SAFETY DATA SHEET

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010

BCED Líquido concentrado componente A

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

1.1 Product identifier

Product name : BCED Líquido concentrado componente A

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

Product use Coverings Resin Systems

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: : TOPCRET TECNOLOGIA EN REVESTIMIENTOS S.L.
Gran Vía de Les Corts Catalanes, 828
08013 Barcelona - España

Telephone :+34 932 741 208

Contact Person :info@topcret.com

1.4 Emergency telephone number

Toxicological Information Medical Service 91 562 04 20

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
Muta. 2 H341
Aquatic Chronic 2 H411

Classification according to Directive 1999/45/EC [DPD]

Classification	:	Muta.Cat.3, R68 Xi, R36/38 R43 N, R51/53
Physical/chemical hazards	:	Not applicable.
Human health hazards	:	Possible risk of irreversible effects. Irritating to eyes and skin. May cause sensitization by skin contact.
Environmental hazards	:	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

2.2 Label elements

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention	:	Obtain special instructions before use. Wear protective gloves. Wear eye or face protection. Avoid release to the environment.
Response	:	IF exposed or concerned: Get medical attention. **IF IN EYES:** Rinse cautiously with water for several minutes.
Storage	:	Store locked up.
Disposal	:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	:	reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) 2,3-epoxypropyl neodecanoate
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

Substance/mixture : Mixture

Product/ingredient name	Identifiers	% by weight	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	RRN : 01-2119456619-26 EC:500-033-5 CAS : 25068-38-6 Index:603-074-00-8	>=75 - <90	Xi; R36/38 R43 N; R51 R53	Skin Corr./Irrit. 2, H315 Eye Dam./Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
2,3-epoxypropyl neodecanoate	RRN : 01-2119431597-33 EC:247-979-2 CAS : 26761-45-5 Index:	>=2.5 - <25	R43 N; R51/53 Xn; Muta.Cat.3; R68	Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411	[1]
Polyethylene Glycol Nonylphenyl Ether	EC:500-024-6 CAS : 9016-45-9 Index:	>=1 - <2.5	Xn; R22 Xi; R38 R41 N; R51/53	Acute Tox. 4, H302 Skin Corr./Irrit. 2, H315 Eye Dam./Irrit. 1, H318 Aquatic Chronic 2, H411	[1]

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

See Section 16 for the full text of the R phrases or 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 and hence require reporting in this section.
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 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.

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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. 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 : Irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO2, alcohol-resistant foam or water spray (fog).Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : water jetNone known.

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.

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 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. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed 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, 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
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Dermal	8.3 mg/kg bw/day	Workers	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Inhalation	12.3 mg/m³	Workers	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Dermal	8.3 mg/kg bw/day	Workers	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Inhalation	12.3 mg/m³	Workers	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Dermal	3.6 mg/kg bw/day	General	Systemic
reaction product:	DNEL	Short term	0.75 mg/m³	General	Systemic

bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)		Inhalation			
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Short term Oral	0.75 mg/kg bw/day	General	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Dermal	3.6 mg/kg bw/day	General	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Inhalation	0.75 mg/m³	General	Systemic
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	DNEL	Long term Oral	0.75 mg/kg bw/day	General	Systemic
2,3-epoxypropyl neodecanoate	DNEL	Long term Dermal	1.4 mg/kg bw/day	Workers	Systemic
2,3-epoxypropyl neodecanoate	DNEL	Long term Inhalation	1.965 mg/m³	Workers	Systemic
2,3-epoxypropyl neodecanoate	DNEL	Long term Dermal	0.7 mg/kg bw/day	General	Systemic
2,3-epoxypropyl neodecanoate	DNEL	Long term Inhalation	1 mg/m³	General	Systemic
2,3-epoxypropyl neodecanoate	DNEL	Long term Oral	1.1 mg/kg bw/day	General	Systemic

DNEL/DMEL Summary : Not available

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Fresh water	3 µg/l	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Marine	0.3 µg/l	
reaction product:	PNEC	Sewage Treatment Plant	10 mg/l	

bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)				
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Fresh water sediment	0.5 mg/kg dwt	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Marine water sediment	0.5 mg/kg dwt	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Sediment	0.05 mg/kg dwt	
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	PNEC	Intermittent Releases	0.013 mg/l	
2,3-epoxypropyl neodecanoate	PNEC	Fresh water	0.0035 mg/l	
2,3-epoxypropyl neodecanoate	PNEC	Marine	0.35 µg/l	
2,3-epoxypropyl neodecanoate	PNEC	Sewage Treatment Plant	50 mg/l	
2,3-epoxypropyl neodecanoate	PNEC	Intermittent Releases	0.035 mg/l	

