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## MATERIAL SAFETY DATASHEET LIFEBOAT RESIN BASE

### 1. Identification of Substance/ Preparation and Company

**Product Name:** MULAX LIFEBOAT RESIN BASE COMPONENT  
**Product Code:** MUL11500  
**Company:** Riga 3, 2993 LW, Barendrecht, The Netherlands  
**Chemical Name & Synonyms:** Aliphatic polyamine hardener blend with inert fillers  
**For Information:** Call on +31 (0)88-6641777 (9am to 5pm)  
**In an Emergency:** As Above

### 2. Hazards Identification

#### Classification of the substance or mixture

#### Classification in accordance with the dangerous preparations directive 1999/45/EC:

**XI; R36/38** Irritating to eyes and skin  
**R43** May cause sensitization by skin contact  
**N; R51/53** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Classification in accordance with the Classification Labelling and Packaging Regulation EC (no) 1272/2008

Skin Irritant Category 2 H315 Causes skin irritation  
Eye Irritant Category 2 H319 Causes serious eye irritation  
Skin Sensitiser Category 1 H317 May cause an allergic skin reaction  
Aquatic Chronic Category 2 H411 Toxic to aquatic life with long lasting effects

#### Label elements

Labelling in accordance with the classification labelling and packaging regulation EC (no) 1272/2008.

Pictograms:



**Signal word:** WARNING

**Hazard statements:** H315: Causes skin irritation  
H319: Causes serious eye irritation  
H317: May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements:** P280: Wear protective gloves/protective clothing/eye protection/face protection .  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P501: Dispose of contents/container as hazardous waste.

#### Other hazards

May cause chemical burns to the eyes and skin, and if ingested, to the gastrointestinal tract. May cause allergic skin reaction.

If released into watercourses in sufficient quantities may be toxic to aquatic life. None of the components are considered to be Persistent, Bioaccumulative and Toxic (PBT) or very Persistent, very Bioaccumulative (vPvB).

### 3. Composition/ Information on Ingredients

**Substances:** Not applicable, product is a mixture  
**Mixtures:** Contains the following hazardous components above thresholds of concern.

Hazardous Components	Cas Number	%	Classification according to Regulation (EC) No 1272/2008	Classification according to Directive 67/548/EEC

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Reaction product Bisphenol F-(epichlorhydrin)	28064-14-4	10-30%	Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411	Xi; R38-43-51/53
Reaction product bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)	25068-38-6	10-30%	Skin Irrit. 2 H315, Eye Irrit. 2 H319, Skin Sens. 1 H317, Aquatic Chronic 2 H411	Xi; R36/38-43-51/53

See section 16 for full description of R phrases and H statements.

### 4. First Aid Measures

Summon immediate medical assistance after contact with skin, eyes, inhalation or ingestion

- Eye:** Flush eyes with plenty of running water for several minutes, whilst gently holding the eyelids open. Seek medical attention if irritation persists.
- Skin:** Remove product and contaminated clothing and wash area with water, seek medical advice. Wash contaminated clothing before re-use.
- Ingestion:** Drink plenty of water, DO NOT INDUCE VOMITING. Seek medical attention immediately.
- Inhalation:** Remove patient to fresh air. If breathing has stopped give assisted respiration. Prevent aspiration of vomit. Turn victims head to one side. Seek medical advice.

### Most important symptoms and effects, both acute and delayed

- Eye Contact:** Sign/ Symptoms may include redness, tearing, pain.
- Skin Contact:** Sign/ Symptoms may include localised redness, swelling, itching.
- Inhalation:** Sign/ Symptoms may include cough, sneezing, nasal discharge, tightness of chest, headache, hoarseness and nose and throat irritation.
- Ingestion:** Signs/ Symptoms may include irritation of the mouth, throat, nausea, vomiting.

### Indication of any immediate medical attention and special treatments needed

Symptomatic treatment as required.

