

Material Safety Data Sheet (MSDS) according to (EC) No 1907/2006 - ISO 11014-1

Ripple R FIX - Epoxy 3:1

MSDS No. : 226861
V005.0
Revision: 12.03.2012
Printing date: 24.04.2012

SECTION 1

Identification of the substance/mixture & of the company/undertaking

1.1. Product identifier

Ripple R FIX – Component A - RESIN

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

Intended use: compound mortar

1.3. Details of the supplier of the safety data sheet

Ripple Construction Products Pvt Ltd
EWS 4, B. K. Guda, S. R. Naagar,
Hyderabad 500 038, Andhra Pradesh, India
Phone: ++91 (40) 64600006
E-Mail: Responsible for the safety data sheet: marketing@rippleindia.in

SECTION 2

Hazards identification

2.1. Classification of the substance or mixture Classification (DPD):

Xi - Irritant
R36/38 Irritating to eyes and skin. Sensitizing
R43 May cause sensitisation by skin contact.

N - Dangerous for the environment
R51/53 Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Label elements (DPD):

Xi – Irritant



N - Dangerous for the environment



Risk 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.

Safety phrases:

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S51 Use only in well-ventilated areas.

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Additional labeling:

Contains epoxy constituents. See information supplied by the manufacturer.

Contains:

Bisphenol-A Epichlorhydrin resin MW \leq 700,

Bisphenol-F Epichlorhydrin resin; MW < 700,

1,6-Bis(2,3-epoxypropoxy)hexane

2.3. Other hazards

Persons suffering from allergic reactions to epoxides should avoid contact with the product.

SECTION 3

Composition/information on ingredients

General chemical description:

Resin

Base substances of preparation:

Inorganic fillers

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	Content	Classification
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	500-033-5 01-2119456619 - 26	>= 25- < 50 %	Chronic hazards to the aquatic environment 2 - H411 Serious eye irritation 2 - H319 Skin irritation 2 - H315 Skin sensitizer 1 - H317
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	500-006-8	>= 10- < 20 %	Skin irritation 2; Dermal H315 Skin sensitizer 1; Dermal H317 Serious eye irritation 2 - H319 Chronic hazards to the aquatic environment 2 - H411
1,6-Bis(2,3- epoxypropoxy) hexane 16096-31-4	240-260-4	>= 10- < 20 %	Skin irritation 2; Dermal H315 Skin sensitizer 1; Dermal H317 Serious eye irritation 2 H319 Chronic hazards to the aquatic environment 3 - H412

For full text of the H - statements and other abbreviations see section 16 "Other information".
Substances without classification may have community workplace exposure limits available.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	Content	Classification
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	500-033-5 01-2119456619 - 26	>= 25- < 50 %	R43 Xi - Irritant; R36/38 N - Dangerous for the environment; R51/53
Bisphenol-F epichlorhydrin resin; MW<700 9003-36-5	500-006-8	>= 10- < 20 %	Xi - Irritant; R36/38 Xi - Irritant; R43 N - Dangerous for the environment; R51/53
1,6-Bis(2,3- epoxypropoxy) hexane 16096-31-4	240-260-4	>= 10- < 20 %	R52/53 Xi - Irritant; R36/38, R43



For full text of the R-Phrases indicated by codes see section 16 'Other Information'.
Substances without classification may have community workplace exposure limits available.

SECTION 4

First aid measures

4.1. Description of first aid measures

General information:

In case of adverse health effects seek medical advice.

Inhalation:

Move to fresh air, consult doctor if complaint persists.

Skin contact:

Rinse with running water and soap. Skin care. Remove contaminated clothes immediately.

Eye contact:

Immediately flush eyes with soft jet of water or eye rinse solution for at least 5 minutes. If pain remains (intensive smarting, sensitivity to light, visual disturbance) continue flushing and contact/seek doctor or hospital.

Ingestion:

Rinse mouth and throat. Drink 1-2 glasses of water. Seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

EYE: Irritation, conjunctivitis.

SKIN: Redness, inflammation.

SKIN: Rash, Urticaria.

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5

Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

carbon dioxide, foam, powder, water spray jet, fine water spray

Extinguishing media which must not be used for safety reasons:

High pressure waterjet



5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO₂) can be released.

5.3. Advice for firefighters

Wear self-contained breathing apparatus.

Wear protective equipment.

Additional information:

Dispose of combustion residues and contaminated fire-fighting water in accordance with statutory regulations.

