaceans - Pacifastacus leniusculus - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 72 hours 48 hours
	Acute LC50 1,8 to 1400 µg/l Fresh water	Fish - Carassius carassius	96 hours
	Acute LC50 0,82 ppm Fresh water Chronic EC10 0,015 µg/l Fresh water	Fish - Oncorhynchus mykiss Algae - Fragilaria capucina ssp. rumpens	96 hours 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 301B	12 % - Not readily - 28 days	-	-
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	OECD 301F	5 % - 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.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
titanium dioxide	-	-	Not readily
ammonia	-	-	Readily
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	Fresh water 4 to 7 days, 20°C	-	Not readily
bisphenol-F-epoxy resin, avg.mol.wght. ≤ 700	-	-	Not readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
ammonia	-1,3	-	low
bisphenol-A-epoxy resin, avg.mol.wght. ≤ 700	2.64 to 3.78	31	low
pyrithione zinc	0,9	11	low
terbutryn	3,74	-	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

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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)

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

Waste code	Waste designation
08 01 15*	aqueous sludges containing paint or varnish containing organic solvents or other hazardous substances

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 spilled 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.

Annex XVII - Restrictions : Not applicable.

**on the manufacture,
placing on the market
and use of certain
dangerous substances,
mixtures and articles**

Other EU regulations

VOC : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

VOC for Ready-for-Use Mixture : 2004/42/EC - IIA/i: 140g/l (2010). <= 70g/l VOC.

Europe inventory : All components are listed or exempted.

Black List Chemicals (76/464/EEC) :

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
titanium dioxide nickel	Not supported Not supported	Not supported Not supported	Not supported Not supported	Not supported Not supported

Ozone depleting substances (1005/2009/EU)

SECTION 15: Regulatory information

Not listed.

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

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Industrial use : 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

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 : 3209 10 00

International lists

National inventory

Australia : At least one component is not listed.
Canada : At least one component is not listed.
China : At least one component is not listed.
Japan : **Japan inventory (ENCS)**: At least one component is not listed.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined
New Zealand : Not determined.
Philippines : At least one component is not listed.
Republic of Korea : Not determined.
Taiwan : At least one component is not listed.
Turkey : Not determined.
United States : Not determined.
Thailand : Not determined.
Viet Nam : Not determined.

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

Contains TiO2 : Yes

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

Classification	Justification
Aquatic Chronic 3, H412	Expert judgment

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

Full text of abbreviated H statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
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.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Corr. 1B	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of printing : 20/05/2020

SECTION 16: Other information

Date of issue/ Date of revision : 19/05/2020

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Version : 6

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.