

SAFETY DATA SHEET (MSDS)



Ronacrete
WORLD CLASS MANUFACTURER

According to 1907/2006/EC, Article 31
EPOXY HIGH BUILD COMP.A

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

1.1 Product identifier

Trade name: RonaFloor HB200
Article number: PC 126

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

No further relevant information available.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Ronacrete Ltd
Ronac House, Flex Meadow
Harlow, Essex, CM19 5TD
E-mail: technical@ronacrete.co.uk
Telephone: +44 1279 638700

1.4 Emergency telephone number:

technical@ronacrete.co.uk
Telephone: +44 1279638700
9.00am to 5.00pm Mon - Fri

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Skin Corr./Irrit. 2 H315
Eye Dam./Irrit. 2 H319
Skin Sens. 1 H317
Aquatic Chronic 2 H411

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

2.2 Label elements

Hazard pictograms



Signal word: Warning

Hazard 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.

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

Precautionary statements

Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P273 Avoid release to the environment.

P261 Avoid breathing vapor.

P264 Wash thoroughly after handling.

Response

P391 Collect spillage.

P363 Take off contaminated clothing and wash it before reuse.

P333+P313 IF ON SKIN: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice or attention.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.

Disposal

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

Storage

Not applicable.

Hazardous ingredients

bis-[4-(2,3-epoxipropoxy)phenyl]propane Bisphenol F diglycidyl ether, reaction mass of isomers oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Supplemental label elements

Not applicable.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII: Not applicable.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII: Not applicable.

Other hazards which do not result in classification: None known.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs
bis-[4-(2,3-epoxipropoxy)phenyl]propane	RRN: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	>= 50 - < 75	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	Skin Irrit. 2, H315: >= 5 % Eye Irrit. 2, H319: >= 5 %
Bisphenol F diglycidyl ether, reaction mass of isomers	RRN: 01-2119454392-40 EC: 701-263-0	>= 25 - < 35	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	-
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	RRN: 01-2119485289-22 EC: 271-846-8 CAS: 68609-97-2 Index: 603-103-00-4	>= 10 - < 20	Skin Irrit. 2, H315 Skin Sens. 1, H317	-
Titanium Dioxide	CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 RRN: 01-2119489379-17- XXXX Index: 603-103-00-4	2.5 - 5	Carc. 2, H351	-

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

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

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open

Skin contact

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first aid personnel

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.

Potential acute health effects

Eye contact

Causes serious eye irritation.

Inhalation

No known significant effects or critical hazards.

Skin contact

Causes skin irritation. May cause an allergic skin reaction.

Ingestion

No known significant effects or critical hazards.

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

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).

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 toxic 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

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

Not available

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 spilled material. Avoid breathing vapor 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 spilled 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. Avoid dispersal of spilled

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

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. Collect spillage.

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 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 spilled 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

7.1 Precautions for safe handling

Protective measures

Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully re-sealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations: Not available

Industrial sector specific solutions: Not available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits: No exposure limit value known.

Recommended monitoring procedures: If this product contains ingredients with exposure limits, personal,

