



Safety Data Sheet

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Loctite Epoxy Weld Hardener

SDS No. : 157280

V001.2

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SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name:	Loctite Epoxy Weld Hardener
Intended use:	Epoxy Hardener
Supplier:	Henkel New Zealand Ltd 2 Allens Rd Auckland, 2013 New Zealand Phone: +64 (9) 272-6710
Emergency information:	24 HOUR EMERGENCY CONTACT NUMBER 0800 243 622

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).

GHS Classification:

<u>Hazard Class</u>	<u>Hazard Category</u>	<u>Route of Exposure</u>
Acute toxicity	Category 4	Inhalation
Skin irritation	Category 2	
Serious eye damage	Category 1	
Skin sensitizer	Category 1	

Hazard pictogram:



Signal word: Danger

Hazard statement(s): H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.

Precautionary Statement(s):

Prevention: P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response: P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340+P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

Disposal: P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

General chemical description: Mixture
Type of preparation: Hardener

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
2,2'-iminodiethylamine	111-40-0	< 10 %
non hazardous ingredients~		60- 100 %

SECTION 4 FIRST AID MEASURES

Ingestion: Do not induce vomiting.
Have victim rinse mouth thoroughly with water.
Seek medical advice.

Skin: In case of contact, immediately remove contaminated clothing and flush skin with copious amounts of water.
Seek medical attention from a specialist.

Eyes: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical attention from a specialist.

Inhalation: Move to fresh air.
Keep warm and in a quiet place.
Seek medical advice.

First Aid facilities: Eye wash and safety shower
Normal washroom facilities

Medical attention and special treatment: Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, foam, powder

Improper extinguishing media: Water spray jet

Decomposition products in case of fire: Thermal decomposition can lead to release of irritating gases and vapors.
Carbon monoxide.
Carbon dioxide.
Oxides of nitrogen.

Special protective equipment for fire-fighters: Wear protective equipment.
Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).

Additional fire fighting advice: In case of fire, keep containers cool with water spray.
Collect contaminated fire fighting water separately. It must not enter drains.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Danger of slipping on spilled product.
Ensure adequate ventilation.
Avoid skin and eye contact.
Wear impervious gloves and chemical splash goggles.

Environmental precautions: Do not empty into drains / surface water / ground water.

Clean-up methods: Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled closed container.
Dispose of contaminated material as waste according to Section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling: Gloves and safety glasses should be worn
Avoid skin and eye contact.
Ensure that workrooms are adequately ventilated.
Avoid breathing vapors or mists of this product.

Conditions for safe storage: Keep container tightly sealed.
Store in a cool, dry, well-ventilated area.
Protect from direct sunlight.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Workplace exposure standards:

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Ceiling	STEL (ppm)	STEL (mg/m3)
DIETHYLENE TRIAMINE 111-40-0		1	4.2	-	-	-

Biological Exposure Indices:
None

Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Eye protection:	For eye protection, use tightly fitted safety goggles and a face-shield
Skin protection:	Use of protective coveralls and long sleeves is recommended. Suitable protective gloves. The use of chemical resistant gloves such as Nitrile is recommended. Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.
Respiratory protection:	If inhalation risk exists, wear a respirator or air supplied mask complying with the requirements of AS/NZS 1715 and AS/NZS 1716.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige Paste
Odor:	Sulfur
Specific gravity:	1.75
Boiling point:	> 149 °C (> 300.2 °F)
Flash point: (Open cup)	> 204 °C (> 399.2 °F)
Solubility in water:	Insoluble
Viscosity (dynamic): (Brookfield; Instrument: HBT; 25.0 °C (77 °F); speed of rotation: 2.5 min-1; Spindle No: TA; Method: ;; LCT STM 10; Viscosity Brookfield)	60,000.00 - 150,000.00 mPa.s
VOC content: (2010/75/EC)	6.05 %

SECTION 10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of temperature and pressure.
Conditions to avoid:	Heat, flames, sparks and other sources of ignition. Elevated temperatures. Store away from incompatible materials.
Incompatible materials:	Acids. Oxidizing agents. Alkalis.
Hazardous decomposition products:	Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide. Carbon dioxide. Oxides of nitrogen.
Hazardous polymerization:	Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:

Ingestion: Irritation and corrosive action can occur in the mouth, stomach tissue and digestive tract if swallowed.

Skin: May cause skin sensitization.
Can cause moderate to severe skin irritation.

