



MATERIAL SAFETY DATASHEET MULAX STRONGBACK EPOXY RESIN AND HARDENER (ACTIVATOR)

1. Identification of Substance/ Preparation and Company

Product Name: **MULAX STRONGBACK EPOXY RESIN AND HARDENER ACTIVATOR**
Product Code: MUL30105 (300 gr.)
MUL30106 (450 gr.)
MUL30110 (1 kg.)
MUL30130 (3 kg.)
Company: Riga 3, 2993 LW, Barendrecht, The Netherlands
Chemical Name & Synonyms: Aliphatic polyamine hardener blend with inert fillers
For Information: Call on +31 (0)188-6641777 (9am to 5pm)
In an Emergency: As Above

2. Hazards Identification

Classification of the substance or mixture

Classification in accordance with the Dangerous Preparation Directive 1999/45/EC

Xn; R20/21/22 Harmful by inhalation, in contact with skin and if swallowed
C; R34 Causes burns
R43 May cause sensitisation by skin contact
Muta. 3; R68 Possible risk of irreversible effects
Repr. 2; R62 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 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.



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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).

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 H317 Aquatic 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

Description of 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: Remove product and contaminated clothing and wash area with water, seek medical advice. Except in most minor, superficial or localized burns, cover the affected area with a sterile dressing or clean sheeting. DO NOT APPLY GREASES OR OINTMENTS. 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 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



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Ignition will give rise to class B Fire, in case of fire use water sprays, Dry chemical, CO2 or alcohol foam.

Special hazards arising from the substance or mixture

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

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 cleaning 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. 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 |
|-------------------------------|------------------------------|-----------------------------|----------------|
| 2,2'-Iminodi(ethylamine) | 1 ppm, 4.3 mg/m ³ | — | Sk, EH40, 2011 |
| Bisphenol A inhalable dust | 10 mg/m ³ | — | EH40, 2011 |
| Phenol | 2 ppm, 7.8 mg/m ³ | 4 ppm, 16 mg/m ³ | Sk, EH40, 2011 |

Exposure controls

Engineering controls

Respiratory:

Adequate ventilation should be provided so that exposure limits are not exceeded.
Avoid Breathing Vapours, Mists or Sprays; Select and use respiratory protection. Suggested filter type AP2.

Hand protection:

Wear suitable chemical resistant gloves recommended for use with corrosive amines. 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 controls: Take suitable measures to prevent entry into drains, sewers and watercourses.



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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/cm3 at 20C |
| Solubility in water: | Insoluble in water |
| Solubility in other solvents: | No data |
| Partition Coefficient: | No data |
| Autoignition 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 Polymerization is not likely to occurs.

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 products 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 sensitisers. 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. |



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| | |
|----------------------------|---|
| (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.

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 | 1759 | 1759 |
| 14.2 UN Proper shipping name | Polyamines, liquid, corrosive, N.O.S. (Contains Triethylene tetramine, Diethylenetriamine) | Polyamines, liquid, corrosive, N.O.S. (Contains Triethylene tetramine, Diethylenetriamine) | Polyamines, liquid, 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 |



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| | | | |
|---|----------------|----------------|----------------|
| 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 environment 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 TCSC 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

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 | Irritates eyes |
| H330 | Fatal if inhaled |

Revision Date: 2015/07/01
Revision: 02
Supersedes Date: -



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| | |
|-------|---|
| 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.