### 5. Fire Fighting Measures

- Extinguishing Media:** Ignition will give rise to class B Fire, in case of fire use Water sprays, Dry chemical, CO2 or Alcohol foam.
- Special hazards:** Sudden reaction and fire may result if mixed with an oxidizing agent.
- Advice for fire fighters:** Wear Self-contained breathing apparatus, rubber boots, gloves and body suit.

### 6. Accidental Release Measures

#### Personal precautions, protective equipment and emergency procedures

Remove all unnecessary personnel from the area. Ventilate the area if possible. Wear suitable protective clothing including chemical resistant gloves and coveralls. If vapour concentrations are high, respiratory protective equipment may be required. See section 8 for more information.

#### Environmental precautions

Prevent entry into sewers and watercourses. If product enters sewers or watercourses, inform the appropriate environmental authorities.

#### Methods and materials for containment and clearing up

Scrape up and transfer into a suitable container. Wash area with water.

#### References to other sections

Refer to section 5, 8 and 13 for Protective Measures and Disposal.

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## MATERIAL SAFETY DATASHEET LIFEBOAT RESIN BASE

### 7. Handling and Storage

#### Precautions for safe handling

Avoid contact with skin, eyes and clothing. Handle in well ventilated area. Avoid breathing vapours. Wash hands after contact.

#### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a cool, well ventilated area. Keep away from oxidizers, heat or flames.

#### Specific end uses(s)

No industrial or sector specific guidance available.

### 8. Exposure Controls/ Personal Protection

#### Control parameters:

Substance Name	8 hour exposure limit	15 min exposure limit	Notes, Source
Talc (magnesium silicate), respirable dust	1 mg/m <sup>3</sup>	—	EH40, 2011

#### Engineering controls:

Adequate ventilation should be provided so that exposure limits are not exceeded.

#### Respiratory:

Not normally required. If significant aerosols are likely to be generated a suitable respirator may be required. Suggested filter type AP2.

#### Hand protection:

Wear suitable chemical resistant gloves. Nitrile or neoprene gloves may be suitable, but glove manufacturers' specifications should always be checked first. Change gloves in accordance with manufacturer recommendations. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

#### Skin protection:

Avoid Skin Contact; use disposable coveralls.

#### Eye protection:

Avoid Eye Contact; use safety goggles meeting the requirements of BS EN166 3, when handling this product

**Environmental exposure control:** Take suitable measures to prevent entry into drains, sewers and watercourses.

### 9. Physical/ Chemical Properties

#### Information on basic physical and chemical properties:

<b>Appearance:</b>	Grey paste
<b>Odour:</b>	Weak
<b>Odour threshold:</b>	No data
<b>PH:</b>	Neutral
<b>Melting Point:</b>	No data
<b>Boiling Point/ Range:</b>	170C
<b>Flash Point:</b>	>150C
<b>Evaporation Rate:</b>	No data
<b>Flammability:</b>	Not applicable
<b>Upper/lower flammability limits:</b>	No data
<b>Vapour Pressure:</b>	No data
<b>Vapour density:</b>	No data
<b>Relative density:</b>	2.7g/cm <sup>3</sup> at 20C
<b>Solubility in water:</b>	Insoluble in water
<b>Solubility in other solvents:</b>	Soluble in organic solvents
<b>Partition Coefficient:</b>	Log Kow 3-5 (estimated) (Bisphenol A/F epoxy resin)
<b>Auto ignition temperature:</b>	Above boiling point
<b>Decomposition temperature:</b>	No data
<b>Viscosity:</b>	Thick paste
<b>Explosive properties:</b>	Not classified as explosive
<b>Oxidising properties:</b>	Not classified as oxidising

### 10. Stability and Reactivity

#### Reactivity:

Not considered to be a reactive product

#### Chemical stability:

Stable

#### Possibility of hazardous reactions:

Hazardous Polymerisation is not likely to occur

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**Conditions to avoid:** Excessive heat  
**Incompatible materials:** Acids - reaction accompanied by large heat release occurs when the product is mixed with acids  
**Hazardous decomposition products:** None identified

