AD63 AERO TECH ADHESIVE

SAFETY DATA SHEET

REVISION DATE: 13.07.2015

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier
PRODUCT NAME: **Aero Tech Adhesive**

PRODUCT CODE: AD63

PRODUCT DESCRIPTION: Two Part Epoxy Adhesive Part 1

1.2 Relevant identified uses of the substance or mixture and uses advise against
Relevant Identified Uses: Adhesive/Sealant. For modelling uses.
Uses Advised Against: no data.

1.3 Details of the supplier of the safety data sheet

SUPPLIER: Deluxe Materials Ltd.
Unit 13, Cufaude Business Park
Cufaude Lane, Bramley,
Hampshire RG26 5DL
United Kingdom

Email info@deluxematerials.com

1.4 Emergency Telephone Number
+44 (0) 1256 883 944
Only available during office hours: Monday to Friday 8am to 5pm
Language: English

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Product definition:mixture

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

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

Classification according to Directive 1999/45/EC [DPD]
Xi R38 R36, R43 N R51/53

See section 16 for the full text of the R phrases or H statements declared above.
See section 11 for more detailed information on health effects and symptoms.

2.2 label elements
Symbols

Signal Word **Warning**

HAZARD STATEMENTS

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

PRECAUTIONARY STATEMENTS

P261 Avoid breathing fumes.
P280 Wear protective gloves/clothing/eye protection/face protection.
P302+352 IF ON SKIN: wash with plenty of soap and water.
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do, continue rinsing.
P313 Get Medical advice/attention.
P391 Collect spillage.
P273 Avoid release to the environment.
P501 Dispose to licensed waste disposal site in accordance with local waste disposal Authority.

SUPPLEMENTARY PRECAUTIONARY STATEMENTS(NOT ON LABEL)

P264 Wash thoroughly after handling.
P333+313 If skin irritation or rash occurs: Get medical advice/attention.
P337+313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.

SUPPLEMENTAL LABEL INFORMATION (EU)

EUH205 Contains epoxy constituents. May produce an allergic reaction.

2.3 other hazards
There are no substances present that are classified as PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 mixtures

Component	CAS# EINECS# INDEX# RRN:	Classification	Amount %
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	9003-36-5 500-006-8 01-2119454392-40	Skin Corr./Irrit. 2 H315; Skin Sens. 1 H317; Aquatic Chronic 2 H411	<80
Reaction product: bisphenol-A-(epichlorohydrin); epoxy resin (number average molecular weight <= 700)	25068-38-6 500-033-5 603-074-00-8 01-2119456619-26	Skin Corr./Irrit. 2 H315; Skin Sens. 1 H317;Eye Dam./Irrit. 2 H319; Aquatic Chronic 2 H411	<24
Oxirane, 2-(chloromethyl)-polymer with alpha-hydro-omega-hydropoly[oxy(methyl-1,2-ethandiyl)]	CAS not available EC polymer	Skin Sens. 1,H317	<10
(3-glycidoxypropyl)trimethoxysilane	2530-83-8 219-784-2	Skin Irrit. 2 H315; Eye Irrit. 2 H319; STOT SE 3a H335	<0.5

There are no additional ingredients which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

There are no substances present that are classified as PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

Occupational Exposure limits, if available, are listed in section 8.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

CONTACT WITH SKIN
Flush contaminated skin with plenty of 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.
CONTACT WITH EYES
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.
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. Chemical burns must be treated promptly by a physician. 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.
INHALATION
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing

apparatus. 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. If unconscious, place in the recovery position and get medical help immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

EMERGENCY PERSONNEL PROTECTION

No action should be taken involving any personal risk without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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

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 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

Notes to physician: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments: Symptomatic treatment and supportive therapy as indicated. Following severe exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General-purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

5.2 Special hazards arising from the substance or mixture

Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns. During a fire smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: phenolics, Carbon monoxide, Carbon Dioxide and water.

5.3 Advice for fire-fighters

FIRE FIGHTING PROCEDURES

Keep people away. Isolate fire and deny unnecessary entry. Burning liquids may be extinguished by

dilution with water. Do not use direct water stream. May spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimise property damage.

SPECIAL PROTECTIVE EQUIPMENTFOR FIREFIGHTERS

Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). Avoid contact with this material during fire fighting operations. If contact is likely change to fill chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire clean-up situations, refer to the relevant sections.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions protective equipment and emergency procedures personal precautions

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

Prevent from entering into soil ditches sewers waterways and/or groundwater. See section 12 ecological information. 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. 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, watercourses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or dichotomous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note see section 1 for emergency contact information and section 13 to waste disposal.