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 : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.
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	:	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
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
Color	:	Light yellow
Odor	:	Slight
Odor threshold	:	Not available
pH	:	Not applicable.
Melting point/freezing point	:	Not determined
Initial boiling point and boiling range	:	200 °C
Flash point	:	Pensky-Martens Closed Cup: 110 °C (ASTM D 93)

Evaporation rate	:	Not available
Upper/lower flammability or explosive limits	:	**Lower:** Not available **Upper:** Not available
Vapor pressure	:	Negligible
Vapor density	:	Not available
Relative density	:	Not available
Density	:	1,130 kg/m3 (ASTM D 4052)
Solubility(ies)	:	Not available
Solubility in water	:	Miscible
Partition coefficient: n-octanol/water	:	3
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
Viscosity	:	**Dynamic:** 1.5 - 2.1 Pa·s @ 25 °C **Kinematic:** Not available
Explosive properties	:	Not available
Oxidizing properties	:	Not available

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	:	Caustic soda (sodium hydroxide) can induce vigorous polymerisation at temperatures around 200 °C. No specific data.
10.5 Incompatible materials	:	Reactive or incompatible with the following materials: strong oxidizing agents, sodium hydroxide,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	Dose	Exposure
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)				
	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.			
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	-
2,3-epoxypropyl neodecanoate				
	LD50 Oral	Rat	9,600 mg/kg	-
Remarks - Oral:	Male and female Wistar rats were treated by oral gavage with approximately 970 g/kg 2,3-epoxypropyl neodecanoate/kg of body weight. Lethargy was the only clinical finding made during the study. One mortality was observed on day three of the study. Therefore, the acute oral LD50 value for this study is >970 g/kg of body weight.			
Remarks - Inhalation:	The acute 4 hr inhalation LC50 value of 2,3 -epoxypropyl neodecanoate to rats was > 240 mg/m3 (26 ppm).			
	LD50 Dermal	Rat	3,800 mg/kg	-
Remarks - Dermal:	Wistar rats were used to assess the acute dermal toxicity of 2,3-epoxypropyl neodecanoate when administered under occlusion for 24 hr. Application of 2,3-epoxypropyl neodecanoate under occlusion at a dose level of 3.9 gm/kg of body weight to rat skin for 24 hr resulted in no mortalities. No adverse clinical signs were observed during the observation period. The acute rat dermal LD50 for 2,3-epoxypropyl neodecanoate was > 3.9 gm/kg of body weight. These findings suggest that the test substance is acutely nontoxic by the dermal route.			
Polyethylene Glycol Nonylphenyl Ether				
	LD50 Oral	Rat	1,310 mg/kg	-
	LD50 Dermal	Rabbit	2,000 mg/kg	-

Conclusion/Summary **:** Not available

Acute toxicity estimates

Not available

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	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		-
	eyes - Redness of the conjunctivae	Rabbit	0.7		-
	Skin - Moderate irritant	Rabbit		24 hrs	-
	Skin - Severe irritant	Rabbit		24 hrs	-
	eyes - Mild irritant	Rabbit			-
2,3-epoxypropyl neodecanoate	Skin - Primary dermal irritation index (PDII) 404 Acute Dermal Irritation/Corrosion	Rabbit	0.7	4 hrs	72 hrs
	eyes - Redness of the conjunctivae	Rabbit	0.7		72 hrs

	405 Acute Eye Irritation/Corrosion				
Polyethylene Glycol Nonylphenyl Ether	eyes - Severe irritant	Rabbit			-
	Skin - Mild irritant	Rabbit			-

Conclusion/Summary

Skin : Not available
eyes : Not available
Respiratory : Not available

Sensitization

Product/ingredient name	Route of exposure	Species	Result
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	Skin	-	-
Remarks:	In an OECD No. 429 mouse LLNA study the estimated EC3 was a concentration of 5.7% suggesting that BADGE is a moderate skin sensitizer in this test system. In an OECD No. 406 guinea pig Maximization study BADGE induced positive dermal reaction in 100% of the test animals at a 50% concentration challenge dose. Therefore, BADGE is an "Extreme" skin sensitizer under the conditions of this study. BADGE was also positive for skin sensitization in an OECD No. 406 guinea pig Buehler method study.		
2,3-epoxypropyl neodecanoate	Skin	-	-
Remarks:	2,3-Epoxypropyl neodecanoate was evaluated for dermal sensitizing potential in four independent guinea pig Maximization studies following the methods established by Magnusson and Kligman (Magnusson, B. and Kligman, A. M., 1969. The identification of contact allergens by animal assay. The guinea—pig maximization test. J. Invest. Derm., 52, 268—276). One of the Maximization studies was conducted according to the current O.E.C.D. Testing Guideline 406, "Skin Sensitization" protocol under the GLP regulations. The level of positive skin reactions observed in challenged test guinea pigs ranged from 45% to 95%. Therefore, 2,3-epoxypropyl neodecanoate is a moderate to extreme dermal sensitizer in the guinea pig Maximization test.		