Eyes: Contact with the eyes may cause moderate to severe eye injury. Eye contact may result in corneal injury. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Inhalation: Inhalation of vapors or mist can cause severe irritation, tissue and scarring of the respiratory tract. Harmful by inhalation.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
2,2'-iminodiethylamine 111-40-0	LD50 NOEL Acute toxicity estimate (ATE) LD50	1,553 mg/kg 0.07 mg/l 0.07 mg/l 1,045 mg/kg	oral inhalation inhalation dermal		rat rat rabbit	OECD Guideline 401 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) Expert judgement not specified

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
2,2'-iminodiethylamine 111-40-0	corrosive	15 min	rabbit	BASF Test

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
2,2'-iminodiethylamine 111-40-0	corrosive	30 s	rabbit	not specified

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
2,2'-iminodiethylamine 111-40-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2,2'-iminodiethylamine 111-40-0	positive negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test	with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) Chromosome Aberration Test
2,2'-iminodiethylamine 111-40-0	negative negative	oral: gavage oral: gavage		mouse mouse	OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test) not specified

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
2,2'-iminodiethylamine 111-40-0	NOAEL=70 - 80 mg/kg	oral: feed	90 ddaily	rat	not specified
2,2'-iminodiethylamine 111-40-0	NOAEL=0.55 mg/l	inhalation: vapour	15 d6 h/d	rat	not specified

SECTION 12. ECOLOGICAL INFORMATION**General ecological information:**

Do not empty into drains / surface water / ground water.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
2,2'-iminodiethylamine 111-40-0	LC50	430 mg/l	Fish	96 h	Poecilia reticulata	EU Method C.1 (Acute Toxicity for Fish)
2,2'-iminodiethylamine 111-40-0	NOEC	> 10 mg/l	Fish	28 d	Gasterosteus aculeatus	OECD Guideline 210 (fish early lite stage toxicity test)
2,2'-iminodiethylamine 111-40-0	EC50	64.6 mg/l	Daphnia	48 h	Daphnia magna	EU Method C.2 (Acute Toxicity for Daphnia)
2,2'-iminodiethylamine 111-40-0	EC50	1,164 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-iminodiethylamine 111-40-0	NOEC	10 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchneriella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2,2'-iminodiethylamine 111-40-0	NOEC	6 mg/l	Bacteria	3 h	anaerobic bacteria	not specified

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
2,2'-iminodiethylamine 111-40-0	inherently biodegradable	aerobic	83 %	EU Method C.9 (Biodegradation: Zahn-Wellens Test)
2,2'-iminodiethylamine 111-40-0	readily biodegradable	aerobic	87 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
2,2'-iminodiethylamine 111-40-0		> 0.3 - < 6.3	42 d	Cyprinus carpio		OECD Guideline 305 C (Bioaccumulation: Test for the Degree of Bioconcentration in Fish)
2,2'-iminodiethylamine 111-40-0	-1.58				20 °C	QSAR (Quantitative Structure Activity Relationship)

SECTION 13. DISPOSAL CONSIDERATIONS**Waste disposal of product:**

Dispose of in accordance with local and national regulations.

Disposal for uncleaned package:

Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

SECTION 14. TRANSPORT INFORMATION

Dangerous Goods information:

Land Transport:

Not classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

Marine transport IMDG:

Not dangerous goods

Air transport IATA:

Not dangerous goods

SECTION 15. REGULATORY INFORMATION

New Zealand regulatory information:

Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).

HSNO Approval Number: HSR002670

Site and Storage: Refer to the site and storage requirements for this Group Standard.
Refer to the HSNO controls for approved hazardous substances.

NZIoC: Compliant for NZIOC

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms: STEL - Short term exposure limit
TWA - Time weighted average
HSNO - Hazardous Substances and New Organisms
GHS: Globally Harmonized System
CAS: Chemical Abstracts Service
LD 50: Lethal Dose 50%
LC 50: Lethal Concentration 50%
IMDG: International Maritime Dangerous Goods code
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

Reason for issue: Reviewed SDS. Reissued with new date. involved chapters: 2,11.16

Date of previous issue: 25.07.2017

Disclaimer:

The percentage weight (% w/w) of ingredients is not to be taken as a specification guaranteed by Henkel New Zealand Limited, but only as an approximate guide to the content of hazardous ingredients in the material. The information contained herein does not constitute a guarantee by Henkel New Zealand Limited concerning the properties of the material.