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

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

bis-[4-(2,3-epoxipropoxy)phenyl]propane

DNEL: Short term Dermal

Value: 8.3 mg/kg bw/day

Population: Workers

Effects: Systemic

DNEL: Short term Inhalation

Value: 12.3 mg/m³

Population: Workers

Effects: Systemic

DNEL: Long term Dermal

Value: 8.3 mg/kg bw/day

Population: Workers

Effects: Systemic

DNEL: Long term Inhalation

Value: 12.3 mg/m³

Population: Workers

Effects: Systemic

DNEL: Short term Dermal

Value: 3.6 mg/kg bw/day

Population: General population

Effects: Systemic

DNEL: Short term Inhalation

Value: 0.75 mg/m³

Population: General population

Effects: Systemic

DNEL: Short term Oral

Value: 0.75 mg/kg bw/day

Population: General population

Effects: Systemic

DNEL: Long term Dermal

Value: 3.6 mg/kg bw/day

Population: General population

Effects: Systemic

DNEL: Long term Inhalation

Value: 0.75 mg/m³

Population: General population

Effects: Systemic

DNEL: Long term Oral

Value: 0.75 mg/kg bw/day

Population: General population

Effects: Systemic

Bisphenol F diglycidyl ether, reaction mass of isomers

DNEL: Short term Dermal

Value: 8.3 µg/cm²

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

Population: Workers

Effects: Local

DNEL: Long term Dermal

Value: 104.15 mg/kg bw/day

Population: Workers

Effects: Systemic

DNEL: Long term Inhalation

Value: 29.39 mg/m³

Population: Workers

Effects: Systemic

DNEL: Long term Dermal

Value: 62.5 mg/kg bw/day

Population: General population

Effects: Systemic

DNEL: Long term Inhalation

Value: 8.7 mg/m³

Population: General population

Effects: Systemic

DNEL: Long term Oral

Value: 6.25 mg/kg bw/day

Population: General population

Effects: Systemic

oxirane, mono[(C12-14-alkyloxy)methyl] derivs

DNEL: Long term Inhalation

Value: 3.6 mg/m³

Population: Workers

Effects: Systemic

DNEL: Long term Inhalation

Value: 0.87 mg/m³

Population: General population

Effects: Systemic

DNEL: Long term Dermal

Value: 1.0 mg/kg bw/day

Population: Workers

Effects: Systemic

DNEL: Long term Dermal

Value: 0.5 mg/kg bw/day

Population: General population

Effects: Systemic

DNEL: Long term Oral

Value: 0.5 mg/kg bw/day

Population: General population

Effects: Systemic

DNEL/DMEL Summary: Not available

PNECs

bis-[4-(2,3-epoxipropoxy)phenyl]propane

Compartment detail: Fresh water

Value: 6 µg/l

Compartment detail: Marine

Value: 1 µg/l

Compartment detail: Sewage Treatment Plant

Value: 10 mg/l

Compartment detail: Fresh water sediment

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

Value: 0.341 mg/kg dwt

Compartment detail: Marine water sediment

Value: 0.034 mg/kg dwt

Compartment detail: Soil

Value: 0.065 mg/kg dwt

Bisphenol F diglycidyl ether, reaction mass of isomers

Compartment detail: Fresh water

Value: 0.003 mg/l

Compartment detail: Marine

Value: 0.0003 mg/l

Compartment detail: Sewage Treatment Plant

Value: 10 mg/l

Compartment detail: Fresh water sediment

Value: 0.294 mg/kg dwt

Compartment detail: Marine water sediment

Value: 0.0294 mg/kg dwt

Compartment detail: Soil

Value: 0.237 mg/kg dwt

Compartment detail: Intermittent Releases

Value: 0.0254 mg/l

oxirane, mono[(C12-14-alkyloxy)methyl] derivs

Compartment detail: Fresh water

Value: 0.0072 mg/l

Compartment detail: Marine

Value: 0.72 µg/l

Compartment detail: Sewage Treatment Plant

Value: 10 mg/l

Compartment detail: Fresh water sediment

Value: 307.16 mg/kg dwt

Compartment detail: Marine water sediment

Value: 30.716 mg/kg dwt

Compartment detail: Soil

Value: 61.42 mg/kg dwt

PNEC Summary: Not available

Derived No-Effect Levels' (DNEL's) and Predicted No-Effect Concentrations' (PNEC's)

Explanatory note

REACH requires manufacturers and importers to establish and report 'Derived No-Effect Levels' (DNEL's) for humans by inhalation, ingestion and dermal routes of exposure and 'Predicted No-Effect Concentrations' (PNEC's) for environmental exposure. DNEL's and PNEC's are established by the registrant without an official consultation process, and are not intended to be directly used for setting workplace or general population exposure limits. They are primarily used as input values in running Quantitative Risk Assessment models (like the ECETOC-TRA model). Due to differences in calculation methodology the DNEL will tend to be lower (sometimes significantly) than any corresponding health-based OEL for that chemical substance. Further although DNEL's (and PNEC's) are an indication for setting risk reduction measures, it should be recognized that these limits do not have the same regulatory application as officially endorsed governmental OEL's.

8.2 Exposure controls

Appropriate engineering controls: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

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.

Skin protection

Hand protection: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Material: 730 Camatril

Minimum break through time: 480 min

Material: 898 Butoject

Minimum break through time: 480 min

Producer: This recommendation is valid only for our Product as delivered. If this product will be mixed with other substances you need to contact a supplier of CE approved protective gloves (e.g. KCL GmbH, D-36124 Eichenzell, Tel. 0049 (0) 6659 87300, Fax. 0049 (0) 6659 87155, email: vertrieb@kcl.de).

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.

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.

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.

General protective measures: Chemical splash goggles or face shield. Chemical-resistant gloves. Suitable protective footwear. Light protective clothing. Eyewash bottle with clean water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state: Liquid

Color: Light yellow

Odor: Not available (not measured)

Odor threshold: Not available (not measured)

pH: Not available (not measured)

Melting point/freezing point: Not available (not measured)

Initial boiling point and boiling range: Not available (not measured)

Flash point: Greater than 150 °C

Evaporation rate: Not available (not measured)

Upper/lower flammability or explosive limits:

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

Lower: Not available (not measured)
Upper: Not available (not measured)
Vapor pressure: Not available (not measured)
Vapor density: Not available (not measured)
Relative density: Not available (not measured)
Density: 1,120 kg/m³ (ASTM D 4052)
Solubility(ies): Not available (not measured)
Solubility in water: Not available (not measured)
Partition coefficient (n-octanol/water): Not available Not applicable.

Auto-ignition temperature: Estimated. 400 °C (ASTM D 1929)

Decomposition temperature: Not available (not measured)

Viscosity

Dynamic: 0.7 - 1.1 Pa·s @ 25 °C

Kinematic: Not available (not measured)

Explosive properties: Not available (not measured)

Oxidizing properties: Not available (not measured)

9.2 Other information

No additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under normal conditions

10.2 Chemical stability

The product is stable.

10.3 Possibility of hazardous reactions

Hazardous reactions or instability may occur under certain conditions of storage or use.