SECTION 6

Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Danger of slipping on spilled product.

Wear protective equipment.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Remove mechanically.

Dispose of contaminated material as waste according to Chapter 13.

6.4. Reference to other sections

See advice in chapter 8

SECTION 7

Handling and storage

7.1. Precautions for safe handling

Avoid skin and eye contact.

Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.

Hygiene measures:

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container protected against moisture.

Store in a cool, dry place.

Storage at 5 to 25°C is recommended.

Keep container in a well ventilated place.

Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

7.3. Specific end use(s)
compound mortar

SECTION 8

Exposure controls/personal protection

8.1. Control parameters

Valid for Great Britain - None

Predicted No-Effect Concentration (PNEC):

Name on list	Environmental Compartment	Exposure period	Value				Remarks
			mg/l	ppm	mg/kg	others	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	Aqua(fresh water)					0,006 mg/L	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	aqua (marine water)					0,0006 mg/L	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	STP					10 mg/L	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	sediment (fresh water)					0,996 mg/k	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	sediment (marine water)					0,0996 mg/kg	
Reaction product: bisphenol-A-(epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	aqua (intermittent releases)					0,018 mg/L	
Reaction product:	soil					0,196	

bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6					mg/kg		
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	oral food					11 mg/kg	

Derived No-Effect Level (DNEL):

Name on list	Application Area	Route of Exposure	Health Effect	Exposure Time	Value	Remarks
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	dermal	Acute/short term exposure - systemic effects		8,3 mg/kg bw/day	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	inhalation	Acute/short term exposure - systemic effects		12,3 mg/m ³	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	dermal	Long term exposure - systemic effects		8,3 mg/kg bw/day	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	worker	inhalation	Long term exposure - systemic effects		12,3 mg/m ³	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	dermal	Acute/short term exposure - systemic effects		3,6 mg/kg bw/day	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	inhalation	Acute/short term exposure - systemic effects		0,75 mg/m ³	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	oral	Acute/short term exposure - systemic effects		0,75 mg/kg bw/day	

25068-38-6						
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	dermal	Long term exposure - systemic effects		3,6 mg/kg bw/day	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	inhalation	Long term exposure - systemic effects		0,75 mg/m3	
Reaction product: bisphenol-A- (epichlorhydrin); epoxy resin (number average molecular weight <= 700) 25068-38-6	general population	oral	Long term exposure - systemic effects		0,75 mg/kg bw/day	

8.2. Exposure controls:

Respiratory protection:

Suitable breathing mask when there is inadequate ventilation.

Combination filter: ABEKP

This recommendation should be matched to local conditions.

Hand protection:

Recommended are gloves made from Nitril rubber (Material thickness >0,1 mm, Perforation time < 30s).Gloves should be replaced after each short time contact or contamination. Available at laboratory specialized trade or at pharmacies / chemist's shops.

In the case of longer contact protective gloves made from butyl rubber are recommended according to EN 374.

Perforation time > 60 minutes

material thickness > 0.7 mm

In the case of longer and repeated contact please note that in practice the penetration times may be considerably shorter than those determined according to EN 374. The protective gloves must always be checked for their suitability for use at the specific workplace (e.g. mechanical and thermal stress, product compatibility, antistatic effects, etc.). The gloves must be replaced immediately at the first signs of wear and tear. The information provided by the manufacturers and given in the relevant trade association regulations for industrial safety must always be observed. We recommend that a hand care plan is drawn up in cooperation with a glove manufacturer and the trade association in accordance with the local operating conditions.

Eye protection:

Goggles which can be tightly sealed.

Skin protection:

Suitable protective clothing

SECTION 9

Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste
Consistency	pasty
Colour	light beige
Odor	characteristic
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density(23 °C (73.4 °F))	1,55 g/cm ³
Bulk density	No data available / Not applicable
Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Insoluble
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	No data available / Not applicable
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable

9.2. Other information No data available / Not applicable

SECTION 10

Stability and reactivity

10.1. Reactivity

- Reacts with strong oxidants.
- Reaction with amines
- Reaction with alcohols
- Reaction with strong bases
- Reaction with strong acids.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

None known

SECTION 11

Toxicological information

11.1. Information on toxicological effects

General toxicological information:

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Persons suffering from allergic reactions to epoxides should avoid contact with the product.

Skin irritation:

Primary skin irritation: irritating

Eye irritation:

Primary eye irritation: irritating

Sensitizing:

May cause sensitization by skin contact.