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Safety Data Sheet

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Loctite Epoxy Weld Resin

SDS No. : 157281

V001.2

Revision: 25.07.2022

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SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: Loctite Epoxy Weld Resin

Intended use: Epoxy resin

Supplier:
Henkel New Zealand Ltd
2 Allens Rd
Auckland, 2013
New Zealand
Phone: +64 (9) 272-6710

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).

Classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

GHS Classification:

<u>Hazard Class</u>	<u>Hazard Category</u>
Skin irritation	Category 2
Serious eye irritation	Category 2A
Skin sensitizer	Category 1
Acute hazards to the aquatic environment	Category 2
Chronic hazards to the aquatic environment	Category 2

Hazard pictogram:



Signal word:

Warning

Hazard statement(s): 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.

Precautionary Statement(s):

Prevention: P261 Avoid breathing mist/vapours.
P264 Wash hands thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves, eye protection, and face protection.

Response: P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Disposal: P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

General chemical description: Mixture
Type of preparation: Mixture

Identity of ingredients:

Chemical ingredients	CAS-No.	Proportion
reaction product: bisphenol-A-(epichlorhydrin)	25068-38-6	30- < 50 %
Calcium carbonate	471-34-1	20- < 30 %
Barium sulfate	7727-43-7	10- < 20 %
Bisphenol A, polymer with formaldehyde and epichlorhydrin	28906-96-9	1- < 10 %
2,2'-(methylenebis(p-phenyleneoxymethylene))bisoxirane	2095-03-6	0.1- < 1 %

SECTION 4 FIRST AID MEASURES

Ingestion: Do not induce vomiting.
Have victim rinse mouth thoroughly with water.
Seek medical advice.

Skin: Immediately flush skin with plenty of water (using soap, if available).
Seek medical advice.

Eyes: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical attention from a specialist.

Inhalation: Move to fresh air.
Keep warm and in a quiet place.
If adverse health effects develop seek medical attention.

First Aid facilities: Eye wash
Normal washroom facilities

Medical attention and special treatment: Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, foam, powder
Fine water spray

Improper extinguishing media: Water spray jet

Decomposition products in case of fire: Thermal decomposition can lead to release of irritating gases and vapors.
Carbon monoxide.
Carbon dioxide.
Oxides of nitrogen.

Special protective equipment for fire-fighters: Wear protective equipment.
Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA).

Additional fire fighting advice: In case of fire, keep containers cool with water spray.
Collect contaminated fire fighting water separately. It must not enter drains.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Danger of slipping on spilled product.
Wear impervious gloves and chemical splash goggles.
Ensure adequate ventilation.
Avoid skin and eye contact.

Environmental precautions: Do not empty into drains / surface water / ground water.

Clean-up methods: Collect spilled material with an inert absorbent such as sand or vermiculite. Place in properly labeled closed container.
Dispose of contaminated material as waste according to Section 13.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling: Gloves and safety glasses should be worn
Ensure that workrooms are adequately ventilated.
Avoid skin and eye contact.

Conditions for safe storage: Keep container tightly sealed.
Store in a cool, dry place.
Keep away from heat and direct sunlight.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Workplace exposure standards:**

Ingredient [Regulated substance]	form of exposure	TWA (ppm)	TWA (mg/m3)	Ceiling	STEL (ppm)	STEL (mg/m3)
CALCIUM CARBONATE 471-34-1			10	-	-	-
BARIUM SULPHATE 7727-43-7			10	-	-	-

Biological Exposure Indices:

None

Engineering controls:

Provide local and general exhaust ventilation to effectively remove and prevent buildup of any vapors or mists generated from the handling of this product.

Eye protection:

Tightly fitting safety goggles

Skin protection:

Use of protective coveralls and long sleeves is recommended. Please note that in practice the working life of chemical resistant gloves may be considerably reduced as a result of many influencing factors (e.g. temperature). Suitable risk assessment should be carried out by the end user. If signs of wear and tear are noticed then the gloves should be replaced.

Nitrile gloves.

Respiratory protection:

If inhalation risk exists, wear a respirator or air supplied mask complying with the requirements of AS/NZS 1715 and AS/NZS 1716.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	black paste
Odor:	mild
Specific gravity:	1.82
Boiling point:	> 149 °C (> 300.2 °F)
Flash point:	> 204 °C (> 399.2 °F)
	(Pensky Martens closed cup)
Solubility in water:	Insoluble
Viscosity (dynamic):	60,000 - 150,000 mPa.s
	(Brookfield; Instrument: HBT; 25 °C (77 °F); speed of rotation: 5 min-1; Spindle No: TA; Method: ; LCT STM 10; Viscosity Brookfield)
VOC content:	< 3 %
	(2010/75/EC)

SECTION 10. STABILITY AND REACTIVITY**Stability:**

Stable under normal conditions of temperature and pressure.

