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Document No.:	M0170	SDS-ID:	GB-EN/14.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name: CALDOFIX-2 RESIN
Cat. No. 40200085, 40200084

Container size: 1 l

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

Application: For embedding and impregnation of materialographic specimens

Uses advised against: No specific uses advised against are identified. (*)

1.3. Details of the supplier of the safety data sheet

Supplier: Struers ApS
Pederstrupvej 84
DK-2750 Ballerup
Tel:+45 44 600 800

Responsible for safety data sheet authoring: Responsible for safety data sheet authoring: DHI
Any questions to the contents of this safety data sheet should be sent to:
struers@struers.dk

1.4. Emergency telephone number

NHS: 111

+45 44 600 800
(Only during office hours)

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP: Skin Irrit. 2;H315
Eye Dam. 1;H318
Skin Sens. 1;H317
Muta. 2;H341
Aquatic Chronic 2;H411

2.2. Label elements



Danger

Contains: Reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight <= 700)
Neodecanoic acid oxiranylmethylester
2-Propenoic acid, reaction products with pentaerythritol
Hexamethylene diacrylate

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H341 Suspected of causing genetic defects.
H411 Toxic to aquatic life with long lasting effects.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
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 POISON CENTER/doctor.

2.3. Other hazards

PBT/vPvB: No information available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

The product contains: epoxy resin .

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CLP:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
60-100	25068-38-6	500-033-5	01-2119456619-26-xxxx	Reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight <= 700)	Eye Irrit. 2;H319 Skin Irrit. 2;H315 Skin Sens. 1;H317 Aquatic Chronic 2;H411	
15-35	26761-45-5	247-979-2	01-2119431597-33-xxxx	Neodecanoic acid oxiranylmethylester	Skin Sens. 1;H317 Muta. 2;H341 Aquatic Chronic 2;H411	
3-5	1245638-61-2	629-850-6	-	2-Propenoic acid, reaction products with pentaerythritol	Acute Tox. 4;H302 Skin Irrit. 2;H315 Eye Dam. 1;H318 Skin Sens. 1;H317 Aquatic Chronic 2;H411	
1-5	13048-33-4	235-921-9	01-2119484737-22-xxxx	Hexamethylene diacrylate	Eye Irrit. 2;H319 Skin Irrit. 2;H315 Skin Sens. 1;H317	D

References: The full text for all hazard statements is displayed in section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and bring these instructions.

Eye contact: Immediately flush with plenty of water. Remove any contact lenses and open eyes wide apart. Call an ambulance and continue flushing during transportation to hospital. Bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions. Do not induce vomiting.

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

Symptoms/effects: See section 11 for more detailed information on health effects and symptoms.

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

Medical attention/treatments: Treat symptomatically.

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SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media: Extinguish with foam, carbon dioxide, dry powder or water fog. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

5.2. Special hazards arising from the substance or mixture

Specific hazards: During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid contact with skin and eyes. For personal protection, see section 8.

For emergency responders: No specific recommendations. For personal protection, see section 8.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Absorb spillage with suitable absorbent material.

6.4. Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice: Avoid contact with skin and eyes. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Observe good chemical hygiene practices.

Technical measures: Work practice should minimise contact. Technical aids: Use disposable equipment (rags, brushes, spatulas, putty knives, etc.), if possible.

Technical precautions: Local exhaust is recommended. First-aid equipment, including eye wash bottle, must be available at the work site.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: No special precautions.

Storage conditions: Store in closed original container in a dry place.

7.3. Specific end use(s)

Specific use(s): No information available.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No occupational exposure limit assigned.

8.2. Exposure controls

Engineering measures: Local exhaust is recommended. Mix and prepare in a place with efficient exhaust ventilation. An eye wash bottle must be available at the work site. Provide access to washing facilities including soap, skin cleanser and fatty cream.

Personal protection: Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Respiratory equipment: In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment. It is recommended to use respiratory equipment with combination filter, type ABEK

Hand protection: Wear protective gloves. Butyl rubber gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Eye protection: Wear goggles/face shield.

Skin protection: Wear apron or protective clothing in case of splashes.

Hygiene measures: Remove contaminated clothing and wash the skin thoroughly with soap and water after work. When using do not eat, drink or smoke.

Environmental Exposure Controls: Not available.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: clear yellowish liquid

Odour: slight odour

Odour threshold: Not available.

pH: Not available.

Melting point: Not available.

