

Hazardous to the aquatic environment, Chronic, category 2

H411

2.2 Label elements**Symbol(s) of Product****Signal Word**

Warning

Named Chemicals on Label

Benzyl alcohol, Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)

HAZARD STATEMENTS

Other EU extensions	EUH205	Contains epoxy constituents. May produce an allergic reaction.
Skin Irritation, category 2	H315	Causes skin irritation.
Skin Sensitizer, category 1	H317	May cause an allergic skin reaction.
Eye Irritation, category 2	H319	Causes serious eye irritation.
Acute Toxicity, Inhalation, category 4	H332	Harmful if inhaled.
STOT, single exposure, category 3, RTI	H335	May cause respiratory irritation.
Hazardous to the aquatic environment, Chronic, category 2	H411	Toxic to aquatic life with long lasting effects.

PRECAUTION PHRASES

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.

2.3 Other hazards

No Information

Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

SECTION 3: Composition/Information On Ingredients**3.2 Mixtures****Hazardous Ingredients**

<u>CAS-No.</u>	<u>EINEC No.</u>	<u>Name According to EEC</u>	<u>%</u>
25068-38-6	500-033-5	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	50-75
100-51-6	202-859-9	Benzyl alcohol	10-25
13463-67-7	236-675-5	titanium dioxide	2.5-10
21645-51-2	244-492-7	alumina trihydrate	0.1-1.0

<u>CAS-No.</u>	<u>REACH Reg No.</u>	<u>CLP Symbols</u>	<u>CLP Hazard Statements</u>	<u>M-Factors</u>
25068-38-6	01-2119456619-26	GHS07-GHS09	H315-317-319-335-411	
100-51-6	01-2119492630-38	GHS07	H302-312-319-332	
13463-67-7	01-2119489379-17			
21645-51-2	01-2119529246-39			

Remarks: CAS No. 25068-38-6 identified as CAS No. 1675-54-3, EC No. 216-823-5 under REACH Registration

Additional Information: The text for CLP Hazard Statements shown above (if any) is given in Section 16.

SECTION 4: First-aid Measures

4.1 Description of First Aid Measures

GENERAL NOTES: When symptoms persist or in all cases of doubt seek medical advice.

AFTER INHALATION: Move to fresh air. Consult a physician after significant exposure.

AFTER SKIN CONTACT: Use a mild soap if available. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. If eye irritation persists, consult a specialist.

AFTER INGESTION: Gently wipe or rinse the inside of the mouth with water. Give small amounts of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.

Self protection of the first aider:

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

Irritating to skin. May cause sensitization by skin contact. Prolonged or repeated exposure increases the risk. Harmful to aquatic organisms.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Fire-fighting Measures

5.1 Extinguishing Media:

Carbon Dioxide, Dry Chemical, Foam

FOR SAFETY REASONS NOT TO BE USED: Alcohol, Alcohol based solutions, any other media not listed above.

5.2 Special hazards arising from the substance or mixture

No Information

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. High volume water jet. Hazardous decomposition products formed under fire conditions. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Contains epoxy constituents. See information supplied by the manufacturer.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment.

6.2 Environmental precautions

Do not allow material to contaminate ground water system. Prevent product from entering drains. May cause long-term adverse effects in the aquatic environment.

6.3 Methods and material for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 Reference to other sections

FURTHER INSTRUCTIONS: Please refer to EU disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Extremes of temperature and direct sunlight.

STORAGE CONDITIONS: Store in original container. Keep locked up or in an area accessible only to qualified or authorised persons. Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3 Specific end use(s)

The mixing and application to be in accordance with the technical data sheets.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits (IR)

<u>Name</u>	<u>CAS-No.</u>	<u>LTEL ppm</u>	<u>STEL ppm</u>	<u>STEL mg/m3</u>	<u>LTEL mg/m3</u>
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	25068-38-6				
Benzyl alcohol	100-51-6				
titanium dioxide	13463-67-7				4, 10
alumina trihydrate	21645-51-2				

FURTHER ADVICE: Refer to the regulatory exposure limits for the workforce enforced in each country. Some components may not have been classified under the EU CLP Regulation.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required.

EYE PROTECTION: Safety glasses.

HAND PROTECTION: Impervious gloves. Long sleeved clothing. Remove and wash contaminated clothing before re-use.