6.4 Reference to other sections

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

SECTION 7: HANDLING AND STORAGE

The information in this section contains generic advice and guidance. The list of Identified Uses in section I should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

7.1.1 PROTECTIVE MEASURES : Put on appropriate personal protective equipment (see section 8). Persons with a history of skin sensitisation problems should not be employed in any process in which this product is used. Do not in get eyes or on skin or clothing. Do not ingest. Avoid breathing vapour 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.

7.1.2 ADVICE ON GENERAL **:** Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

7.1.3 OCCUPATIONAL HYGIENE **:** 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 between the following temperatures: 2 to 40°C (35.6 to 104°F. Store in accordance with local regulations. Store in original container protected form direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

STORAGE HAZARD CLASS : Environmentally hazardous liquids

7.3 Specific end uses

Adhesive/Sealant. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

The information in this section contains generic advice and guidance. The list identified Uses in section 1 should be should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational Exposure Limits

COMPONENT	LIST	TYPE	VALUE

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 he ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

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.

DNELs

Ingredient name	Exposure /Effects	DNELs	Population
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	Short term Dermal/Systemic	8.3 mg/kg bw/day	Workers
	Short term Inhalation/Systemic	12.3 mg/m³	Workers
	Long term Dermal/Systemic	8.3 mg/kg bw/day	Workers
	Long term Inhalation/Systemic	12.3 mg/m³	Workers
	Short term Dermal/Systemic	3.6 mg/kg bw/day	General
	Short term Inhalation/Systemic	0.75 mg/m³	General
	Short term Oral/Systemic	0.75 mg/kg bw/day	General
	Long term Dermal/Systemic	3.6 mg/kg bw/day	General
	Long term Inhalation/Systemic	0.75 mg/m³	General
	Long term Oral/Systemic	0.75 mg/kg bw/day	General
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700	Short term Dermal/Local	8.3 µg/cm²	Workers
	Long term Dermal/Systemic	104.15 mg/kg bw/day	Workers
	Long term Inhalation/Systemic	29.39 mg/m³	Workers
	Long term Dermal/Systemic	62.5 mg/kg bw/day	General
	Long term Inhalation/Systemic	8.7 mg/m³	General
	Long term Oral/Systemic	6.25 mg/kg bw/day	General

PNECs

Ingredient name	Compartment Detail	PNECs	Method Detail
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number	Fresh water Marine Sewage Treatment Plant	3 µg/l 0.3 µg/l 10 mg/l	

average molecular weight <= 700)	Fresh water sediment Marine water Sediment Sediment Intermittent Releases	0.5 mg/kg dwt 0.5 mg/kg dwt 0.05 mg/kg dwt 0.013 mg/l	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol, mw <=700	Fresh water Marine Sewage Treatment Plant Fresh water sediment Marine water Sediment Soil Intermittent Releases	0.003 mg/l 0.0003 mg/l 10 mg/l 0.294 mg/kg dwt 0.0294 mg/kg dwt 0.237 mg/kg dwt 0.0254 mg/l	

8.2 Exposure controls

8.2.1 APPROPRIATE ENGINEERING CONTROLS: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

8.2.2 INDIVIDUAL PROTECTION MEASURES

8.2.2.1 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 reuse. Ensure that eyewash stations and safety showers are close to the workstation location.

8.2.2.2 EYE/FACE PROTECTION: Safety eye-wear complying to an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gasses or dust.

8.2.2.3 SKIN PROTECTION:
BODY PROTECTION: Overalls or labcoat.

8.2.2.4 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.

MATERIAL OF GLOVES FOR LONG TERM APPLICATION (BTT>480MIN): Ethyl Vinyl Alcohol Laminate (EVAL), butyl rubber.

MATERIAL IF GLOVES FOR SHORT TERM/SPLASH APPLICATION (10MIN<BTT<480MIN): neoprene, nitrile rubber.

Use gloves approved to relevant standards e.g. EN374 (Europe), F739b (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers.

8.2.3 Environmental exposure controls

VENTILATION

Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	paste
Odour	Mild characteristic
Odour threshold	No test data available
pH	No test data available
Melting point/freezing point	No test data available
Initial boiling point and boiling range	No test data available
Flash point	No test data available
Evaporation rate	No test data available
Flammability	No test data available
Upper/lower flammability or explosive limits	No test data available
Vapour pressure	No test data available
Vapour density	No test data available
Relative density	1.2 calculated
Solubility	<0.1 @ 20°C
Partition coefficient n-octanol/water	No test data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Viscosity	paste
Explosive properties	Not applicable
Oxidizing properties	Not applicable

9.2 Other information

None

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data

10.2 Chemical Stability

Stable under recommended storage conditions. See storage section 7

10.3 Possibility of Hazardous Reactions

Will not occur by itself. Masses of more than 0.5kg of product plus an aliphatic amine will cause irreversible polymerisation with considerable heat build up.