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Bisphenol-A epichlorhydrin resin MW <= 700 25068-38-6	positive	bacterial reverse mutation assay (e.g Ames test)	with and without		

SECTION 12

Ecological information

General ecological information:

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Do not empty into drains, soil or bodies of water.

Toxic to aquatic organisms

May cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
1,6-Bis(2,3-epoxypropoxy)hexane 16096-31-4	LC50	17,1 - 30,9 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
1,6-Bis(2,3-epoxypropoxy)hexane 16096-31-4	EC50	47 mg/l	Daphnia	24 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
1,6-Bis(2,3-epoxypropoxy)hexane 16096-31-4		aerobic	47 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)

SECTION 13

Disposal considerations

13.1. Waste treatment methods

Product disposal:

Dispose of waste and residues in accordance with local authority requirements.

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

SECTION 14



Transport information

Road transport ADR:

Class:	9
Packaging group:	III
Classification code:	M7
Hazard ident. number:	90
UN no.:	3077
Label:	9
Technical name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol-A Epichlorhydrin resin,Bisphenol-F Epichlorhydrin resin)
Tunnelcode:	(E)

Railroad transport RID:

Class:	9
Packaging group:	III
Classification code:	M7
Hazard ident. number:	90
UN no.:	3077
Label:	9
Technical name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol-A Epichlorhydrin resin,Bisphenol-F Epichlorhydrin resin)
Tunnelcode:	

Inland water transport ADN:

Class:	9
Packaging group:	III
Classification code:	M7
Hazard ident. number:	
UN no.:	3077
Label:	9
Technical name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol-A Epichlorhydrin resin,Bisphenol-F Epichlorhydrin resin)

Marine transport IMDG:

Class:	9
Packaging group:	III
UN no.:	3077
Label:	9
EmS:	F-A ,S-F

Seawater pollutant: Marine pollutant



Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Bisphenol-A Epichlorhydrin resin,Bisphenol-F Epichlorhydrin resin)

Air transport IATA:

Class: 9
Packaging group: III
Packaging instructions (passenger) 956
Packaging instructions (cargo) 956
UN no.: 3077
Label: 9
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Bisphenol-A Epichlorhydrin resin,Bisphenol-F Epichlorhydrin resin)

SECTION 15

Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

VOC content 0%
(VOCV 814.018 VOC regulation CH)

SECTION 16

Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

- 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.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 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.
- H412 Harmful to aquatic life with long lasting effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

The product is intended for industrial use.

Material Safety Data Sheet (MSDS) according to (EC) No 1907/2006 - ISO 11014-1

Ripple R FIX - Epoxy 3:1

MSDS No. : 226861
V005.0
Revision: 12.03.2012
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SECTION 1

Identification of the substance/mixture & of the company/undertaking

1.1. Product identifier

Ripple R FIX – Component B - HARDENER

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

Intended use: compound mortar

1.3. Details of the supplier of the safety data sheet

Ripple Construction Products Pvt Ltd

EWS 4, B. K. Guda, S. R. Naagar,

Hyderabad 500 038, Andhra Pradesh, India

Phone: ++91 (40) 64600006

E-Mail: Responsible for the safety data sheet marketing@rippleindia.in

SECTION 2

Hazards identification

2.1. Classification of the substance or mixture Classification (DPD):

Classification (DPD):

C - Corrosive

R34 Causes burns.

Xn - Harmful

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

Mutagen category 3.

R68 Possible risk of irreversible effects.

Sensitizing

R43 May cause sensitisation by skin contact.

Dangerous for the environment

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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Ripple Construction Products Pvt Ltd

2.2. Label elements

Label elements (DPD):

C – Corrosive



Risk phrases:

R34 Causes burns.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R43 May cause sensitisation by skin contact.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R68 Possible risk of irreversible effects.

Safety phrases:

S23 Do not breathe vapour.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S51 Use only in well-ventilated areas.

S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains:

Isophorone diamine,
m-Phenylenebis(methylamine),
Diethylenetriamine,
Phenol,
Benzyl alcohol

2.3. Other hazards

Persons suffering from allergic reactions to amines should avoid contact with the product.