Conclusion/Summary

Skin : Not available
Respiratory : Not available

Mutagenicity

Product/ingredient name	Test	Experiment	Result
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	-	; -	-
Remarks:	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. 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 500 mg/kg as measured by alkaline elution.		
2,3-epoxypropyl neodecanoate	OECD 488 Transgenic Rodent Somatic and Germ Cell Mutation Assay	In vivo; Mammalian-Animal; Germ	Positive
	-	; -	-
Remarks:	2,3-Epoxypropyl neodecanoate induced gene-mutation in Salmonella typhimurium tester strains TA 1535 and TA 100 in the presence of a rat liver derived S-9, metabolic activation preparation in three independent studies. These data suggest that the test substance must be metabolized to the ultimate bacterial mutagenic form. 2,3-Epoxypropyl neodecanoate did not induce gene-conversion in yeast cells with rat liver S-9. The test substance also did not induce significant chromosome damage in rat primary RL1 cells in culture. These primary rat liver derived cell are capable of endogenous metabolic activation. Furthermore, 2,3-epoxypropyl neodecanoate did not induce transformed clones in hamster derived BHK cells. In an in vivo study conducted in rats, 2,3-epoxypropyl neodecanoate did not induce evidence of DNA damage detectable by alkaline elution. The weight-of-evidence demonstrates that 2,3-epoxypropyl neodecanoate may not be genotoxic in vitro and is not genotoxic in vivo.		

Conclusion/Summary **:** Not available

Carcinogenicity

Product/ingredient name	**Result**	**Species**	**Dose**	**Exposure**
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	- - - - -	-		
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 1000 mg/kg/day.			
2,3-epoxypropyl neodecanoate	- - - - -	-		
Remarks:	A carcinogenicity study does not need to be conducted on 2,3-epoxypropyl neodecanoate because the substance does not have widespread dispersive use or evidence of frequent or long-term human exposure; the substance is not classified as a Mutagen Category 3 and there was no histopathological evidence of induced cell hyperplasia and/or pre-neoplastic lesion observed in a five-week rat oral repeated-dose study.			

Conclusion/Summary **:** Not available

Reproductive toxicity

Product/ingredient name	**Maternal toxicity**	**Fertility**	**Development toxin**	**Species**	**Dose**	**Exposure**
2,3-epoxypropyl neodecanoate	-	-	-	-	-	-
Remarks:	Insufficient study data is available upon which to base a classification decision regarding reproductive and developmental effects. Laboratory studies are proposed in the Substance Test Plan to resolve this issue.					

Conclusion/Summary **:** Not available

Teratogenicity

Product/ingredient name	**Result**	**Species**	**Dose**	**Exposure**

reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	- - -	-	-	-
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 base on decreased body weight gain. The rabbit dermal study was conduced up to a high dose of 300 mg/kg/day that induced maternal toxicity based on reduced body weight gain.			
2,3-epoxypropyl neodecanoate	- - -	-	-	-
Remarks:	Insufficient study data is available upon which to base a classification decision regarding reproductive and developmental effects. Laboratory studies are proposed in the Substance Test Plan to resolve this issue.			

Conclusion/Summary : Not available

Specific target organ toxicity (single exposure)

Not available

Specific target organ toxicity (repeated exposure)

Not available

Aspiration hazard

Not available

Information on the likely routes of exposure : Not available

Potential acute health effects

Eye contact : Causes serious eye irritation.
Inhalation : Irritating to mouth, throat and stomach.
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 and also 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

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	:	Suspected of causing genetic defects.
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.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)			
	Acute LC50 1.3 mg/l - 203 Fish, Acute Toxicity Test	Fish - Fish	96 h
	Acute EC50 2.1 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute NOEC 0.3 mg/l - 211 Daphnia Magna Reproduction Test	Aquatic invertebrates. Water flea	21 d
	Acute LC50 > 11 mg/l -	Aquatic plants - Algae	72 h
2,3-epoxypropyl neodecanoate			
	Acute LC50 9.6 mg/l - 203 Fish, Acute Toxicity Test	Fish - Rainbow trout,donaldson trout	96 h
	Acute EC50 4.8 mg/l - 202 Daphnia sp. Acute Immobilization Test and Reproduction Test	Aquatic invertebrates. Water flea	48 h
	Acute EC50 3.5 mg/l - 201 Alga, Growth Inhibition Test	Aquatic plants - Algae	96 h
Polyethylene Glycol Nonylphenyl Ether			
	Acute LC50 4,700 µg/l Fresh water	Fish - Rainbow trout,donaldson trout	96 h
	Acute LC50 1,300 µg/l Fresh water	Fish - Bluegill	96 h
	Acute LC50 0.148 mg/l Fresh water	Aquatic invertebrates. Water flea	48 h
	Acute EC50 12 mg/l Fresh water	Aquatic plants - Green algae	96 h