10.4 Conditions to Avoid

Exposure to elevated temperatures can cause product to decompose. Avoid temperatures above 140°F.

10.5 Incompatible Materials

Acids bases amines and oxidising agents.

10.6 Hazardous Decomposition Products

Combustion products may include and are not limited to: phenolics. Carbon monoxide. Carbon Dioxide

and water.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Endpoint	Species	Result	exposure
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	LD50 oral LD50 dermal	Rat Rat	>2000mg/kg >2000mg/kg	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	LD50 oral	Rat	>5000mg/kg	
Oxirane, 2-(chloromethyl)-polymer with alpha-hydro-omega-hydropoly[oxy(methyl-1,2-ethandiyl)]	LD50 oral	Rat	>2000 mg/kg	

Irritation/corrosion

Product/ingredient name	Test	Species	Route of exposure	Result
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	OECD 404 acute dermal irritation/corrosion OECD 405 acute eye irritation/corrosion	Rabbit Rabbit	Skin Eyes	Non-irritant Non-irritant
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	OECD 405 Acute Eye Irritation/corrosion OECD 405 Acute Dermal Irritation/corrosion	Rabbit Rabbit	Eyes skin	Non-irritant Mild irritant

Conclusion/summary

Skin: bisphenol F epoxy resin: Slightly irritating.
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700): Based on the human occupational exposure data, this substance is considered as non-irritating to skin.

Eyes: bisphenol F epoxy resin: Non irritating to the eyes.
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700): Non-irritating to eyes

Respiratory: bisphenol F epoxy resin: No known significant effects or critical hazards.

bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700): No known significant effects or critical hazards.

Sensitisation

Product/ingredient name	Test	Species	Route of exposure	Result
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	O.E.C.D. test guideline no. 406	skin	Guinea pig	Extremely sensitising
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700		Skin	Guinea pig	sensitising
Oxirane, 2-(chloromethyl)-polymer with alpha-hydro-omega-hydropoly[oxy(methyl-1,2-ethandiyl)]		Skin	Guinea pig	sensitising

Conclusion/summary : no additional information

Mutagenicity

Product/ingredient name	Test	Result
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	Bacterial Reverse Mutation Test in vitro mammalian chromosomal aberration Test mammalian erythrocyte micronucleus test	Positive Positive Negative
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	Bacterial Reverse Mutation Test OECD 476 in vitro mammalian cell Gene Mutation Test OECD 473 in vitro mammalian chromosomal aberration Test OECD 474 mammalian erythrocyte micronucleus test OECD 486 Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo	Positive Positive Positive Negative Negative

Carcinogenicity

Product/ingredient name	Test	Result
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	rat oral gavage OECD no. 453 OECD Test Guideline no. 453 dermal exposure studies	no evidence of carcinogenicity no evidence of carcinogenicity

Reproductive toxicity

Product/ingredient name	Test	Species	Result/result type	Target organs
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	O.E.C.D. Test Guideline no. 416	Rat	Oral 750 mg/kg/day NOEL:	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	OECD 416 two-generation reproduction toxicity study	Rat	Oral 540mg/kg NOEL:	

Teratogenicity

Product/ingredient name	Test	Species	Result/result type
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	OECD Test Guideline no. 414 Oral Dermal	Rabbit Rabbit	<180 mg/kg/day NOEL: <300 mg/kg/day NOEL:
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	EPA CFR	Rabbit Female	>300 mg/kg NOEL:

Specific target organ toxicity (single exposure)
Non available

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Test	Species	Result/result type
bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	OECD test guideline no. 408 sub chronic oral study NOAEL 90-day dermal OECD Test Guideline no. 411	Rat Rat	50 mg/kg/day 1000 mg/kg/day NOEL

Aspiration hazard
Not available

Information on the likely routes of exposure
Not available

Potential acute health effects
Inhalation: harmful if inhaled.
Ingestion: irritating to mouth, throat and stomach.
Skin contact: harmful in contact with skin. causes skin irritation. May cause an allergic skin reaction.
Eye contact: causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics
Inhalation: no specific data
Ingestion: no specific data
Skin contact: adverse symptoms may include irritation and redness
Eye contact: adverse symptoms may include the following pain or irritation watering and redness.