SECTION 3

Composition/information on ingredients

General chemical description:

Hardener

Base substances of preparation:

Inorganic fillers

Declaration of the ingredients according to CLP (EC) No 1272/2008:

Hazardous components CAS-No.	EC Number REACH-Reg No.	Content	Classification
Isophorone diamine 2855-13-2	220-666-8	>= 10- < 25 %	Acute toxicity 4; Dermal - H312 Skin sensitizer 1 - H317 Acute toxicity 4; Oral - H302 Chronic hazards to the aquatic environment 3 - H412 Skin corrosion 1B - H314
Benzyl alcohol 100-51-6	202-859-9	>= 1- < 10 %	Acute toxicity 4; Inhalation - H332 Acute toxicity 4; Oral - H302
Diethylenetriamine 111-40-0	203-865-4	>= 1- < 10 %	Skin corrosion 1B - H314 Acute toxicity 4; Dermal - H312 Acute toxicity 4; Oral - H302 Skin sensitizer 1 - H317
2,4,6- Tris(dimethylaminomethyl) phenol 90-72-2	202-013-9	>= 1- < 10 %	Skin irritation 2 - H315 Acute toxicity 4; Oral - H302 Serious eye irritation 2 - H319
Phenol 108-95-2	203-632-7	>= 1- < 5 %	Germ cell mutagenicity 2 - H341 Acute toxicity 3; Dermal - H311 Acute toxicity 3; Oral - H301 Skin corrosion 1B - H314 Acute toxicity 3; Inhalation - H331 Specific target organ toxicity – repeated exposure 2 - H373
m-Phenylenebis (methylamine) 1477-55-0	216-032-5	>= 1- < 5 %	Acute toxicity 4; Oral - H302 Skin corrosion 1B - H314 Skin sensitizer 1; Dermal - H317 Acute toxicity 3; Inhalation - H331 Chronic hazards to the aquatic environment 3 - H412

For full text of the H - statements and other abbreviations see section 16 "Other information".

Substances without classification may have community workplace exposure limits available.

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number REACH-Reg No.	Content	Classification
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Isophorone diamine 2855-13-2	220-666-8	>= 10- < 25 %	C - Corrosive; R34 Xn - Harmful; R21/22 R43 R52/53
Benzyl alcohol 100-51-6	202-859-9	>= 1- < 10 %	Xn - Harmful; R20/22
Diethylenetriamine 111-40-0	203-865-4	>= 1- < 10 %	R43 Xn - Harmful; R21/22 C - Corrosive; R34
2,4,6- Tris(dimethylaminomethyl) phenol 90-72-2	202-013-9	>= 1- < 10 %	Xn - Harmful; R22 Xi - Irritant; R36/38
m- Phenylenebis(methylamine) 1477-55-0	216-032-5	>= 1- < 5 %	T - Toxic; R23 C - Corrosive; R34 Xn - Harmful; R22 Xi - Irritant; R43 R52/53
Phenol 108-95-2	203-632-7	>= 1- < 5 %	Mutagen category 3.; R68 T - Toxic; R23/24/25 C - Corrosive; R34 Xn - Harmful; R48/20/21/22

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.
Substances without classification may have community workplace exposure limits available

SECTION 4

First aid measures

4.1. Description of first aid measures

General information:

In case of adverse health effects seek medical advice.

Inhalation:

Move to fresh air, consult doctor if complaint persists.

Skin contact:

Rinse with running water and soap. Skin care. Remove contaminated clothes immediately.

Eye contact:

Immediately flush eyes with soft jet of water or eye rinse solution for at least 15 minutes. Hold eyelid wide-open. Seek a doctor/hospital, eye flushing should continue during transportation to a doctor.

Ingestion:

Rinse the mouth. Drink plenty of water. Immediate medical advice necessary. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed

Causes burns.

RESPIRATORY: Irritation, coughing, shortness of breath, chest tightness.

SKIN: Redness, inflammation.

4.3. Indication of any immediate medical attention and special treatment needed

See section: Description of first aid measures

SECTION 5

Fire fighting measures

5.1. Extinguishing media

Suitable extinguishing media:

carbon dioxide, foam, powder, water spray jet, fine water spray

Extinguishing media which must not be used for safety reasons:

High pressure water jet

5.2. Special hazards arising from the substance or mixture

In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO₂) can be released.

5.3. Advice for fire-fighters

Wear self-contained breathing apparatus.

Wear protective equipment.

Additional information:

Dispose of combustion residues and contaminated fire-fighting water in accordance with statutory regulations.

SECTION 6

Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Danger of slipping on spilled product.