### 11. Toxicological Information

#### Information on toxicological effects

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

(a) acute toxicity	Based on consideration of the components, the mixture is not expected to be harmful by inhalation, ingestion or in contact with skin. The ATE for the mixture is expected to be >2000 mg/kg
(b) skin corrosion/irritation	Based on consideration of the components, the mixture is expected to be irritating to skin.
(c) serious eye damage/irritation	Based on consideration of the components, the mixture is expected to be irritating to eyes.
(d) respiratory/skin sensitisation	The product contains the following known sensitizers: Bisphenol A epoxy resin, Persons previously sensitized to amines may develop a cross sensitization reaction to certain other amines.
(e) germ cell mutagenicity	Contains no substances identified as mutagens.
(f) carcinogenicity	Contains no substances identified as carcinogens.
(g) reproductive toxicity	Resins based on Bisphenol A did not cause adverse effects in animal tests.
(h) STOT-single exposure	Target organ toxicity is not expected with this product.
(i) STOT-repeated exposure	Target organ toxicity is not expected with this product.
(j) aspiration hazard	Not applicable.

### 12. Ecological Information

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

#### Toxicity

This product contains components which are considered to be toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Once cured the toxicity of the product is expected to decrease.

*Data for Component: Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)*

Fish Acute & Prolonged Toxicity

LC50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 h: 2 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, Daphnia magna (Water flea), static test, 48 h, immobilization: 1.8 mg/l

Aquatic Plant Toxicity

ErC50, Scenedesmus capricornutum (fresh water algae), static test, Growth rate inhibition, 72 h: 11 mg/l

Toxicity to Micro-organisms

IC50; Bacteria, 18 h: > 42.6 mg/l

Aquatic Invertebrates Chronic Toxicity Value

Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, NOEC: 0.3 mg/l

#### Persistence and degradability

This product is not expected to be readily biodegradable.

*Data for Component: Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight <= 700)*

Biodegradation	Exposure Time	Method	10 Day Window
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12 %	28 d	OECD 302B Test	Not applicable
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#### Bioaccumulative potential

This product is expected to have a low-moderate bioaccumulation potential.

#### Mobility in soil

Mobility of the uncured product is expected to be low. Cured product is expected to be immobile.

#### Results of PBT and vPvB assessment

None of the components are known to be PBT or vPvB.

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### Other adverse effects

None known.

### 13. Disposal Considerations

#### Waste treatment methods

In uncured state, dispose as chemical waste in accordance with local regulations. Waste from this product may present long term environmental hazards. Thus landfill sites must be considered less acceptable than incineration.

In cured state when mixed correctly with the base component, dispose as solid waste

Empty containers should be disposed of as chemical waste.

### 14. Transport Information

#### General

Transport and labelling requirements will alter depending on the size of the packaging. Please refer to local transport regulations.

	ADR	IMDG	ICAO
14.1 UN Number	3082	3082	3082
14.2 UN Proper shipping name	Environmentally hazardous substance, solid, N.O.S. (epoxy resin)	Environmentally hazardous substance, solid, N.O.S. (epoxy resin)	Environmentally hazardous substance, solid, N.O.S. (epoxy resin)
14.3 Transport hazard class(es)	9	9	9
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally hazardous	Marine Pollutant	Environmentally hazardous
14.6 Special precautions for user	HIN 90	EmS F-A, S-F	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable	Not applicable	Not applicable

### 15. Regulatory Information

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

All components are listed as existing substances in Europe.

All components are listed, or are exempt from listing on the TCSCA Inventory

#### Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out for this product.

### 16. Other Information

#### Revision information:

Reformatted in accordance with Regulation 453/2010 and Regulation 1272/2008.