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

Have caused allergic skin sensitisation in guinea pigs. Individuals having an allergic skin reaction to this product may have an allergic skin reaction to reaction to similar materials.

Potential chronic health effects

Product/ingredient name	Test	result type	Result	Target organs
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)		NOAEL	200mg/kg	
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	OECD 408 repeated dose 90 day oral toxicity study in rodents	NOAEL	250mg/kg	

Conclusion/summary: Not available
General: Once sensitised 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
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

11.2 Additional
none

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Product/ingredient name	Test	End point	exposure	Species	result
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	OECD No. 203 fish, acute toxicity test	Acute LC50	96 hour static	Fish	1.3 mg/L
	OECD No. 202 (daphnia sp., acute immobilisation test)	Acute EC50	48 hour static	Daphnia	2.1 mg/L
	OECD No. 211 Reproduction study	NOEC	21 day semi static	Daphnia	0.3 mg/L
	OECD 201 alga, growth inhibition test	Acute LC50	72 hours static	Algae	>11 mg/L
	Activated sewage sludge respiration inhibition	EC50	3 hours	Activated sludge	> 100 mg/L.
	Growth inhibition test		18 hours static	Bacteria	> 42.6 mg/L.
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	OECD 201 alga, growth inhibition test	Acute EC50	72 hours static	Algae	1.8 mg/L
	OECD 202 Part 1 (daphnia sp., acute immobilisation test)	Acute EC50	48 hours	Daphnia	1.6 mg/L
			3 hours static	Bacteria	>100 mg/L
	OECD 203 fish, acute toxicity test	Acute IC50	96 hours semi static	Fish	0.55 mg/L
	OECD 211 daphnia magna reproduction test	Acute LC50	21 days semi static	Daphnia	0.3 mg/L
		Chronic NOEC			
Oxirane, 2-(chloromethyl)-polymer with alpha-hydro-omega-hydropoly[oxy(methyl-1,2-ethandiyl)]	Data Based on tests osimilar product	Acute EC50	3 hours	Bacteria	>100 mg/l
	EC C.12 acute toxicity for Daphnia	Acute EC50	24 hours	Daphnia	>320 mg/l
	EC C.1 acute toxicity for Fish	Acute LC50	96 hours	Fish	>100 mg/l

12.2 Persistance and degradability

Product/ingredient name	Test	Period	result
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	OECD 301F OECD test guideline no. 301B	28 day 28 day	5% 6-12%
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	EU	28 days	0%

Product/ingredient name	Aquatic half life	Photolysis	Biodegradability
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)			Not readily
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700			Not readily

12.3 Bio-Accumulative Potential

Product/ingredient name	LogPow	BCF	Potential
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700)	3.24	3 - 31	Not bioaccumulative
Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700	2.7 to 3.6	150 L/kg	Not bioaccumulative

12.4 Mobility and soil

Soil/water partition coefficient(Koc): Formaldehyde, polymer with (chloromethyl)oxirane and phenol mw<=700: 4460
reaction product: bisphenol-A-(epichlorhydrin) and epoxy resin (number average molecular weight <= 700): 2.65

Mobilty: Not available

12.5 Results of PBT and vPvB assessment

Not PBT of vPvB

12.6 Other adverse effects
No further information available

12.7 Other ecological information

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods
Product
Methods of disposal
The generation of waste should be avoided or minimized wherever possible. Waste product residues should not be disposed of via the sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and
contact with soil, waterways, drains and sewers.
Hazardous waste
yes

waste code	**080409**
waste designation	other waste adhesives and sealants containing organic solvents or other dangerous substances.

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

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

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number
UN3082

14.2 UN proper shipping name
Environmentally Hazardous Substance Liquid N.O.S. (epoxy resin)

14.3 Transport hazard class(es)
9

14.4 packing group
III

14.5 Environmental hazards
Marine Pollutant

14.6 Special precautions for user
CV13

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code
T4 IBC03

SECTION 15: REGULATORY INFORMATION

15.1 Safety , health and environmental regulations
Directive 2006/121/EC of the European Parliament and of the council of 18 December 2006. Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006.

15.2 Chemical safety assessment
A chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

16.1 Other Information
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.

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16.2 Associated risk phrases
Full text of classifications DPD
Xi - irritant
N - environmentally hazardous

Full text of abbreviated R-phrases

R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
S28 After contact with skin wash immediately with plenty of soap and water.
S37/39 Wear suitable gloves and eye/face protection.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets..

Full text of abbreviated H statements

H315 Causes skin irritation
H319 Causes serious eye irritation
H317 May cause allergic skin irritation
H411 Toxic to aquatic life with long lasting effects
H335 May cause respiratory irritation.