Wear protective equipment.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Remove mechanically.

Dispose of contaminated material as waste according to Chapter 13.

6.4. Reference to other sections

See advice in chapter 8

SECTION 7

Handling and storage

7.1. Precautions for safe handling

Avoid skin and eye contact.

Ventilate working rooms thoroughly. Avoid naked flames, sparking and sources of ignition. Switch off electrical devices. Do not smoke, do not weld. Do not empty waste into waste water drains.

Hygiene measures:

Do not eat, drink or smoke while working.

Wash hands before work breaks and after finishing work.

7.2. Conditions for safe storage, including any incompatibilities

Store in sealed original container protected against moisture.

Store in a cool, dry place.

Storage at 5 to 25°C is recommended.

Keep container in a well ventilated place.

Do not store together with food or other consumables (coffee, tea, tobacco, etc.).

7.3. Specific end use(s)

compound mortar

SECTION 8

Exposure controls/personal protection

8.1. Control parameters

Valid for Great Britain - None

Predicted No-Effect Concentration (PNEC):

Ingredient	PPM	mg/m3	Type	Category	Remarks
2,2'- IMINODI(ETHYLAMINE) 111-40-0			Skin designation:	Can be absorbed through the skin.	EH40 WEL
2,2'- IMINODI(ETHYLAMINE) 111-40-0	1	4.3	Time Weighted Average (TWA):		EH40 WEL
PHENOL 108-95-2			Skin designation:	Can be absorbed through the skin.	ECTLV
PHENOL 108-95-2	2		Time Weighted Average (TWA):		EH40 WEL
PHENOL 108-95-2			Skin designation:	Can be absorbed through the skin.	EH40 WEL
PHENOL 108-95-2	2	8	Time Weighted Average (TWA):	Indicative	ECTLV
PHENOL 108-95-2	4	16	Short Term Exposure Limit (STEL):	Indicative	ECTLV

8.2. Exposure controls:

Respiratory protection:

Suitable breathing mask when there is inadequate ventilation.

Combination filter: ABEKP

This recommendation should be matched to local conditions.

Hand protection:

Recommended are gloves made from Nitril rubber (Material thickness >0,1 mm, Perforation time < 30s).Gloves should be replaced after each short time contact or contamination. Available at laboratory specialized trade or at pharmacies / chemist's shops. In the case of longer contact protective gloves made from butyl rubber are recommended according to EN 374.

Perforation time > 60 minutes

material thickness > 0.7 mm

In the case of longer and repeated contact please note that in practice the penetration times may be considerably shorter than those determined according to EN 374. The protective gloves must always be checked for their suitability for use at the specific workplace (e.g. mechanical and thermal stress, product compatibility, antistatic effects, etc.). The gloves must be

replaced immediately at the first signs of wear and tear. The information provided by the manufacturers and given in the

relevant trade association regulations for industrial safety must always be observed.

We recommend that a hand care plan is drawn up in cooperation with a glove manufacturer and the trade association in accordance with the local operating conditions.

Eye protection:

Goggles which can be tightly sealed.

Skin protection:

Suitable protective clothing

SECTION 9

Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	paste
Consistency	pasty
Colour	Black
Odor	Amine like
pH	No data available / Not applicable
Initial boiling point	No data available / Not applicable
Flash point	No data available / Not applicable
Decomposition temperature	No data available / Not applicable
Vapour pressure	No data available / Not applicable
Density(23 °C (73.4 °F))	1.09 g/cm ³
Bulk density	No data available / Not applicable



Viscosity	No data available / Not applicable
Viscosity (kinematic)	No data available / Not applicable
Explosive properties	No data available / Not applicable
Solubility (qualitative) (20 °C (68 °F); Solvent: Water)	Partially miscible
Solidification temperature	No data available / Not applicable
Melting point	No data available / Not applicable
Flammability	No data available / Not applicable
Auto-ignition temperature	No data available / Not applicable
Explosive limits	
Lower	1,0 %(V)
Upper	13 %(V)
Partition coefficient: n-octanol/water	No data available / Not applicable
Evaporation rate	No data available / Not applicable
Vapor density	No data available / Not applicable
Oxidising properties	No data available / Not applicable
9.2. Other information	No data available / Not applicable

SECTION 10

Stability and reactivity

10.1. Reactivity

Reacts with strong oxidants.
Reaction with strong acids.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

See section reactivity

10.4. Conditions to avoid

None if used for intended purpose.