OTHER PROTECTIVE EQUIPMENT: No Information

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

Chemical Name:

Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)

EC No.:
500-033-5**CAS-No.:**
25068-38-6**DNELs - Derived no effect level**

Route of Exposure	Workers				Consumers			
	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required					0.75 mg/kg		0.75 mg/kg
Inhalation		12.25 mg/m ³		12.25 mg/m ³				
Dermal		8.33 mg/kg		8.33 mg/kg		3.571 mg/kg		3.571 mg/kg

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.006 mg/l
Fresh water sediments	0.996 mg/l
Marine water	0.0006 mg/l
Marine sediments	0.0996 mg/l
Food chain	
Microorganisms in sewage treatment soil (agricultural)	10 mg/l
Air	0.196 mg/kg

Chemical Name:

Benzyl alcohol

EC No.:
202-859-9**CAS-No.:**
100-51-6**DNELs - Derived no effect level**

Route of Exposure	Workers				Consumers			
	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required							
Inhalation		54.06 mg/m ³		13.5 mg/m ³				
Dermal		1.284		1.284				

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.162 mg/l
Fresh water sediments	0.836
Marine water	0.016 mg/l
Marine sediments	0.084
Food chain	0.034
Microorganisms in sewage treatment soil (agricultural)	1.579 mg/l
Air	0.063
	0.028 mg/m ³

Chemical Name:

titanium dioxide

EC No.:

236-675-5

CAS-No.:

13463-67-7

DNELs - Derived no effect level

Route of Exposure	Workers				Consumers			
	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic
Oral	Not required							700 mg/kg/d
Inhalation			10					
Dermal								

PNEC's - Predicted no effect concentration

Environmental protection target	PNEC
Fresh water	0.127
Fresh water sediments	1000
Marine water	1
Marine sediments	100
Food chain	1667
Microorganisms in sewage treatment	100 mg/l
soil (agricultural)	100
Air	

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties	
Appearance:	WHITE
Physical State	LIQUID
Odor	FAINT EPOXY ODOR
Odor threshold	Not determined
pH	N/A
Melting point / freezing point (°C)	Not determined
Boiling point/range (°C)	N.D. - N.D.
Flash Point, (°C)	252
Evaporation rate	Not determined
Flammability (solid, gas)	Not determined
Upper/lower flammability or explosive limits	Not determined
Vapour Pressure	NOT DETERMINED
Vapour density	NOT DETERMINED
Relative density	Not determined
Solubility in / Miscibility with water	NONE
Partition coefficient: n-octanol/water	Not determined
Auto-ignition temperature (°C)	Not determined
Decomposition temperature (°C)	Not determined
Viscosity	N/A
Explosive properties	

	Not determined
Oxidising properties	Not determined

9.2 Other information

VOC Content g/l:	5
Grams of VOC per liter of coating product as applied (mixture of Part A and Part B) per ASTM D2369 Method E.	
Specific Gravity (g/cm ³)	1.132

SECTION 10: Stability and Reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

No decomposition if stored and applied as directed. Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Strong oxidizing agents. Acids and bases.

10.6 Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapours. Alcohols. Exothermic reaction. Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects**Acute Toxicity:**

Oral LD50:	No Information
Inhalation LC50:	No Information

Irritation: No information available.

Corrosivity: No information available.

Sensitization: No information available.

Repeated dose toxicity: No information available.

Carcinogenicity: No information available.

Mutagenicity: No information available.

Toxicity for reproduction: No information available.

STOT-single exposure: No information available.

STOT-repeated exposure: No information available.

Aspiration hazard: No information available.

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested.
Data on individual components are tabulated below:

<u>CAS-No.</u>	<u>Name According to EEC</u>	<u>Oral LD50</u>	<u>Dermal LD50</u>	<u>Vapor LC50</u>
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	>2000 mg/kg, rat, oral	>2000 mg/kg, rat	
100-51-6	Benzyl alcohol	1620 mg/kg, rat	2000 mg/kg, rabbit	>4178 mg/m3, rat
13463-67-7	titanium dioxide	10000 mg/kg, oral (rat)		

Additional Information:

This product is classified as a "Reproductive Toxicity - Category 2" due to containing a substance classified as a reproductive toxin via ingestion / oral exposure route only. Normal product application methods by trained crew members would not present a risk of oral exposure or ingestion. This product may contain Titanium Dioxide, which is listed by IARC as possibly carcinogenic to humans (Group 2B). This listing is based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals. This classification is relevant when exposed to titanium dioxide in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities.