Conclusion/Summary : Not available

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)		-		
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.			
2,3-epoxypropyl neodecanoate		-		
Remarks:	Based on the results of two O.E.C.D. Test Guideline readily biodegradation studies, 2,3 -epoxypropyl neodecanoate was biodegraded approximately 7 - 11%. Therefore, 2,3 -epoxypropyl neodecanoate is not readily biodegradable. However, when 2,3 -epoxypropyl neodecanoate was evaluated in an O.E.C.D. Testing Guideline 302 A, "Inherent Biodegradability: Modified SCAS Test" the level of biodegradation reached 68% +/- 5% over days 22 to 36 of the study. Therefore, 2,3 -epoxypropyl neodecanoate is both inherently and ulimately biodegradable under the conditions and criteria of O.E.C.D. Testing Guideline 302 A.			

Conclusion/Summary : Not available

12.3 Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700)	2.64 - 3.78	3 - 31 31.00	low
2,3-epoxypropyl neodecanoate	2.6	-	low
Resin	3	-	high

12.4 Mobility in soil

Soil/water partition coefficient (KOC) : Not available

Mobility : Not available

12.5 Results of PBT and vPvB assessment

PBT : P: Not available
B: Not available
T: Not available

vPvB : vP: Not available
vB: Not available

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

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

Regulatory information	14.1. UN number	14.2. UN proper shipping name	14.3. Transport hazard class(es)	14.4. Packing group
ADR/ADN	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, Aliphatic Glycidyl Ether)	9	III
RID	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, Aliphatic Glycidyl Ether)	9	III
ADN	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, Aliphatic Glycidyl Ether)	9	III
ICAO/IATA	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, Aliphatic Glycidyl Ether)	9	III
IMO/IMDG	3082	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LIQUID EPOXY RESIN, Aliphatic Glycidyl Ether)	9	III

14.5. Environmental hazards

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
Substances of very high concern

Carcinogen: Not listed
Mutagen: Not listed
Toxic to reproduction: Not listed
PBT: Not listed
vPvB: Not listed

Other EU regulations

REACH Status	:	The substance(s) in this product has (have) been Pre-Registered and/or Registered, or are exempted from registration, according to Regulation (EC) No. 1907/2006 (REACH).
Aerosol dispensers	:	Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	Not applicable.
EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 1)	:	Listed
EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 2)	:	Listed
EU - Prior Informed Consent. List of chemicals subject to the international PIC procedure (Annex I - Part 3)	:	Not listed
AOX	:	The product contains organically bound halogens and can contribute to the AOX value in waste water.

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
2,3-epoxypropyl neodecanoate		Muta.Cat.3; R68 Muta. 2, H341		

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

Danger criteria

Category
E2: Hazardous to the aquatic environment - Chronic 2 C9ii: Toxic for the environment

National regulations

Hazardous incident ordinance	:	Applicable. Category Dangerous for the environment.

Hazard class for water : WGK 2, Appendix No. 4
Technical instruction on air : Number 5.2.5:
quality control Number 5.2.5:

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 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 listed or exempted.
Taiwan inventory (CSNN) All components are listed or exempted.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

: Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

: Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

: Not listed

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

SECTION 16: Other information

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

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

Classification	Justification
Skin Corr./Irrit. 2, H315	Calculation method
Eye Dam./Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Muta. 2, H341	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements :

H302 (oral)	Harmful if swallowed.
H411	Toxic to aquatic life with long lasting effects.
H318	Causes serious eye damage.

H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

Full text of classifications [CLP/GHS] :

Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Aquatic Chronic 2, H411	AQUATIC HAZARD (LONG-TERM) - Category 2
Eye Dam./Irrit. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Dam./Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Muta. 2, H341	GERM CELL MUTAGENICITY - Category 2
Skin Corr./Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1

Full text of abbreviated R phrases : R68- Possible risk of irreversible effects.
R22- Harmful if swallowed.
R41- Risk of serious damage to eyes.
R38- Irritating to skin.
R36/38- Irritating to eyes and skin.
R43- May cause sensitization by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications [DSD/DPD] : Muta.Cat.3 - Mutagen category 3
Xn - Harmful
Xi - Irritant
N - Dangerous for the environment.

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