10.5. Incompatible materials

None if used properly.

10.6. Hazardous decomposition products

None known

SECTION 11

Toxicological information

11.1. Information on toxicological effects

General toxicological information:

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Persons suffering from allergic reactions to epoxides should avoid contact with the product.

Oral toxicity:

Harmful if swallowed.

Inhalative toxicity:

Harmful by inhalation.

Dermal toxicity:

Harmful in contact with skin.

Skin irritation:

Primary skin irritation: corrosive

Eye irritation:

Primary eye irritation: corrosive

Sensitizing:

May cause sensitization by skin contact.

Cross-reactions with other amine compounds are possible.

Acute toxicity:

Hazardous components CAS-No.	Value Type	Value	Route of Application	Exposure Time	Species	Method
Benzyl alcohol 100-51-6	LD50 LC50	1.620 mg/kg > 4,178 mg/l	oral inhalation	4 h	rat rat	
2,4,6- Tris (dimethylaminomethyl)phenol 90-72-2	LD50 LD50	1.378 - 1.968 mg/kg	oral dermal		rat rat	OECD Guideline 401 (Acute Oral Toxicity)
m- Phenylenebis (methylamine) 1477-55-0	LC50	2,4 mg/l	inhalation	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation:

Hazardous components CAS-No.	Results	Exposure Time	Species	Method
Benzyl alcohol 100-51-6	not irritating	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)
2,4,6- Tris (dimethylaminomethyl)phenol 90-72-2	corrosive	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Serious eye damage/irritation:

Hazardous components CAS-No.	Results	Exposure Time	Species	Method
Isophorone diamine 2855-13-2	corrosive		rabbit	OECD Guideline 405 (Acute Eye Irritation / Corrosion)
2,4,6- Tris (dimethylaminomethyl) phenol 90-72-2	corrosive	24 h	rabbit	

Respiratory or skin sensitization:

Hazardous components CAS-No.	Results	Test Type	Species	Method
Isophorone diamine 2855-13-2	sensitising	Guinea pig Maximis at ion test	Guinea Pig	OECD Guideline 406 (Skin Sensitisation)
2,4,6- Tris (dimethylaminomethyl) phenol 90-72-2	Non- sensitising	Buehler test	Guinea Pig	OECD Guideline 406 (Skin Sensitisation)
m-Phenylenebis (methylamine) 1477-55-0	sensitising	Mouse local lymphnode assay (LLNA)	mouse	OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay)

Germ cell mutagenicity:

Hazardous components CAS-No.	Results	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
Isophorone diamine 2855-13-2	negative	bacterial reverse mutation assay (e.g Ames test)	with and without	Guinea Pig	EU Method B.13/14 (Mutagenicity)
Benzyl alcohol 100-51-6	negative	bacterial reverse mutation assay (e.g Ames test)	with and without	Guinea Pig	
m-Phenylenebis (methylamine) 1477-55-0	Negative Negative	bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test	with and without	mouse	

Repeated dose toxicity:

Hazardous components CAS-No.	Results	Route of Application	Exposure time/ Frequency of Treatment	Species	Method
Isophorone diamine 2855-13-2	NOAEL= < 60 mg/kg	oral: drinking water	13 weeks	rat	OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)
m-Phenylenebis (methylamine) 1477-55-0	LOAEL= >= 600 mg/kg	oral: gavage	28 days daily	Rat	

SECTION 12

Ecological information

General ecological information:

The preparation is classified based on the conventional method outlined in Article 6(1)(a) of Directive 1999/45/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following. Do not empty into drains, soil or bodies of water. Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
Isophorone diamine 2855-13-2	LC50	110 mg/l	Fish	96 h	Leuciscus idus	EU Method C.1 (Acute Toxicity for Fish)
Isophorone diamine 2855-13-2	EC50	42 mg/l	Daphnia	24 h	Daphnia magna	
Isophorone diamine 2855-13-2	EC50	37 mg/l	Algae	72 h	Scenedesmus subspicatus (new name: Desmodesmus subspicatus)	EU Method C.3 (Algal Inhibition test)
Benzyl alcohol 100-51-6	LC50	646 mg/l	Fish	48 h	Leuciscus idus	
Benzyl alcohol 100-51-6	EC50	360 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Benzyl alcohol 100-51-6	EC50	640 mg/l	Algae	96 h	Scenedesmus quadricauda	OECD Guideline 201 (Alga, Growth Inhibition Test)
Diethylenetriamine 111-40-0	LC50	> 9,8 mg/l	Fish	48 h	Leuciscus idus	
Diethylenetriamine 111-40-0	EC50	64,6 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Diethylenetriamine 111-40-0	EC50	187 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	EU Method C.3 (Algal Inhibition test)
2,4,6-Tris(dimethylaminomethyl) phenol 90-72-2	LC50	153 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	

