

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 10.01.2014

Revision: 10.01.2014

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

· **1.1 Product identifier**

· Trade name: **Barrier Coat Base**

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

No further relevant information available.

· **Application of the substance / the mixture** Epoxy binder

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Merlin Coatings Ltd

Unit 7 Kirkhall Workshops, Bilbao Street

· Bolton, BL1 4HH, United Kingdom

Tel.: +44-1204-940004, Email: info@merlin-coatings.com

· **Informing department:** see section 16

· **1.4 Emergency telephone number:**

GB: Regional Medicines and Poisons Information Centre 844 892 0111

### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

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.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xi; Irritant

R36/38: Irritating to eyes and skin.



Xi; Sensitising

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.

· **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

· **Classification system:**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**



GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

epoxy resin

oxirane, mono[(C12-14-alkyloxy)methyl] derivs

· **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.

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.

P321 Specific treatment (see on this label).

P362 Take off contaminated clothing.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

Contains epoxy constituents. May produce an allergic reaction.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterization: Mixtures**

· **Description:**

Epoxy resin formulation with a bisphenol-A liquid resin base and bisphenol-F liquid resin

· **Dangerous components:**

CAS: 25068-38-6 NLP: 500-033-5 Index number: 603-074-00-8 Reg.nr.: 01-2119456619-26-xxxx	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700) ☒ Xi R36/38; ☒ Xi R43; ☒ N R51/53 ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	50-100%
CAS: 55492-52-9 EC number: 611-275-7	epoxy resin ☒ Xi R36/38; ☒ Xi R43; ☒ N R51/53 ⚠ Aquatic Chronic 2, H411; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	25-50%
CAS: 68609-97-2 EINECS: 271-846-8 Index number: 603-103-00-4 Reg.nr.: 01-2119485289-22-xxxx	oxirane, mono[(C12-14-alkyloxy)methyl] derivs ☒ Xi R38; ☒ Xi R43 ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317	10-25%

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· **Additional information** For the wording of the listed risk phrases refer to section 16.

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation**  
Take affected persons into the open air and position comfortably  
Seek medical treatment in case of complaints.
- **After skin contact**  
Instantly wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing** Seek immediate medical advice.
- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Information for doctor** No particular measures are known - treat according to symptoms.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:** Put on breathing apparatus.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective clothing.
- **6.2 Environmental precautions:**  
Do not allow product to reach sewage system or water bodies.  
Do not allow to enter the ground/soil.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 Reference to other sections** Clean the accident area carefully.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
The usual precautionary measures for handling chemicals must be observed.  
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**  
Store only in unopened original containers.

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Provide floor trough without outlet.

- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

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

#### · 8.1 Control parameters

- **Components 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 (number average molecular weight = 700)**

Dermal	DNEL - worker	8.3 mg/kg / bw/d (-)
Inhalative	DNEL - worker	12.3 mg/m <sup>3</sup> (-)

#### · PNECs

**25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)**

PNEC (predicted no effect concentration)	0.003 mg/l (Frischwasser (freshwater))
	0.0003 mg/l (Meerwasser (seawater))

- **Additional information:** The lists that were valid during the compilation were used as basis.

#### · 8.2 Exposure controls

##### · Personal protective equipment

##### · General protective and hygienic measures

Keep away from foodstuffs, beverages and food.

Take off immediately all contaminated clothing

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

- **Breathing equipment:** Use breathing protection in case of insufficient ventilation.

##### · Protection of hands:



Plastic gloves

Only use chemical-protective gloves with CE-labelling of category III.

To minimize the wetness in the glove due to perspiration changing of gloves during a shift is required.

Check the permeability prior to each renewed use of the glove.

Preventive skin protection by use of skin-protecting agents is recommended.

##### · Material of gloves

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

Recommended thickness of the material:  $\geq 0.5$  mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

##### · Penetration time of glove material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **As protection from splashes gloves made of the following materials are suitable:** PVC gloves

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- **Not suitable are gloves made of the following materials:**

Leather gloves

Strong gloves

- **Eye protection:**



Tightly sealed safety glasses.

- **Body protection:** Protective work clothing.

### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

**Form:** Liquid

**Colour:** Yellowish

- **Odour:** Characteristic

- **Change in condition**

**Melting point/Melting range:** Not determined

**Boiling point/Boiling range:** > 200 °C

- **Flash point:** > 100 °C

- **Self-inflammability:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive.

- **Density at 23 °C** 1.12 g/cm<sup>3</sup> (ISO 2811-2)

- **Solubility in / Miscibility with**

**Water:** Not miscible or difficult to mix

- **Viscosity:**

**dynamic at 25 °C:** 700 mPas (ISO 3219)

- **9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**

- **10.2 Chemical stability**

- **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

- **10.3 Possibility of hazardous reactions**

Reacts with strong oxidizing agents, alkali, amines and acids

- **10.4 Conditions to avoid** No further relevant information available.