SECTION 12: Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia):	No information
IC50 72hr (Algae):	No information
LC50 96hr (fish):	No information

12.2 Persistence and degradability:

No information

12.3 Bioaccumulative potential:

No information

12.4 Mobility in soil:

No information

12.5 Results of PBT and vPvB assessment:

The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects:

No information

<u>CAS-No.</u>	<u>Name According to EEC</u>	<u>EC50 48hr</u>	<u>IC50 72hr</u>	<u>LC50 96hr</u>
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	1.8 mg/l	No information	1.5-7.7 mg/L
100-51-6	Benzyl alcohol	230 mg/l	700 mg/l	460 mg/l
13463-67-7	titanium dioxide	>100 mg/l (EC50, 48h, Daphnia magna OECD202)ation	No information	>1000 mg/l
21645-51-2	alumina trihydrate	No information	No information	

SECTION 13: Disposal Considerations

13.1 WASTE TREATMENT METHODS: If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility. Empty containers should be taken to an approved waste handling site for recycling or disposal.

European Waste Code: 080111
Packaging Waste Code: 150110

SECTION 14: Transport Information

14.1	UN number	UN3082
14.2	UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S
	Technical name	DIGLYCIDYL ETHER OF BISPHENOL A
14.3	Transport hazard class(es)	9
	Subsidiary shipping hazard	Not applicable
14.4	Packing group	III
14.5	Environmental hazards	Not applicable
14.6	Special precautions for user	Not applicable
	EmS-No.:	F-A, S-F
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Not applicable

SECTION 15: Regulatory Information**15.1 Safety, health and environmental regulations/legislation for the substance or mixture:****National Regulations:**

Denmark Product Registration Number:	1925946
Danish MAL Code:	00-5 (1993)
Danish MAL Code - Mixture:	Not available
Sweden Product Registration Number:	Not available
Norway Product Registration Number:	Not available
Germany WGK Class:	Not available
Covered by Directive 2012/18/EC (Seveso III):	Not applicable
Restrictions to product or to substances according to Annex XVII, Regulation (CE) 1907/2006:	Not applicable

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other Information**Text for CLP Hazard Statements shown in Section 3 describing each ingredient:**

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.

H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H411 Toxic to aquatic life with long lasting effects.

Reasons for revision

No Information

List of References:

This Safety Data Sheet was compiled with data and information from the following sources:

The Ariel Regulatory Database provided by the 3E Corporation in Copenhagen, Denmark;
 European Union Commission Regulation No. 1907/2006 on REACH as amended within Commission Regulation (EU) 2015/830;
 European Union (EC) Regulation No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) and subsequent technical progress adaptations (ATP);
 EU Council Decision 2000/532/EC and its Annex entitled "List of Wastes".

Acronym & Abbreviation Key:

CLP	Classification, Labeling & Packaging Regulation
EC	European Commission
EU	European Union
US	United States
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Chemical Substances
REACH	Registration, Evaluation, Authorization of Chemicals Regulation
GHS	Globally Harmonized System of Classification and Labeling of Chemicals
LTEL	Long term exposure limit
STEL	Short term exposure limit
OEL	Occupational exposure limit
ppm	Parts per million
mg/m3	Milligrams per cubic meter
TLV	Threshold Limit Value
ACGIH	American Conference of Governmental Industrial Hygienists
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limits
VOC	Volatile organic compounds
g/l	Grams per liter
mg/kg	Milligrams per kilogram
N/A	Not applicable
LD50	Lethal dose at 50%
LC50	Lethal concentration at 50%
EC50	Half maximal effective concentration
IC50	Half maximal inhibitory concentration
PBT	Persistent bioaccumulative toxic chemical
vPvB	Very persistent and very bioaccumulative
EEC	European Economic Community
ADR	International Transport of Dangerous Goods by Road
RID	International Transport of Dangerous Goods by Rail
UN	United Nations
IMDG	International Maritime Dangerous Goods Code
IATA	International Air Transport Association
MARPOL	International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978
IBC	International Bulk Container
RTI	Respiratory Tract Irritation
NE	Narcotic Effects

For further information, please contact: Technical Services Department

The information on this sheet corresponds to our present knowledge. It is not a specification and it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage, and use of the product. It is not applicable to unusual or non-standard uses of the product or where instructions and recommendations are not followed.