#### List of Abbreviations used in this SDS:

CAS Chemical Abstracts Service  
CLP Classification, Labelling and Packaging Regulation (EC) no 1272/2008  
DSD Dangerous Substances Directive 67/548/EEC  
DPD Dangerous Preparations Directive 1999/45/EC  
EC European Community/Commission  
PBT Persistent, Bioaccumulative and Toxic  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) no 1907/2006  
vPvB very Persistent, very Bioaccumulative

#### References:

ECHA Classification and Labelling inventory  
ECHA database of disseminated registration dossiers

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Supplier's Safety Data Sheets

**Method used for classification of mixtures:**

Ingredient based approaches

**R Phrases and H Statements used in Section 3**

- 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.
  
- R36/38 Irritating to eyes and skin.
- R38 May be irritating to skin
- R43 May cause sensitization by skin contact.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Training requirements for workers**

No special training requirements.

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## MATERIAL SAFETY DATASHEET LIFEBOAT RESIN ACTIVATOR

### 1. Identification of Substance/ Preparation and Company

**Product Name:** MULAX LIFEBOAT RESIN ACTIVATOR  
**Product Code:** MUL11500  
**Company:** Riga 3, 2993 LW, Barendrecht, The Netherlands  
**Chemical Name & Synonyms:** Aliphatic polyamine hardener blend with inert fillers  
**For Information:** Call on +31 (0)88-6641777 (9am to 5pm)  
**In an Emergency:** As Above

### 2. Hazards Identification

#### Classification of the substance or mixture

#### Classification in accordance with the dangerous preparations directive 1999/45/EC:

**Xn; R20/21/22** Harmful by inhalation, in contact with skin and if swallowed  
**C; R34** Causes burn  
**R43** May cause sensitization by skin contact  
**Muta. 3; R68** Possible risk of irreversible effects  
**Repr. 2;62** Possible risk of impaired fertility  
**R52/53** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### Classification in accordance with the Classification Labelling and Packaging Regulation EC (no) 1272/2008

Acute Toxicity Category 4 H302 Harmful if swallowed  
Acute Toxicity Category 4 4 H312 Harmful in contact with skin  
Acute Toxicity Category 4 H332 Harmful if inhaled  
Skin Corrosive Category 1B H314 Causes severe skin burns and eye damage  
Eye Damage Category 1 H318 Causes serious eye damage  
Skin Sensitiser Category 1 H317 May cause an allergic skin reaction  
Mutagen Category 2 H341 Suspected of causing genetic defects  
Reproductive Toxicity Category 2 H361f Suspected of damaging fertility  
Aquatic Chronic Category 3 H412 Harmful to aquatic life with long lasting effects

#### Label elements

Labelling in accordance with the classification labelling and packaging regulation EC (no) 1272/2008.

Pictograms:



**Signal word:** DANGER  
**Hazard statements:** H302 + H312 + H332: Harmful if swallowed, in contact with skin or if inhaled.  
H314: Causes severe skin burns and eye damage.  
H317: May cause an allergic skin reaction.  
H341: Suspected of causing genetic defects .  
H361f: Suspected of damaging fertility.  
H412 Harmful to aquatic life with long lasting effects.

**Precautionary statements:** P202: Do not handle until all safety precautions have been read and understood.  
P280: Wear protective gloves/protective clothing/eye protection/face protection .  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a doctor  
P501: Dispose of contents/container as hazardous waste

#### Other hazards

May cause chemical burns to the eyes and skin, and if ingested, to the gastrointestinal tract. May cause allergic skin reaction. Prolonged or repeated exposure may result in adverse effects on fertility.

If released into watercourses in sufficient quantities may be harmful to aquatic life. None of the components are considered to be Persistent, Bioaccumulative and Toxic (PBT) or very Persistent, very Bioaccumulative (vPvB).

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## MATERIAL SAFETY DATASHEET LIFEBOAT RESIN ACTIVATOR

### 3. Composition/ Information on Ingredients

**Substances:** Not applicable, product is a mixture  
**Mixtures:** Contains the following hazardous components above thresholds of concern.