10.4 Conditions to avoid

No specific data.

10.5 Incompatible materials

No specific data.

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	Classification	Dose
bis-[4-(2,3-epoxipropoxy)phenyl]propane				
	LD50 Oral	Rat	11,400 mg/kg	-
Remarks - Oral	Not acutely toxic in multiple mouse and rat studies, LD50 > 2000 mg/kg of body weight.			

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

	LD50 Oral	Rat	11,400 mg/kg	-
Remarks - Inhalation	Due to the very low vapor pressure, saturated atmosphere = 0.008 ppb, meaningful acute inhalation studies could not be conducted.			
Remarks - Dermal	In a rat OECD no. 402 study the dermal LD50 was > 2000 mg/kg. In multiple rabbit acute dermal studies the LD50 was > 2000 mg/kg. One rabbit study reported an LD50 value of 23 grams/kg.			
	LD50 Dermal	Rat	2,000 mg/kg	-
	LD50 Dermal	Rat	2,000 mg/kg	-
Bisphenol F diglycidyl ether, reaction mass of isomers				
	LD50 Oral	Rat	> 2,000 mg/kg	-
Remarks - Oral	The acute oral median lethal dose (LD50) in the Fischer 344 strain rat was found to be greater than 2000 mg/kg bodyweight.			
Remarks - Inhalation	In accordance with REACH Annex VII, the acute inhalation study does not need to be conducted as oral and dermal studies are available for this substance.			
	LD50 Dermal	Rabbit	> 2,000 mg/kg	-
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.				
	LD50 Oral	Rat	17,100 mg/kg	-
	LD50 Oral	Rat	26,800 mg/kg	-
	LD50 Dermal	Rabbit	> 4,000 mg/kg	-

Conclusion/Summary: Not available

Acute toxicity estimates

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
bis-[4-(2,3-epoxipropoxy)phenyl]propane	11,400 mg/kg	N/A	N/A	N/A	N/A
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	17,100 mg/kg	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Skin - Erythema/Eschar 404 Acute Dermal Irritation/Corrosion	Rabbit	1.5 - 2		-
	Skin - Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	1.0 - 1.5		-
	eyes - - 405 Acute Eye Irritation/Corrosion	Rabbit	0		-

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

	eyes - Redness of the conjunctivae	Rabbit	0.7		-
	Skin - Moderate irritant	Rabbit	-	24 hrs	-
	Skin - Severe irritant	Rabbit	-	24 hrs	-
	eyes - Mild irritant	Rabbit	-		-
Bisphenol F diglycidyl ether, reaction mass of isomers	Skin - Erythema/Eschar 404 Acute Dermal Irritation/Corrosion	Rabbit	0.7	4 hrs	72 hrs
	Skin - Edema 404 Acute Dermal Irritation/Corrosion	Rabbit	0	4 hrs	4 - 504 hrs
	eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	eyes - Iris lesion 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	eyes - Redness of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	eyes - Edema of the conjunctivae 405 Acute Eye Irritation/Corrosion	Rabbit	0		1 - 168 hrs
	Skin - Mild irritant	Rabbit	-	24 hrs	-
oxirane, mono[(C12-14-alkoxy)methyl] derivs.	Skin - Primary dermal irritation index (PDII) OTS 798.4470 Acute Dermal Irritation	Rabbit	4.1	24 hrs	72 hrs
	Skin - Primary dermal irritation index (PDII) 404 Acute Dermal Irritation/Corrosion	Rabbit	5.75	24 hrs	72 hrs
	eyes - Cornea opacity 405 Acute Eye Irritation/Corrosion	Rabbit	2		1 - 24 hrs
	Skin - Moderate irritant	Rabbit	-	24 hrs	-

Conclusion/Summary

Skin: Not available

Eyes: Not available

Respiratory: Not available

Mutagenicity

Product/ingredient name	Test	Experiment	Result
bis-[4-(2,3-epoxipropoxy)phenyl]propane	-	Subject: See Remarks	Positive

