

Trade name: **DETER-AB HARDENER**

SECTION 1: Identification of the substance/ mixture and of the company/undertaking

1.1 Product identifier For industrial and professional use only.

- Trade name: **DETER-AB HARDENER**
- Article number: 6829

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

- Application of the substance / the mixture Surface Coating

1.3 Details of the supplier of the safety data sheet

• Supplier:
 NORIGIN SCIENTIFIC LIMITED
 14 Penrose Wharf,
 Penrose Quay,
 Cork, Ireland TK23 EK0E,
 TEL: +44 (0)7768 852657
 Email: info@norigin-sci.com

• Further information obtainable from:
sales@norigin-sci.com



1.4 Emergency telephone number: +44 (0)7768 852657 (business hours)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008
 Skin Irrit. 2: H315 Causes skin irritation.
 Eye Irrit. 2 : H319 Causes serious eye irritation.
 Skin Sens. 1: H317 May cause an allergic skin reaction.
 Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects.

2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
 The product is classified and labelled according to the GB CLP regulation.
- Hazard pictograms: GHS07 & GHS09  

• Signal word Warning

• **Hazard-determining components of labelling:**
 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin; formaldehyde, oligomer reaction products with 1-chloro-2,3-epoxypropane and phenol

• 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

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves / 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.
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

- Results of PBT and vPvB assessment
- PBT: Not applicable, • vPvP: Not applicable

Antibacterial Coatings

DETER-AB HARDENER

Safety data sheet

According to 1907/2006/EC, Article 31

Version number: 1.24

Revision: 01.03.2024

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SECTION 3: Composition/information on ingredients**3.2 Chemical characterisation:** Mixtures

- **Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 25068-38-6 NLP: 500-033-5 Reg.nr.: 01-2119456619-26-xxxx	reaction product: bisphenol -A-(epichlorhydrin) epoxy resin	25-50%
	Aquatic Chronic 2, H411 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	
CAS: 9003-36-5 NLP: 500-006-8	formaldehyde, oligomer reaction products with 1-chloro-2,3-epoxypropane and phenol	10-25%
	Aquatic Chronic 2, H411 Skin Irrit. 2, H315; Skin Sens. 1, H317	
CAS: 68412-54-4	Nonylphenoxy(polyethoxy) ethanol	≤2.5%
	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 4, H413	
NLP: 500-209-1	Alkyphenoethoxylate	≤2.5%
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

• SVHC

68412-54-4 Nonylphenoxy(polyethoxy)ethanol

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures**4.1 Description of first aid measures**

General information: Immediately remove any clothing soiled by the product

• **After inhalation:** Supply fresh air and call for a doctor. In case of unconsciousness place patient stably in side position for transportation. Supply fresh air; consult doctor in case of complaints.

• **After skin contact:** Immediately wash with water and soap and rinse thoroughly. Remove contaminated clothing. Immediately rinse with water.

• **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

• **After swallowing:** Do not induce vomiting; call for medical help immediately and show safety datasheet or label.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

Protective equipment: Put on breathing apparatus

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures** Not required.**6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Inform respective authorities in case of seepage into water course or sewage system. Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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SECTION 7: Handling and storage**7.1 Precautions for safe handling**

- **Store in cool, dry place in tightly closed receptacles.**

Ensure good ventilation/extraction at the workplace.
Prevent formation of aerosols.

Hygiene measures:

Wash hands before breaks and at the end of workday.

- **Information about fire - and explosion protection:**
No special measures required.

7.2 Conditions for safe storage, including any incompatibilities

- **Storage:** Requirements to be met by storerooms and receptacles: No special requirements.

- **Information about storage in one common storage facility:** Not required.

- **Further information about storage conditions:**
Keep receptacle tightly sealed and in a well-ventilated place. Keep away from heat.

7.3 Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

- **Additional information about design of technical facilities:** No further data; see section 7.

- **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

DNELs		
25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin		
Oral	DNEL	0.75 mg/day (Con)
Dermal	DNEL	3.571 mg/day (Con)
		8.33 mg/day (Ind)
Inhalative	DNEL	12.25 mg/m3 (Ind)

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

- **Respiratory protection:**

When spraying the product, use a respiratory protective device.

- **Protection of hands:**

When skin exposure may occur, advice should be sought from the glove supplier on appropriate types and usage times for this product.

- **Eye protection:** Tightly sealed goggles

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SECTION 9: Physical and chemical properties	
9.1: Information on basic physical and chemical properties	
Appearance: Form: Liquid Colour: White Odour: Characteristic Odour threshold: Not determined.	Density: Density at 20 °C: 1.1 g/cm ³ Relative density: not determined Vapour density: not determined Evaporation rate: not determined
pH-value: Not determined.	Solubility in / Miscibility with water: Fully miscible.
Change in condition: Melting point/freezing point: Undetermined. Initial boiling point and boiling range: 100 °C	
Flash point: 201 °C	Partition coefficient: n-octanol/water: Not determined.
Flammability (solid, gas): Not applicable.	Viscosity: Dynamic at 20 °C: 110 mPas Kinematic: Not determined.
Decomposition temperature: Not determined.	Solvent content: Organic solvents: 0,0 %, Water: 32,5 %
Ignition temperature: Product is not selfigniting.	Solids content: 67,0%
Explosive properties: Product does not present an explosion hazard.	
Explosion limits: Lower: Not determined. Upper: Not determined. Vapour pressure at 20°C: 23kPa	
9.2 Other information: No further relevant information available.	