Hazardous Components	Cas Number	%	Classification according to Regulation (EC) No 1272/2008	Classification according to Directive 67/548/EEC
Formaldehyde polymer with Phenol and Triethylenetetramine	32610-77-8	10-30%	Acute Tox. 4 H302 Acute Tox.4 H312, Skin Corr. 1B, skin Sens. 1 H317Aquatic Chronic 3 H412	Xn; R21/22, R43 C; R34 R52/53
Phenol	108-95-2	<10%	Acute Tox. 3 H301, Acute Tox. 3 H311, Acute Tox. 3 H331 Skin Corr. 1B H314, Muta. 2 H341, STOT RE 2 H373	Muta. Cat. 3; R68 T; R23/24/25 Xn; R48/20/21/22 C; R34
Triethylenetetramine	112-24-3	<10%	Acute Tox. 4 H312, Skin Corr. 1B H314, Skin Sens. 1 H317, Aquatic Chronic 3 H412	Xn; R21, R43 C; R34 R52/53
2,2 iminodiethylamine	111-40-0	<10%	Acute Tox. 4 H302, Acute Tox. 4 H312, Acute Tox. 2 H330, Skin Corr. 1B H314, Skin Sens. 1 H317, Eye Dam. 1 H318 , STOT SE 3 H335,	T+; R26 Xn; R21/22 C; R34 Xi; R37, R43
Bisphenol A	80-05-7	<10%	Skin Sens. 1 H317, Eye Dam. 1 H318, STOT SE 3 H335, Repr. 2 H361f, Aquatic Chronic 2 H411	Repr. Cat. 3; R62 Xi; R37-41, R43 R52

See section 16 for full description of R phrases and H statements.

### 4. First Aid Measures

Summon immediate medical assistance after contact with skin, eyes, inhalation or ingestion

**Eye:** Flush eyes with plenty of running water for 15 minutes, whilst gently holding the eyelids open. Seek immediate medical attention.  
**Skin:** Sign/ Symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration and tissue destruction. Maybe absorbed through skin and cause target organ effects. Persons previously sensitized to amines may develop a cross sensitization reaction to certain other amines.  
**Ingestion:** Drink plenty of water, DO NOT INDUCE VOMITING. Seek medical attention immediately.  
**Inhalation:** Remove patient to fresh air. If breathing has stopped give assisted respiration. Prevent aspiration of vomit. Turn victims head to one side. Seek medical advice.

#### Most important symptoms and effects, both acute and delayed

**Eye Contact:** Sign/ Symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.  
**Skin Contact:** Sign/ Symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration and tissue destruction. Maybe absorbed through skin and cause target organ effects. Persons previously sensitized to amines may develop a cross sensitization reaction to certain other amines.  
**Inhalation:** Sign/ Symptoms may include cough, sneezing, nasal discharge, tightness of chest, headache, hoarseness and nose and throat pain.  
**Ingestion:** Signs/ Symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting and diarrhea, blood in the faeces.

#### Indication of any immediate medical attention and special treatments needed

Symptomatic treatment as required.

### 5. Fire Fighting Measures

**Extinguishing Media:** Ignition will give rise to class B Fire, in case of fire use Water sprays, Dry chemical, CO2 or Alcohol foam.  
**Special hazards:** May generate toxic, irritating or flammable combustion products, including nitrogen oxides. Combustion in an oxygen starved environment produces toxic products including nitriles and amides. Sudden reaction and fire may result if mixed with an oxidizing agent.  
**Advice for fire fighters:** Wear Self-contained breathing apparatus, rubber boots, gloves and body suit.

### 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures**



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Remove all unnecessary personnel from the area. Ventilate the area if possible. Wear suitable protective clothing including chemical resistant gloves and coveralls. If vapour concentrations are high, respiratory protective equipment may be required. See section 8 for more information.

### Environmental precautions

Prevent entry into sewers and watercourses. If product enters sewers or watercourses, inform the appropriate environmental authorities.

### Methods and materials for containment and clearing up

Scrape up and transfer into a suitable container. Wash area with water.

### References to other sections

Refer to section 5, 8 and 13 for protective Measures and Disposal.