Boiling point: Not available.

Flash point: 110 °C

Evaporation rate: Not available.

Flammability (solid, gas): Not available.

Explosive limits Not available.

Vapour pressure: Not available.

Vapour density: Not available.

Relative density: 1,13

Solubility: insoluble in water

Partition coefficient (n-octanol/water): Not available.

Auto-ignition temperature (°C): Not available.

Decomposition temperature (°C): Not available.

Viscosity: Not available.

Explosive properties: Not available.

Oxidising properties: Not available.

9.2. Other information

Other data: Volatile Organic Compound (VOC): 0 g/l

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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity: No data available.

10.2. Chemical stability

Stability: Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Hazardous Reactions: No data available.

10.4. Conditions to avoid

Conditions/materials to avoid: Strong oxidising substances and strong bases.

10.5. Incompatible materials

Incompatible materials: No information available.

10.6. Hazardous decomposition products

Hazardous decomposition products: None under normal conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity (Oral): Based on available data, the classification criteria are not met.

Acute Toxicity (Dermal): Based on available data, the classification criteria are not met.

Acute Toxicity (Inhalation): Based on available data, the classification criteria are not met.

Skin Corrosion/Irritation: Causes skin irritation.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory or skin sensitisation: May cause an allergic skin reaction.

Germ cell mutagenicity: Suspected of causing genetic defects.

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.

Inhalation: Not relevant at normal room temperatures. When heated, irritating vapours may be formed.

Ingestion: Irritating. May cause nausea, stomach pain and vomiting.

Toxicological data: Reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight <= 700):

Acute Toxicity (Oral LD50): 11400 mg/kg (Rat)

Acute Toxicity (Dermal LD50): 2000 mg/kg (Rat)

Neodecanoic acid oxiranylmethylester:

Acute Toxicity (Oral LD50): 9600 mg/kg (Rat)

Acute Toxicity (Dermal LD50): 3800 mg/kg (Rat)

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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity: Toxic to aquatic life with long lasting effects.

Reaction product: bisphenol-A-(epichlorhydrin), epoxy resin (number average molecular weight <= 700): 1.3 (LC50 96 hours, fish, mg/l) (*)

Neodecanoic acid oxiranylmethylester: 9.6 (LC50 96 hours, fish, mg/l) (*)

12.2. Persistence and degradability

Degradability: This product is expected to be not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: May accumulate in soil and water systems.

12.4. Mobility in soil

Mobility: No data available.

12.5. Results of PBT and vPvB assessment

PBT/vPvB: No information available.

12.6. Other adverse effects

Other adverse effects: No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues: Dispose of waste and residues in accordance with local authority requirements. Waste is classified as hazardous waste. Note that fully cured material is not considered as hazardous waste. EWC-code: 16 05 08

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

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SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN-No: 3082

14.2. UN proper shipping name

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)

Additional IMDG information:

EmS: F-A , S-F

MFAG:1

14.3. Transport hazard class(es)

Class: 9

14.4. Packing group

PG: III

14.5. Environmental hazards

Marine pollutant: Yes.

Environmentally Hazardous substance: Yes.

14.6. Special precautions for user

Special precautions: None known.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk: Not relevant.

SECTION 15: REGULATORY INFORMATION

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

Special provisions: As a general rule, persons under 18 years of age are not allowed to work with this product. Users must be carefully instructed in the proper work procedure, the dangerous properties of the product and the necessary safety instructions.

National regulation: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.
Statutory Instruments 2008 No. 2852 - The REACH Enforcement Regulations 2008.
The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments.
The Management of Health and Safety at Work Regulations 1999 (SI 1999 No. 3242), with amendments.
The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895).

15.2. Chemical Safety Assessment

CSA status: No chemical safety assessment has been carried out.

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SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1.

The (*) indicates the changes made with respect to the previous version.

Approved by DHI.

Allan Vorup

Abbreviations and acronyms used in the safety data sheet: PBT = Persistent, Bioaccumulative and Toxic.
vPvB = very Persistent and very Bioaccumulative.

Additional information: Classification according to Regulation (EC) No. 1272/2008:
Calculation method.

Wording of H-statements:

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H341	Suspected of causing genetic defects.
H411	Toxic to aquatic life with long lasting effects.

The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Made by DHI - Environment and Toxicology, Agern Allé 5, DK-2970 Hørsholm, Denmark.
www.dhigroup.com.