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

<p>Remarks</p>	<p>BADGE induced gene-mutation in Ames/Salmonella tester strains TA1535 and TA100 in multiple studies. Generally, mutagenic activity was greater without liver S9 metabolic activation. Induced gene-mutation in L5178Y mouse lymphoma cells. Induced gene-mutation and chromosome damage in Chinese hamster V79 cells. Induced cell transformation in Syrian hamster BHK cells based on clonal growth in soft agar.</p>		
	-	<p>Subject: Mammalian-Animal</p>	<p>Negative</p>
<p>Remarks</p>	<p>Did not induce evidence of chromosome damage in a mouse dominant lethal oral gavage study conducted up to a high dose level of 10 grams/kg and in a mouse micronucleus test conducted up to a high dose of 5000 mg/kg. Negative in a male mouse spermatocyte cytogenetic assay with treatment for 5 days by oral gavage up to a high dose of 3000 mg/kg. Did not induce an increase in the frequency of chromosome damage in a Chinese hamster bone marrow cytogenetic test by oral gavage up to a high dose of 3300 mg/kg. Failed to induce an increase of DNA strand breaks in rat liver cells following oral gavage treatment with 500mg/kg as measured by alkaline elution.</p>		
<p>Bisphenol F diglycidyl ether, reaction mass of isomers</p>	-	<p>Subject: See Remarks Experiment: In vitro</p>	<p>Positive</p>
<p>Remarks</p>	<p>Bisphenol F Diglycidylether induced gene-mutation in the Ames/Salmonella mutation test and chromosomal aberrations in human lymphocytes in multiple independent testing guideline GLP studies. Furthermore, the structural analog, Bisphenol A Diglycidylether (BPADE) induce a significant increase of the mutant frequency in L5178Y mouse lymphoma cells in culture supporting the other findings. Therefore, BPADE is genotoxic in vitro.</p>		
	-	<p>Subject: Mammalian-Animal Experiment: In vivo</p>	<p>Negative</p>
<p>Remarks</p>	<p>When Bisphenol F Diglycidylether was evaluated for genotoxicity potential in multiple GLP in vivo assays including the mouse micronucleus, rat in vivo/in vitro UDS and MutaMouse tests no evidence of genotoxicity was observed. The results of other in vivo tests for genotoxicity also supported these negative findings for BPADE. Therefore, Bisphenol F Diglycidylether is not genotoxic in vivo.</p>		
<p>oxirane, mono[(C12-14-alkyloxy)methyl] derivs.</p>	<p>OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay)</p>	<p>Subject: Bacteria Experiment: In vitro</p>	<p>Positive</p>
<p>Remarks</p>	<p>Positive in an O.E.C.D. test guideline no. 471 bacterial mutation assay in Salmonella tester strain TA1535 with and without S9 metabolic activation. Negative in an O.E.C.D. test guideline no. 476 Chinese hamster ovary cell (CHO) HGPRT gene-mutation assay conducted up to cytotoxic does levels with and without S9 metabolic activation. Negative in a L5178Y mouse lymphoma cell TK gene-mutation assay tested up to cytotoxic dose levels.</p>		

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

	474 Mammalian Erythrocyte Micronucleus Test	Subject: Mammalian-Animal Experiment: In vivo	Negative
Remarks	Negative for micronucleus (chromosome damage) induction in an O.E.C.D. test guideline no. 474 mouse study conducted up to a high I.P. injection dose of 4.0 grams/kg. Negative in a rat bone marrow chromosome aberration study conducted in a manner similar to O.E.C.D. test guideline no. 475 by I.P. injection up to a high dose of approximately 700 mg/kg.		
	476 In vitro Mammalian Cell Gene Mutation Test	Subject: Mammalian-Animal Experiment: In vivo	Negative
	479 Genetic Toxicology: In vitro Sister Chromatid Exchange Assay in Mammalian Cells	Subject: Mammalian-Animal Experiment: In vivo	Negative
	475 Mammalian Bone Marrow Chromosomal Aberration Test	Subject: Mammalian-Animal Experiment: In vivo	Negative

Conclusion/Summary: Not available

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Negative - Unreported - NOEL	See Remarks		
Remarks	In a rat oral gavage OECD no. 453 study there was no evidence of carcinogenicity up to the high dose level of 100 mg/kg/day. OECD Test Guideline no. 453 dermal exposure studies were conducted on male mice and female rats. No evidence of carcinogenicity was observed in male mice treated up to the high dose of 100 mg/kg/day and female rats exposed up to a high dose level of 1000mg/kg/day.			
Bisphenol F diglycidyl ether, reaction mass of isomers	Negative - Dermal - NOEL	Mouse		
Remarks	Bisphenol F Diglycidylether (BPFDE) was evaluated for the potential to induce local and systemic tumors in a mouse skin-painting 24 month study. Dermal treatment of mice twice a week with up to a 10% solution of Bisphenol F Diglycidylether (BPFDE) did not induce any adverse findings of tumor incidence or local dermal effects. Therefore, BPFDE is not a mouse carcinogen under the conditions of this study. The NOAEL was estimated to be approximately 800 mg/kg/day.			