## 7. Handling and Storage

### Precautions for safe handling

Avoid contact with skin, eyes and clothing. Handle in well ventilated area. Wash hands after contact.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a cool, well ventilated area.

### Specific end uses(s)

No industrial or sector specific guidance available.

## 8. Exposure Controls/ Personal Protection

### Control parameters:

Substance Name	8 hour exposure limit	15 min exposure limit	Notes, Source
2,2'-Iminodi(ethylamine)	1 ppm, 4.3 mg/m <sup>3</sup>	—	Sk, EH40, 2011
Bisphenol A inhalable dust	10 mg/m <sup>3</sup>	—	EH40, 2011
Phenol	2 ppm, 7.8 mg/m <sup>3</sup>	4 ppm, 16 mg/m <sup>3</sup>	Sk, EH40, 2011

### Engineering controls:

Adequate ventilation should be provided so that exposure limits are not exceeded.

### Respiratory:

Avoid breathing vapours, mist or sprays; select and use respiratory protection. Suggested filter type AP2.

### Hand protection:

Wear suitable chemical resistant gloves recommended. Nitrile or neoprene gloves may be suitable, but glove manufacturers' specifications should always be checked first. Change gloves in accordance with manufacturer recommendations. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

### Skin protection:

Avoid skin contact; use disposable coveralls.

### Eye protection:

Avoid eye contact; use safety goggles meeting the requirements of BS EN166 3, when handling this product.

**Environmental exposure control:** Take suitable measures to prevent entry into drains, sewers and watercourses.

## 9. Physical/ Chemical Properties

### Information on basic physical and chemical properties:

Appearance:	Amber Gel
Odour:	Ammoniacal, Fishy
Odour threshold:	No data
PH:	Alkaline
Melting Point:	>180C
Boiling Point/ Range:	>110C
Flash Point:	>100C
Evaporation Rate:	No data
Flammability:	Not applicable
Upper/lower flammability limits:	No data
Vapour Pressure:	No data
Vapour density:	No data
Relative density:	1.05g/cm <sup>3</sup> at 20C

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**Solubility in water:** Insoluble in water  
**Solubility in other solvents:** No data  
**Partition Coefficient:** No data  
**Auto ignition temperature:** No data  
**Decomposition temperature:** No data  
**Viscosity:** No data  
**Explosive properties:** Not classified as explosive  
**Oxidising properties:** Not classified as oxidising

### 10. Stability and Reactivity

**Reactivity:** Not considered to be a reactive product  
**Chemical stability:** Stable  
**Possibility of hazardous reactions:** Hazardous Polymerisation is not likely to occur  
**Conditions to avoid:** Excessive heat  
**Incompatible materials:** Oxidising agents – cleaning solutions. Acids - reaction accompanied by large heat release occurs when the product is mixed with acids  
**Hazardous decomposition products:** Ammonia when heated. Nitrogen Oxides in a fire. Combustion in an oxygen starved environment produces toxic products including nitriles and amides.

### 11. Toxicological Information

#### Information on toxicological effects

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

(a) acute toxicity	Based on consideration of the components, the mixture is expected to be harmful by inhalation, ingestion or in contact with skin.
(b) skin corrosion/irritation	Based on consideration of the components, the mixture is expected to be corrosive to skin.
(c) serious eye damage/irritation	Based on consideration of the components, the mixture is expected to be corrosive to eyes.
(d) respiratory/skin sensitisation	The product contains the following known sensitizers. Formaldehyde polymer with Phenol and Triethylenetetramine, Triethylenetetramine, 2,2 iminodiethylamine (diethylenetetramine), bisphenol A, Persons previously sensitized to amines may develop a cross sensitization reaction to certain other amines.
(e) germ cell mutagenicity	The product contains phenol, which is classified as a suspected mutagen.
(f) carcinogenicity	Contains no substances identified as carcinogens.
(g) reproductive toxicity	The product contains bisphenol A which is suspected of damaging fertility.
(h) STOT-single exposure	This product is corrosive, and is expected to irritate the respiratory tract if inhaled.
(i) STOT-repeated exposure	The product contains phenol, which may cause adverse effects to the liver and kidneys if exposed to significant amounts over a prolonged period of time, at a concentration below the classification threshold for this effect.
(j) aspiration hazard	Not applicable.