- **10.5 Incompatible materials:** strong oxidizing agents

- **10.6 Hazardous decomposition products:**

none, if stored and handled correctly.

in the event of fire:

toxic gases and vapours

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## SECTION 11: Toxicological information

### · 11.1 Information on toxicological effects

#### · Acute toxicity:

#### · LD/LC50 values that are relevant for classification:

**25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)**

Oral	LD50	20000 mg/kg (mou)
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		19800 mg/kg (rab)
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		11400 mg/kg (rat)
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Dermal	LD50	1270 mg/kg (mou)
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		>2000 mg/kg (rab)
--	--	-------------------

		>1200 mg/kg (rat)
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#### **55492-52-9 epoxy resin**

Oral	LD50	>5000 mg/kg (rat)
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#### **68609-97-2 oxirane, mono[(C12-14-alkyloxy)methyl] derivs**

Oral	LD50	>5000 mg/kg (rat)
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Dermal	LD50	>4500 mg/kg (rab)
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#### · Primary irritant effect:

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritant effect.

· **Sensitization:** Sensitization possible by skin contact.

#### · Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Irritant

## SECTION 12: Ecological information

### · 12.1 Toxicity

#### · Aquatic toxicity:

**25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)**

Algentoxizität (Algae toxicity)	220 mg/l (Alge <i>Scenedesmus</i> sp.) (EC50(96h))
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Bakterientoxizität (Bacteria toxicity)	3.6 mg/l ( <i>Leuciscus idus</i> ) (EC50(96h))
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Daphnientoxizität (Daphnia toxicity)	2.8 mg/l ( <i>Daphnia magna</i> (Wasserrfloh)) (EC50(48h))
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Fischttoxizität (Fish toxicity)	1.3 mg/l (Fisch (fish)) (LC50(96h))
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#### **68609-97-2 oxirane, mono[(C12-14-alkyloxy)methyl] derivs**

Algentoxizität (Algae toxicity)	844 mg/l (-) (EC50(72h))
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Bakterien-Toxizität (Bacteria toxicity)	>100 mg/l ( <i>Belebtschlamm</i> (activated sludge)) (EC50)
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Fischttoxizität (Fish toxicity)	1800 mg/l ( <i>Ochorhynchus mykiss</i> (Regenbogenforelle)) (LC50(96h))
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· **12.2 Persistence and degradability** No further relevant information available.

· **Other information:** The product is slightly biodegradable.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:** Not determined

· **Remark:** Toxic for fish

#### · Additional ecological information:

#### · General notes:

Water hazard class 2 (Self-assessment): hazardous for water. Do not allow product to reach ground water, water bodies or sewage system.

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Danger to drinking water if even small quantities leak into soil.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

**12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

**13.1 Waste treatment methods**

**Recommendation**

For disposal, local regulations issued by the authorities must be observed. Dispose of liquid components at a suitable incineration plant. After curing, the product can be disposed of with household waste.

**European waste catalogue**

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 02 00	wastes from MFSU of other coatings (including ceramic materials)
08 02 99	wastes not otherwise specified

**Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

**14.1 UN-Number**

- **ADR, IMDG, IATA**

UN3082

**14.2 UN proper shipping name**

- **ADR**

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)

- **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin), MARINE POLLUTANT

- **IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin)

**14.3 Transport hazard class(es)**

- **ADR**



- **Class**

9 (M6) Miscellaneous dangerous substances and articles.

- **Label**

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· **IMDG, IATA**

· **Class** 9 Miscellaneous dangerous substances and articles.  
 · **Label** 9

· **14.4 Packing group**  
 · **ADR, IMDG, IATA** III

· **14.5 Environmental hazards:** Product contains environmentally hazardous substances: epoxy resin, epoxy resin  
 · **Marine pollutant:** Yes  
 Symbol (fish and tree)  
 · **Special marking (ADR):** Symbol (fish and tree)  
 · **Special marking (IATA):** Symbol (fish and tree)

· **14.6 Special precautions for user** Warning: Miscellaneous dangerous substances and articles.  
 · **Kemler Number:** 90  
 · **EMS Number:** F-A,S-F

· **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR**  
 · **Excepted quantities (EQ):** E1  
 · **Limited quantities (LQ)** 5L  
 · **Transport category** 3  
 · **Tunnel restriction code** E

· **UN "Model Regulation":** UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxy resin), 9, III

## SECTION 15: Regulatory information

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

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labelling:**

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

epoxy resin

oxirane, mono[(C12-14-alkyloxy)methyl] derivs

· **Hazard statements**

H315 Causes skin irritation.

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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.

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.

P321 Specific treatment (see on this label).

P362 Take off contaminated clothing.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations**

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

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

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Changes made since last issue dated 02.07.2012 at the following points: \*

**Relevant phrases**

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 Irritating to skin.

R43 May cause sensitisation by skin contact.

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

**Department issuing data specification sheet:**

Merlin Coatings Ltd

Unit 7, Kirkhall Workshops, Bilbao Street

Bolton, BL1 4HH, United Kingdom

**Contact:**

Mr. P Brough

(paulb@merlin-coatings.com)

**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 Organization

ADR: Accord européen sur le transport 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 Harmonized 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 (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

\* **Data compared to the previous version altered.**