Conditions to avoid:

Avoid heating.
Keep away from open flames, hot surfaces and sources of ignition.
Store away from incompatible materials.

Incompatible materials: Acids.
Amines.
Bases.
Oxidizing agents.

Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapors.
Carbon monoxide.
Carbon dioxide.
Oxides of nitrogen.

Hazardous polymerization: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

Health Effects:

Ingestion: Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Skin: This product is irritating to the skin.
Symptoms may include redness, edema, drying, defatting and cracking of the skin.
May cause sensitization by skin contact.

Eyes: Causes serious eye irritation.
Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation: Vapors may cause headaches, nausea, dizziness and respiratory tract irritation.

Acute toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	LD50 LD50	> 2,000 mg/kg > 2,000 mg/kg	oral dermal		rat rat	OECD Guideline 420 (Acute Oral Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)
Calcium carbonate 471-34-1	LD50 LC50 LD50	> 2,000 mg/kg > 3 mg/l > 2,000 mg/kg	oral inhalation dermal	4 h	rat rat rat	OECD Guideline 420 (Acute Oral Toxicity) OECD Guideline 403 (Acute Inhalation Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)
Barium sulfate 7727-43-7	LD50 LD50	> 15,000 mg/kg > 2,000 mg/kg	oral dermal		rat rat	not specified OECD Guideline 402 (Acute Dermal Toxicity)
2,2'-[methylenebis(p-phenyleneoxymethylene)] bisoxirane 2095-03-6	LD50 LD50	> 2,000 mg/kg > 2,000 mg/kg	oral dermal		rat rat	OECD Guideline 420 (Acute Oral Toxicity) OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
reaction product: bisphenol-A-(epichlorhydrin) 25068-38-6	not irritating	4 h	rabbit	not specified
Calcium carbonate 471-34-1	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
Barium sulfate 7727-43-7	not irritating	15 min	Human, EpiSkin™ (SM), Reconstructed Human Epidermis (RHE)	EPISKIN Method

Serious eye damage/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Calcium carbonate 471-34-1	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
Barium sulfate 7727-43-7	not irritating		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	sensitising	Mouse local lymphnod e assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Calcium carbonate 471-34-1	not sensitising	Mouse local lymphnod e assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
Barium sulfate 7727-43-7	not sensitising	Mouse local lymphnod e assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)
2,2'-(methylenebis(p- phenyleneoxymethylene)) bisoxirane 2095-03-6	sensitising	Mouse local lymphnod e assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 472 (Genetic Toxicology: Escherichia coli, Reverse Mutation Assay)
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	negative	oral: gavage		mouse	not specified
Calcium carbonate 471-34-1	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay	with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)
Barium sulfate 7727-43-7	negative negative negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay	with and without with and without with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

Repeated dose toxicity:

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	NOAEL=50 mg/kg	oral: gavage	14 wdaily	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
Calcium carbonate 471-34-1	NOAEL=1,000 mg/kg	oral: gavage	48 ddaily	rat	OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Barium sulfate 7727-43-7	NOAEL=2000 ppm	oral: drinking water	92 ddaily	rat	not specified

SECTION 12. ECOLOGICAL INFORMATION

General ecological information: Do not empty into drains / surface water / ground water.

Ecotoxicity: Toxic to aquatic life with long lasting effects.

Toxicity:

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	LC50	1.75 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	EC50	1.7 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	EC50	> 11 mg/l	Algae	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	NOEC	4.2 mg/l	Algae	72 h	Scenedesmus capricornutum	OECD Guideline 201 (Alga, Growth Inhibition Test)
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	IC50	> 100 mg/l	Bacteria	3 h	activated sludge, industrial	other guideline:
Calcium carbonate 471-34-1	LC50	Toxicity > Water solubility	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Calcium carbonate 471-34-1	EC50	Toxicity > Water solubility	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Calcium carbonate 471-34-1	EC50	Toxicity > Water solubility	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Calcium carbonate 471-34-1	NOEC	14 mg/l	Algae	72 h	Desmodesmus subspicatus	OECD Guideline 201 (Alga, Growth Inhibition Test)
Calcium carbonate 471-34-1	EC50	Toxicity > Water solubility	Bacteria	3 h	activated sludge of a predominantly domestic sewage	OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test)
Barium sulfate 7727-43-7	LC50	Toxicity > Water solubility	Fish	96 h	Danio rerio	OECD Guideline 203 (Fish, Acute Toxicity Test)
Barium sulfate 7727-43-7	NOEC	Toxicity > Water solubility	Fish	33 d	Danio rerio	OECD Guideline 210 (fish early lite stage toxicity test)
Barium sulfate 7727-43-7	EC50	Toxicity > Water solubility	Daphnia	48 h	Daphnia	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Barium sulfate 7727-43-7	EC50	Toxicity > Water solubility	Algae	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Barium sulfate 7727-43-7	NOEC	Toxicity > Water solubility	Algae	72 h	Pseudokirchneriella subcapitata (reported as Raphidocelis subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Barium sulfate 7727-43-7	EC0	> 10,000 mg/l	Bacteria	30 min		not specified
2,2'-[methylenebis(p- phenyleneoxymethylene)]biso xirane 2095-03-6	LC50	> 1 - 10 mg/l	Fish	96 h	not specified	OECD Guideline 203 (Fish, Acute Toxicity Test)
2,2'-[methylenebis(p- phenyleneoxymethylene)]biso xirane 2095-03-6	EC50	> 1 - 10 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Persistence and degradability:

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	not readily biodegradable.	aerobic	5 %	OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
2,2'-[methylenebis(p- phenyleneoxymethylene)]bisoxirane 2095-03-6	not readily biodegradable.	aerobic	< 10 %	OECD 301 A - F

Bioaccumulative potential / Mobility in soil:

Hazardous components CAS-No.	LogPow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
reaction product: bisphenol-A- (epichlorhydrin) 25068-38-6	3.242				25 °C	EU Method A.8 (Partition Coefficient)
Calcium carbonate 471-34-1	-2.12					QSAR (Quantitative Structure Activity Relationship)
Barium sulfate 7727-43-7		74.4		Lepomis macrochirus		other guideline:

SECTION 13. DISPOSAL CONSIDERATIONS

Waste disposal of product: Collection and delivery to recycling enterprise or other registered elimination institution.

Disposal for uncleaned package: Packaging that cannot be cleaned are to be disposed of in the same manner as the product.

SECTION 14. TRANSPORT INFORMATION

Dangerous Goods information:

Land Transport:

Classified as Dangerous Goods under the Land Transport Rule: Dangerous Goods 2005.

Land Transport:

UN no.: 3082
 Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S. (Bisphenol-A Epichlorhydrin resin)
 Class or division: 9
 Packing group: III

Marine transport IMDG:

UN no.: 3082
 Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
 N.O.S. (Bisphenol-A Epichlorhydrin resin)
 Class or division: 9
 Packing group: III
 EmS: F-A ,S-F
 Seawater pollutant: Marine pollutant

Air transport IATA:

UN no.:	3082
Proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. (Bisphenol-A Epichlorhydrin resin)
Class or division:	9
Packing group:	III
Packing instructions (passenger)	964
Packing instructions (cargo)	964

Further information for transport:

The transport classifications in this section apply generally to packed and bulk goods alike. For containers with a net volume of no more than 5 L for liquid substances or a net mass of no more than 5 kg for solid substances per individual or inner package, the exemptions SP 375 (ADR), A197 (IATA), 2.10.2.7 (IMDG) may be applied, which can result in a deviation from the transport classification for packed goods.

SECTION 15. REGULATORY INFORMATION

New Zealand regulatory information:

Classified as hazardous under the New Zealand Hazardous Substances and New Organisms Act (HSNO).

HSNO Approval Number: HSR002670

Site and Storage: Refer to the site and storage requirements for this Group Standard.
Refer to the HSNO controls for approved hazardous substances.

NZIoC: Compliant for NZIOC

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms:

- STEL - Short term exposure limit
- TWA - Time weighted average
- HSNO - Hazardous Substances and New Organisms
- GHS: Globally Harmonized System
- CAS: Chemical Abstracts Service
- LD 50: Lethal Dose 50%
- LC 50: Lethal Concentration 50%
- IMDG: International Maritime Dangerous Goods code
- IATA-DGR: International Air Transport Association – Dangerous Goods Regulations

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Disclaimer:

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