### 12. Ecological Information

This product has not been tested. Judgements on the expected toxicity of this product have been made based upon consideration of its major components.

#### Toxicity

This product contains components which are considered to be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Once cured the toxicity of the product is expected to decrease.

#### Persistence and degradability

This product is not expected to be readily biodegradable.

#### Bioaccumulative potential

This product is expected to have a low bioaccumulation potential.

#### Mobility in soil

Cured product is expected to be immobile.

#### Results of PBT and vPvB assessment

None of the components are known to be PBT or vPvB.

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### Other adverse effects

None known.

### 13. Disposal Considerations

#### Waste treatment methods

In uncured state, dispose as chemical waste in accordance with local regulations. Waste from this product may present long term environmental hazards. Thus landfill sites must be considered less acceptable than incineration.

In cured state when mixed correctly with the base component, dispose as solid waste

Empty containers should be disposed of as chemical waste.

### 14. Transport Information

#### General

Transport and labelling requirements will alter depending on the size of the packaging. Please refer to local transport regulations.

	ADR	IMDG	ICAO
14.1 UN Number	UN2735	UN2735	UN2735
14.2 UN Proper shipping name	Polyamines, solid, corrosive, N.O.S. (Contains Triethylene tetramine, Diethylenetriamine)	Polyamines, solid, corrosive, N.O.S. (Contains Triethylene tetramine, Diethylenetriamine)	Polyamines, solid, corrosive, N.O.S. (Contains Triethylene tetramine, Diethylenetriamine)
14.3 Transport hazard class(es)	8	8	8
14.4 Packing group	III	III	III
14.5 Environmental hazards	Not EHS	Not EHS	Not EHS
14.6 Special precautions for user	HIN 80 Tunnel Code E	EmS F-A, S-B	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable	Not applicable	Not applicable

### 15. Regulatory Information

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

All components are listed as existing substances in Europe.

All components are listed, or are exempt from listing on the TCSA Inventory

#### Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out for this product.

### 16. Other Information

#### Revision information:

Reformatted in accordance with Regulation 453/2010 and Regulation 1272/2008.

#### List of Abbreviations used in this SDS:

CAS Chemical Abstracts Service  
CLP Classification, Labelling and Packaging Regulation (EC) no 1272/2008  
DSD Dangerous Substances Directive 67/548/EEC  
DPD Dangerous Preparations Directive 1999/45/EC  
EC European Community/Commission  
PBT Persistent, Bioaccumulative and Toxic  
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) no 1907/2006  
vPvB very Persistent, very Bioaccumulative

#### References:

ECHA Classification and Labelling inventory  
ECHA database of disseminated registration dossiers  
Supplier's Safety Data Sheets

Revision Date: 2015/14/01  
Revision: 02  
Supersedes Date: -



## MATERIAL SAFETY DATASHEET LIFEBOAT RESIN ACTIVATOR

### Method used for classification of mixtures:

Ingredient based approaches

### R Phrases and H Statements used in Section 3

R20/22	Harmful by inhalation and if swallowed,
R21/22	Harmful in contact with skin and if swallowed,
R22	Harmful if swallowed,
R23/24/25;	Toxic by inhalation, in contact with skin and if swallowed,
R26	Very toxic if inhaled
R34	Causes burns
R36	Irritating to eyes
R36/38	Irritating to eyes and skin,
R37	Irritating to respiratory system,
R41	Risk of serious damage to eyes,
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	Harmful to aquatic organisms
R52/53	Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment,
R62	Possible risk of impaired fertility
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
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	H319 Causes serious eye damage
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects
H361f	Suspected of damaging fertility
H373	May cause damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

### Training requirements for workers

No special training requirements.