m-Phenylenebis(methylamine) 1477-55-0	LC50	> 100 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
m-Phenylenebis(methylamine) 1477-55-0	EC50	16 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
m-Phenylenebis(methylamine) 1477-55-0	EC50	33,3 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Phenol 108-95-2	LC50	27,8 mg/l	Fish	96 h	Brachydanio rerio (new name: Danio rerio)	OECD Guideline 203 (Fish, Acute Toxicity Test)
	NOEC	2,63 mg/l	Fish	28 d		OECD Guideline 204 (Fish, Prolonged Toxicity Test: 14-day Study)
Phenol 108-95-2	EC50	13 mg/l	Daphnia	48 h		OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

12.2. Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
Isophorone diamine 2855-13-2		aerobic	8 %	OECD Guideline 301 A (new version) (Ready Biodegradability: DOC Die Away Test)
Benzyl alcohol 100-51-6	readily biodegradable	aerobic	93 - 98 %	EU Method C.4-B (Determination of the "Ready" Biodegradability Modified OECD Screening Test)
Diethylenetriamine 111-40-0		aerobic	10 - 13 %	EU Method C.4-B (Determination of the "Ready" Biodegradability Modified OECD Screening Test)

12.3. Bioaccumulative potential / 12.4. Mobility in soil

Hazardous components CAS-No.	Log Kow	Bio Concentration Factor (BCF)	Exposure time	Species	Temperature	Method
Benzyl alcohol 100-51-6	1,08					
Diethylenetriamine 111-40-0	-2,13					

2,4,6-Tris(dimethylaminomethyl) phenol 90-72-2	0,77					
Phenol 108-95-2	1.46					

SECTION 13

Disposal considerations

13.1. Waste treatment methods

Product disposal:

Dispose of waste and residues in accordance with local authority requirements.

Disposal of uncleaned packages:

Use packages for recycling only when totally empty.

Waste code

08 04 09 waste adhesives and sealants containing organic solvents and other dangerous substances

SECTION 14

Transport information

Road transport ADR:

Class:	8
Packaging group:	III
Classification code:	C8
Hazard ident. number:	80
UN no.:	3259
Label:	8
Technical name:	AMINES, SOLID, CORROSIVE, N.O.S. (Isophoronediamine,Diethylenetriamine)
Tunnelcode:	(E)

Railroad transport RID:

Class:	8
Packaging group:	III
Classification code:	C8
Hazard ident. number:	80
UN no.:	3259
Label:	8
Technical name:	AMINES, SOLID, CORROSIVE, N.O.S. (Isophoronediamine,Diethylenetriamine)
Tunnelcode:	(E)

Inland water transport ADN:

Class:	8
Packaging group:	III
Classification code:	C8
Hazard ident. number:	
UN no.:	3259
Label:	8
Technical name:	AMINES, SOLID, CORROSIVE, N.O.S. (Isophoronediamine,Diethylenetriamine)

Marine transport IMDG:

Class:	8
Packaging group:	III
UN no.:	3259
Label:	8
EmS:	F-A ,S-B
Seawater pollutant:	Marine pollutant
Proper shipping name:	AMINES, SOLID, CORROSIVE, N.O.S. (Isophoronediamine,Diethylenetriamine)

Air transport IATA:

Class:	8
Packaging group:	III
Packaging instructions (passenger)	860
Packaging instructions (cargo)	864
UN no.:	3259
Label:	8
Proper shipping name:	Amines, solid, corrosive, n.o.s. (Isophoronediamine,Diethylenetriamine)

SECTION 15

Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

VOC content	0%
(VOCV 814.018 VOC regulation CH)	

SECTION 16

Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:
R20/22 Harmful by inhalation and if swallowed.



R21/22 Harmful in contact with skin and if swallowed.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.
R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R52/53 Harmful to aquatic organisms may cause long-term adverse effects in the aquatic environment.
R68 Possible risk of irreversible effects.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Further information:

This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.

The product is intended for industrial use.