Conclusion/Summary: Not available

Reproductive toxicity

Conclusion/Summary: Not available

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Negative - Oral	Rabbit	-	-
Remarks	BADGE did not induce any evidence of development toxicity in rats and rabbits exposed by oral gavage or in rabbits treated by the dermal route in OECD Test Guideline no. 414 GLP studies. The oral gavage studies were conducted up to a high dose level of 180 mg/kg/day that produced maternal toxicity based on decreased body weight gain. The rabbit dermal study was conducted up to a high dose of 300 mg/kg/day that induced maternal toxicity based on reduced body weight gain.			
Bisphenol F diglycidyl ether, reaction mass of isomers	Negative - Dermal	Rabbit	-	-
Remarks	Diglycidyl ether of bisphenol A (DGEBA) was tested for its embryo/fetal toxicity and teratogenicity in pregnant rabbits. DGEBA was applied daily to the backs (clipped free of hair) of New Zealand White rabbits at dose levels of 0 (polyethylene glycol, vehicle control), 30, 100 or 300 mg/kg body weight/day at a dose volume of 1 ml/kg body weight/day on days 6 through 18 of gestation. Twenty six inseminated rabbits were used per dose group resulting in a minimum of 20 pregnant rabbits per exposure level. An occlusive bandage of absorbent gauze and non-absorbent cotton was placed over the dosing area on the back of each rabbit. The bandage was held in place for a minimum of 6 hours/day using a lycra/spandex jacket. Following the occlusion period the bandage and jacket were removed. Maternal toxicity was observed among pregnant rabbits in the 300 mg/kg dose group as evidenced by moderate to severe erythema, fissures, hemorrhage and slight edema at the exposure site. Similar, but less severe skin lesions were observed in pregnant rabbits in the 100 mg/kg/day exposure group. Skin effects (slight erythema) observed in pregnant rabbits in the 30 mg/kg/day dose group were not considered toxicologically significant. No evidence of embryo/fetal toxicity or teratogenicity was observed at any dose level resulting in a embryo/fetal no-observed-effect level of 300 mg/kg body weight/day.			
oxirane, mono[(C12-14-alkyloxy)methyl] derivs	Negative - Dermal OECD Test Guideline 414	Rat	-	-
Remarks	In a U.S. E.P. A. OTS 798.4420 and O.E.C.D. test guideline no. 414 developmental toxicity study conducted by the dermal route in the rat, the NOAEL for both maternal and developmental adverse effects was greater than the high dose level of 200 mg/kg/day.			

Conclusion/Summary: Not available

Specific target organ toxicity (single exposure)

Not available

Specific target organ toxicity (repeated exposure)

Not available

Aspiration hazard

Not available

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31
EPOXY HIGH BUILD COMP.A

Information on likely routes of exposure: Not available

Potential acute health effects

Eye contact: Causes serious eye irritation.

Inhalation: No known significant effects or critical hazards.

Skin contact: Causes skin irritation. May cause an allergic skin reaction.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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.

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
oxirane, mono[(C12-14-alkoxy)methyl] derivs.	NOAEL Dermal	Rat	1 mg/kg/d Repeated dose 411 Subchronic Dermal Toxicity: 90-day Study	90 days Repeated dose; 5 days per week Repeated dose

Conclusion/Summary: Not available

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.

Reproductive toxicity: No known significant effects or critical hazards.

11.2 Information on other hazards

Endocrine disrupting properties: Not available

Other information: Not available

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
bis-[4-(2,3-epoxipropoxy)phenyl]propane			

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

	Acute LC50 1.3 mg/l - 203 Fish, Acute Toxicity Test	Fish	96 h
	Acute LC50 1.3 mg/l 203 Fish, Acute Toxicity Test	Fish	96 h
	Acute EC50 2.1 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Water flea	48 h
	Acute LC50 > 11 mg/l -	Algae	72 h
	Acute LC50 > 11 mg/l	Algae	72 h
	Chronic No-observable-effect-concentration 0.3 mg/l semi-static test 211 Daphnia Magna Reproduction Test	Water flea	21 d
Bisphenol F diglycidyl ether, reaction mass of isomers			
	Acute LC50 2.54 mg/l -	Fish	96 h
	Acute EC50 2.55 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Water flea	48 h
	Acute EC50 > 1,000 mg/l - 201 Alga, Growth Inhibition Test	Algae	72 h
oxirane, mono[(C12-14-alkyloxy)methyl] derivs			
	Acute LC50 > 1.8 g/l - 203 Fish, Acute Toxicity Test	Rainbow trout, donaldson trout	96 h
	Acute LC50 > 5.0 g/l - 203 Fish, Acute Toxicity Test	Bluegill	96 h
	Acute LC50 > 100.0 mg/l - 203 Fish, Acute Toxicity Test	Rainbow trout, donaldson trout	96 h
	Acute EC50 7.2 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Water flea	96 h 48 h
	Acute EC50 844 mg/l - 201 Alga, Growth Inhibition Test	Algae	72 h
	Acute EC50 > 100 mg/l Fresh water OECD-Guideline No. 209	activated sludge, domestic (adaptation not specified)	3 h

Conclusion/Summary: Not available

12.2 Persistence and degradability

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.A

Product/ingredient name	Test	Result	Dose	Inoculum
bis-[4-(2,3-epoxipropoxy)phenyl]propane	OECD-Guideline 301 F (Manometric Respirometry Test)	6 - 12 % - No biodegradation - 28 d	-	Activated sludge
Remarks	The level of biodegradation in an "enhanced" OECD 301F study was 5% within the 28 day contact period. Biodegradation reached 6 - 12 % after 28 days of contact in an OECD test guideline no. 301B study. Therefore, BADGE is not readily biodegradable under the conditions of the studies.			
Bisphenol F diglycidyl ether, reaction mass of isomers	OECD-Guideline 301 B (CO2 Evolution Test)	16 % - No biodegradation - 28d	10 mg/l	Activated sludge
Remarks	Bisphenol F Diglycidylether was not readily biodegradable under the conditions of the O.E.C.D. 301 B and 301 D screening studies. The maximum percent biodegradation observed in one of the O.E.C.D. 301 B studies was 16% for 10 mg/L at 28 days of contact.			
oxirane, mono[(C12-14-alkyloxy)methyl] derivs	OECD-Guideline 301 F (Manometric Respirometry Test)	87 % - Readily biodegradable - 28 d	-	Activated sludge