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SECTION 10: Stability and reactivity• **10.1 Reactivity**

No further relevant information available.

• **10.2 Chemical stability**Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.• **10.3 Possibility of hazardous reactions**

No dangerous reactions known.

• **10.4 Conditions to avoid**

No further relevant information available.

• **10.5 Incompatible materials:**

No further relevant information available.

• **10.6 Hazardous decomposition products:**

No dangerous decomposition products when stored and handled correctly

SECTION 11: Toxicological information• **11.1 Information on toxicological effects**

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:**25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin**

Oral	LD50	15,000 mg/kg (Rat)
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Dermal	LD50	23,032 mg/kg (Rat)
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Inhalative	LD50/4 h	>4.9 mg/l (Rat)
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68412-54-4 Nonylphenoxy(polyethoxy)ethanol

Oral	LD50	2,000 mg/kg (Rat)
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• **Primary irritant effect:**• **Skin corrosion/irritation**
Causes skin irritation.• **Serious eye damage/irritation**

Causes serious eye irritation.

• **Respiratory or skin sensitisation**

May cause an allergic skin reaction.

• **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Additional toxicological information:





• **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Germ cell mutagenicity Based on available data, the classification criteria are not met.

• **Carcinogenicity** Based on available data, the classification criteria are not met.• **Reproductive toxicity** Based on available data, the classification criteria are not met.• **STOT-single exposure** Based on available data, the classification criteria are not met.• **STOT-repeated exposure** Based on available data, the classification criteria are not met.• **Aspiration hazard** Based on available data, the classification criteria are not met.

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SECTION 12: Ecological information
<p>12.1 Toxicity Aquatic toxicity: No further relevant information available.</p>
<p>12.2 Persistence and degradability No further relevant information available.</p>
<p>12.3 Bioaccumulative potential No further relevant information available.</p>
<p>12.4 Mobility in soil No further relevant information available.</p> <p>• Ecotoxicological effects: Remark: Toxic for fish</p> <p>Additional ecological information:</p> <p>• General notes: Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Toxic for aquatic organisms</p>
<p>12.5 Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable.</p>
<p>12.6 Other adverse effects No further relevant information available.</p>
SECTION 13: Disposal considerations
<p>13.1 Waste treatment methods Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system. Uncleaned packaging:</p> <ul style="list-style-type: none"> • Recommendation: Disposal must be made according to official regulations. • Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information	
<p>• 14.1 UN-Number ADR, IMDG, IATA, UN3082</p>	<p>• 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.</p>
<p>• 14.2 UN proper shipping name ADR 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (formaldehyde,oligomer reaction products with 1-chloro-2,3-epoxypropane and phenol, reaction product: bisphenol-A-(epichlorhydrin) epoxy resin) IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (formaldehyde,oligomer reaction products with 1-chloro-2,3-epoxypropane and phenol, reaction product: bisphenol-A-(epichlorhydrin) epoxy resin), MARINE POLLUTANT IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (formaldehyde,oligomer reaction products with 1-chloro-2,3-epoxypropane and phenol, reaction product: bisphenol-A-(epichlorhydrin) epoxy resin)</p>	<p>• Transport/Additional information: ADR Limited quantities (LQ) 5L Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml Transport category 3 Tunnel restriction code E</p> <p>IMDG Limited quantities (LQ) 5L Excepted quantities (EQ) Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<p>• 14.3 Transport hazard class(es) ADR, IMDG, IATA Class 9 Miscellaneous dangerous substances and articles. Label 9 </p>	<p>• UN "Model Regulation": UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FORMALDEHYDE, OLIGOMER REACTION PRODUCTS WITH 1-CHLORO-2, 3-EPOXY-PROPANE AND PHENOL, REACTION PRODUCT: BISPHENOL-A-(EPICHLORHYDRIN) EPOXY RESIN), 9, III</p>
<p>• 14.4 Packing group ADR, IMDG, IATA III</p>	
<p>• 14.5 Environmental hazards:</p> <ul style="list-style-type: none">  Marine pollutant  Special marking (ADR)  Special marking (IATA) 	
<p>• 14.6 Special precautions for user</p> <ul style="list-style-type: none"> • Warning: Miscellaneous dangerous substances and articles • Hazard identification number (Kemler code):90 • EMS Number: F-A,S-F • Stowage Category A 	

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SECTION 15: Regulatory information

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

- **Poisons Act**
- **Regulated explosives precursors**
None of the ingredients is listed.
- **Regulated poisons**
None of the ingredients is listed.
- **Reportable explosives precursors**
None of the ingredients is listed.
- **Reportable poisons**
None of the ingredients is listed

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E2 Hazardous to the Aquatic Environment**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t**

- **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (UK ANNEX XIV)**

68412-54-4 Nonylphenoxy(polyethoxy)ethanol
68412-54-4 Nonylphenol, branched, ethoxylated

- **National regulations:**
- Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.

- **Other regulations, limitations and prohibitive regulations;** Substances of very high concern (SVHC) according to UK REACH
68412-54-4 Nonylphenoxy(polyethoxy) ethanol

- **15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Full text of H-Statements referred to under sections 2 and 3:**

H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

- **Department issuing SDS:**

Product safety department: LABORATORY

- **Contact:** Health & Safety Officer

- **Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
- ICAO: International Civil Aviation Organisation
- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods

- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- DNEL: Derived No-Effect Level (UK REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
- Skin Sens. 1: Skin sensitisation – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
- Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
- Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

* Data compared to the previous version altered.