Conclusion/Summary: Not available

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
bis-[4-(2,3-epoxipropoxy)phenyl]propane	2.64 - 3.78	3 - 31 31.00	Low
Bisphenol F diglycidyl ether, reaction mass of isomers	3.3	150 150.00	Low
oxirane, mono[(C12-14-alkyloxy)methyl] derivs	3.77	160 - 263 160.00	Low

12.4 Mobility in soil

Soil/water partition coefficient (KOC): 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 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31
EPOXY HIGH BUILD COMP.A

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal: The generation of waste should be avoided or minimized 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: The classification of the product may meet the criteria for a hazardous waste.

Packaging

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

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

14.1 UN-Number

ADR/ADN 3082

RID 3082

ICAO/IATA 3082

IMO/IMDG 3082

14.2 UN proper Shipping name

ADR/ADN Environmentally hazardous substance, liquid, N.O.S. (Epoxide derivatives)

RID Environmentally hazardous substance, liquid, N.O.S. (Epoxide derivatives)

ICAO/IATA Environmentally hazardous substance, liquid, N.O.S. (Epoxide derivatives)

IMO/IMDG Environmentally hazardous substance, liquid, N.O.S. (Epoxide derivatives)

14.3 Transport hazard class(es)

ADR/ADN 9

RID 9

ICAO/IATA 9

IMO/IMDG 9

14.4 Packing group

ADR/ADN III

RID III

ICAO/IATA III

IMO/IMDG III

14.5 Environmental hazards

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31
EPOXY HIGH BUILD COMP.A

Environmentally hazardous and/or Marine Pollutant: Yes



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 authorization

Annex XIV: None required.

Substances of very high concern

None required.

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

Other EU regulations REACH Status: The substance(s) in this product has (have) been Registered, or are exempted from registration, according to Regulation (EC) No. 1907/2006 (REACH).

Prior Informed Consent (PIC) (649/2012/EU): None required.

Seveso Directive: This product is controlled under the Seveso Directive.

Danger criteria

Category: E2

National regulations

International regulations

International lists:

Australia inventory (AICS): All components are listed or exempted.

Canada inventory: All components are listed or exempted.

Japan inventory: All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Korea inventory (KECI): All components are listed or exempted.

New Zealand Inventory (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

United States inventory (TSCA 8b): All components are active or exempted.

Taiwan inventory (TCSI): All components are listed or exempted.

Thailand inventory: Not determined.

Vietnam inventory: Not determined.

15.2 Chemical safety assessment

This product contains substances for which Chemical Safety Assessments are still required.

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31
EPOXY HIGH BUILD COMP.A

SECTION 16: Other information

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
N/A: Not available
PBT: Persistent, Bioaccumulative and Toxic
PNEC: Predicted No Effect Concentration
RRN: REACH Registration Number
SGG: Segregation Group
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	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

Not applicable.

Full text of classifications [CLP/GHS]

Skin corrosion/irritation
Skin sensitisation
Serious eye damage/eye irritation
Aquatic hazard (Long-term)

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

SAFETY DATA SHEET (MSDS)



Ronacrete
WORLD CLASS MANUFACTURER

According to 1907/2006/EC, Article 31
EPOXY HIGH BUILD COMP.B

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

1.1 Product identifier

Trade Reference: RonaFloor HB200
Article Number: PC 126

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

No further relevant information available.
Application of the substance / the mixture Epoxy binder

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Ronacrete Ltd
Ronac House, Flex Meadow
Harlow, Essex, CM19 5TD
E-mail: technical@ronacrete.co.uk
Telephone: +44 1279 638700

1.4 Emergency telephone number:

technical@ronacrete.co.uk
Telephone: +44 1279 638700
9.00am to 5.00pm Mon - Fri

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Acute toxicity (oral): Category4
Acute toxicity (dermal): Category4
Acute toxicity (inhalation: vapor): Category4
Skin corrosion/irritation: Category1C
Serious eye damage/irritation: Category1
Skin sensitization: Category1
Chronic aquatic toxicity: Category3

2.2 Label elements

Hazard symbols



Signal Word: Danger

Hazard statements

H302 Harmful if swallowed
H312 Harmful in contact with skin
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.B

H318 Causes serious eye damage
H332 Harmful if inhaled
H412 Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/physician.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P321 Specific treatment
P330 Rinse mouth.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash before reuse.
P362+P364 Take off contaminated clothing and wash it before reuse.
P363 Wash contaminated clothing before reuse.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulation.

2.3 Other hazards

Not applicable

SECTION 3: Composition/information on ingredients

Chemical Name	Trade names and Synonyms	CAS No.	Content (%)
Benzyl alcohol	-	100-51-6	35-45
Secret1 (4,4'-(1-Methylethylidene)bisphenol polymer with substituted polyalkyl(1~3)carbomonocyclicalkane(1~3)amine and (chloromethyl)oxirane)	-	Secret	35-45
Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-	-	2855-13-2	15-25

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.B

SECTION 4: First aid measures

Eye contact

Do not rub your eyes.

Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.

Get medical attention immediately.

Remove contact lenses if worn.

Skin contact

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Wash contaminated clothing thoroughly before re-using.

Get medical attention immediately.

Go to the hospital immediately if symptoms (flare, irritate) occur.

Wash thoroughly after handling.

Inhalation contact

Take specific treatment if needed.

When exposed to large amounts of steam and mist, move to fresh air.

If breathing is stopped or irregular, give artificial respiration and supply oxygen.

Ingestion contact

Please be advised by doctor whether induction of vomit is demanded or not.

Rinse your mouth with water immediately.

Delayed and immediate effects and also chronic effects from short and long term exposure

Not available

Notes to physician

Notify medical personnel of contaminated situations and have them take appropriate protective measures.

SECTION 5: Firefighting measures

Suitable (Unsuitable) extinguishing media

Avoid use of water jet for extinguishing

Dry chemical, carbon dioxide, regular foam extinguishing agent, spray

Specific hazards arising from the chemical

Causes serious eye damage

Causes severe skin burns and eye damage

Harmful if inhaled

Harmful if swallowed

Harmful in contact with skin

Special protective actions for firefighters

Avoid inhalation of materials or combustion by-products.

Cool containers with water until well after fire is out.

Do not approach the tank surrounded by fire until it is extinguished.

In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.

Keep unauthorized personnel out.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Do not touch spilled material. Stop leak if you can do it without risk.

Handle the damaged containers or spilled material after wearing appropriate protective equipment

Move container to safe area from the leak area.

Must work against the wind, let the upwind people to evacuate.

Remove all sources of ignition.

Environmental precautions

If large amounts have been spilled, inform the relevant authorities.

Prevent runoff and contact with waterways, drains or sewers.

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.B

Methods and materials for containment and cleaning up

Appropriate container for disposal of spilled material collected.

Dike for later disposal.

Disposal of waste shall be in compliance with the Wastes Control Act

Large spill : Stay upwind and keep out of low areas. Dike for later disposal.

Notify the central and local government if the emission reach the standard threshold.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid contact with incompatible materials.

Avoid direct physical contact.

Comply with all applicable laws and regulations for handling

Dealing only with a well-ventilated place.

Do not handle until all safety precautions have been read and understood.

Conditions for safe storage, including any incompatibilities

Avoid direct sunlight.

Check regularly for leaks.

Do not apply any physical shock to container.

Do not apply direct heat.

Do not use damaged containers.

SECTION 8: Exposure controls/personal protection

Exposure limits

ACGIH TLV: Not applicable

OSHA PEL: Not applicable

Engineering controls

Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

Individual protection measures, such as personal protective equipment

Individual protection measures, such as personal protective equipment

Respiratory protection

Any air-purifying respirator with a full facepiece and an organic vapor canister.

Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).

Any chemical cartridge respirator with organic vapor cartridge(s).

Consider warning properties before use.

For Unknown Concentration or Immediately Dangerous to Life or Health: Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. Any self-contained breathing apparatus with a full facepiece.

Respiratory protection is ranked in order from minimum to maximum.

Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.

Eye protection

Provide an emergency eye wash station and quick drench shower in the immediate work area.

Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.

Hand protection

Wear appropriate chemical resistant glove.

Skin protection

Wear appropriate chemical resistant protective clothing.

Others

Not available

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.B

SECTION 9: Physical and chemical properties

Appearance: Liquid
Colour: Pale yellow
Odour: Not available
Odor threshold: Not available
pH: Not available
Melting point/Freezing point: Not available
Initial Boiling Point/Boiling Ranges: Not available
Flash point: 131°C
Evaporation rate: Not available
Flammability(solid, gas): Not available
Upper/Lower Flammability or explosive limits: Not available
Vapour pressure: Not available
Solubility: Not available
Vapour density: Not available
Specific gravity(Relative density): 1.03
Partition coefficient of n-octanol/water: Not available
Autoignition temperature: Not available
Decomposition temperature: Not available
Viscosity: 300-500cps (25°C)
Molecular weight: Not available

SECTION 10: Stability and reactivity

Chemical Stability

This material is stable under recommended storage and handling conditions.

Possibility of hazardous reactions

Hazardous Polymerization will not occur.

Conditions to avoid

Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces

Avoid contact with incompatible materials and condition.

Incompatible materials

Not available

Hazardous decomposition products

May emit flammable vapour if involved in fire.

SECTION 11: Toxicological information

Information on the likely routes of exposure

Respiratory tracts

Not available

Oral

Harmful if swallowed

Eye/Skin

Causes serious eye damage

Causes severe skin burns and eye damage

May cause an allergic skin reaction

Delayed and immediate effects and also chronic effects from short and long term exposure

Acute toxicity

Oral

Product (ATEmix) : 300mg/kg < ATEmix <= 2000mg/kg

[Benzyl alcohol] : LD50 1610 □/□ Rat (OECD SIDS)

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.B

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : LD50 = 1030 □/□ Rat (SIDS, NITE)

Dermal

Product (ATEmix) : 1000mg/kg < ATEmix <= 2000mg/kg

[Benzyl alcohol] : LD50 2000 □/□ Rabbit (SIDS, NITE)

Inhalation

Product (ATEmix) : 10.0mg/L < ATEmix <= 20.0mg/L

[Benzyl alcohol] : LC50 = 6.25 □/l 4 hr (1000ppm/8hr) Rat (HSDB)

Skin corrosion/irritation

Causes severe skin burns and eye damage

Serious eye damage/irritation

Causes serious eye damage

Respiratory sensitization

Not available

Skin sensitization

May cause an allergic skin reaction

Carcinogenicity

IARC: Not available

OSHA: Not available

ACGIH: Not available

NTP: Not available

EU CLP: Not available

Germ cell mutagenicity

Not available

Reproductive toxicity

Not available

STOT-single exposure

Not available

STOT-repeated exposure

Not available

Aspiration hazard

Not available

SECTION 12: Ecological information

Ecotoxicity

Fish

[Benzyl alcohol] : LC50 460mg/L 96hr fathead minnow (NITE: SIDS, 2004) LC50 10 □/l 96 hr

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : LC50 110 mg/L 96hr Leuciscus idus (ECHA)

Crustaceans

[Benzyl alcohol] : EC50 230mg/L 48hr Daphnia magna (NITE: Ministry of the Environment, 1997)

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : EC50 23 □/l 48 hr Daphnia magna (ECHA)

Algae

[Benzyl alcohol] : EC50 770mg/L 72hr (NITE: Ministry of the Environment, 1997)

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : EC50 37 mg/L Desmodesmus subspicatus (ECHA)

Persistence and degradability

Persistence

[Benzyl alcohol] : log Kow = 1.1

[Secret1] : log kow 3.6 (25°C) (ECHA CHEM) log Kow 6.22 (ECHA CHEM)

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : log Kow 0.99 (ECHA)

Degradability

Not available

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31

EPOXY HIGH BUILD COMP.B

Bioaccumulative potential

Bioaccumulative potential

[Secret1] : 5.13 dimensionless (ECHA CHEM-QSAR) The test material was not biodegraded under the stringent conditions of this OECD ready biodegradation test, due to apparent toxicity or inhibition of the microbial inoculum caused by the test material. (OECD TG 301 F, G:P)

Biodegradation

[Benzyl alcohol] : Biodegradability = 94 (%) 28 day (Aerobic, Activated Sludge)

[Secret1] : 0%/28 days (OECD TG 301F, GLP) (ECHA)

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : 8 % degradation, 28 day (ECHA)

Mobility in soil

Not available

Other adverse effects

[Secret1] : Algae (*Pseudokirchnerella subcapitata*) 72h-NOELR=3.1 mg/L (OECD TG 201 GLP) (ECHA)

SECTION 13: Disposal considerations

Disposal methods

It shall be treated by incineration.

Oil water separation technology shall be applied as pre-waste treatment if it is applicable.

Stabilization and minimization treatment by incineration or similar method can be applied, if more than two kinds of designated wastes are in mixture state and it is impractical to separate them.

Special precautions for disposal

Anyone with business license number who generates industrial wastes shall treat the waste by him/herself or by entrusting to the legal entities who treat the wastes, recycle the wastes of others or install and operate the waste treatment facilities according to the Wastes Control Act.

Dispose of waste in accordance with all applicable laws and regulations.

SECTION 14: Transport information

UN No. (IMDG CODE/IATA DGR): 2735

Proper shipping name

POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-)

Hazard Class: 8

IMDG CODE/IATA DGR Packing group

III

Marine pollutant

Not applicable

Special precautions for user related to transport or transportation measures

Local transport follows in accordance with Dangerous goods Safety Management Law.

Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.

EmS FIRE SCHEDULE : F-A (General fire schedule)

EmS SPILLAGE SCHEDULE : S-B (Corrosive substances)

SAFETY DATA SHEET (MSDS)

According to 1907/2006/EC, Article 31
EPOXY HIGH BUILD COMP.B

SECTION 15: Regulatory information

National and/or international regulatory information

POPs Management Law

[Benzyl alcohol] : Not applicable

[Secret1] : Not applicable

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : Not applicable

Information of EU Classification

Classification

[Benzyl alcohol] : H332,H302

[Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl-] : H312,H302,H314,H317,H412

U.S. Federal regulations

OSHA PROCESS SAFETY (29CFR1910.119): Not applicable

CERCLA Section 103 (40CFR302.4): Not applicable

EPCRA Section 302 (40CFR355.30): Not applicable

EPCRA Section 304 (40CFR355.40): Not applicable

EPCRA Section 313 (40CFR372.65): Not applicable

Rotterdam Convention listed ingredients

Not applicable

Stockholm Convention listed ingredients

Not applicable

Montreal Protocol listed ingredients

Not applicable

SECTION 16: Other information

Reference

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS

Other

This SDS is prepared according to the Globally Harmonized System (GHS).

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.