

# Material Safety Data Sheet

## 1 Identification of substance

Product name: Merlin Barrier Coat Activator

Manufacturer: Merlin Coatings Limited  
Unit 7, Kirkhall Workshops  
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## 2 Composition/Information on components

Chemical type: Formulated Epoxy Compound Curing Agent

Hazardous Components

CAS: 100-51-6	Benzyl Alcohol	R 20/22	25-50%
CAS: 2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	R 21/22-34-43-51-53	2.5-10%
CAS: 1477-55-0	m-phenylenebis(methylamine)	R 20/22-34-52/532.5-10%	
CAS: 80-05-7	4,4 isopropylidenediphenol	R 36/37/38-43	2.5-10%
CAS: 109-55-7	3-aminopropyldimethylamine	R 10-21/22-34-432.5-10%	
CAS: 90-72-2	2,4,6-tris(dimethylaminomethyl)phenol	R 22-36/38	2.5-10%

## 3 Hazards Identified

C Corrosive

R20/22 Harmful by inhalation and if swallowed.

R34 Causes burns.

R43 May cause sensitisation by skin contact.

## 4 First Aid Measures

Soiled clothing: Remove all soiled clothing immediately.

Skin contact: Wash with soap and water. If skin irritation continues consult doctor.

Eye contact: Rinse with flowing water for several minutes, and consult doctor.

Swallowing: Instantly call for doctor.

Inhalation: Remove to open air. Seek medical treatment in case of complaints.

Notes for doctor, no particular measures are known, treat according to symptoms.

## 5 Fire fighting

Suitable extinguishing agents: CO<sub>2</sub>, powder or water spray. Large fires use water jet or alcohol resistant foam.

For safety reasons do not use water with full jet.

Special hazards caused by the material, its products of combustion or resulting gasses;

Formation of toxic gasses is possible during heating or combustion.

Protective equipment: Wear self contained breathing apparatus and protective suit.

## 6 Accidental releases

Personal precautions:	Avoid contact with skin, eyes and clothing. Keep away from sources of ignition, do not smoke.
Environmental precautions:	Prevent material entering drains. Do not contaminate surface water.
Methods for cleaning up:	Soak up with inert absorbent material and dispose of as hazardous waste. Ensure adequate ventilation.
Additional information:	Clean the spill area carefully.

## 7 Handling and storage

Information on safe handling:	The usual precautionary measures for handling chemicals must be observed. Keep containers sealed, handle open containers with care. Ensure good ventilation in work area.
Storage:	Keep containers sealed, store away from food stuffs and animal feeds.
Storage temperature:	10 - 40 Celsius.

## 8 Exposure controls and personal protection

Special engineering measures:	No further data.
Components with workroom control limit values:	None assigned.

### Personal protective equipment.

General protective and hygiene measures:	Keep away from foodstuffs, beverages and food. Remove contaminated clothing immediately. Wash hands during breaks and at the end of work. Avoid contact with skin and eyes.
Breathing equipment:	In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
Breathing device:	Short term filter device
Recommended filter device:	Filter AX
Protection of hands:	Plastic gloves.
Type:	Chemical protective category III
Material type:	Nitrile rubber, Fluorocarbon rubber.
For contact of less than 15 minutes:	PVC gloves.
For splashes:	PVC gloves.
Not suitable:	Leather or general purpose.
Eye protection:	Tightly sealed safety glasses.
Body protection:	Protective overalls. Safety shoes.

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## 9 Physical and chemical properties

General information:	
Form:	Liquid
Colour:	Straw-amber
Smell:	Amine
Change in condition:	
Melting point:	not determined.
Boiling point:	135 Celsius.
Flash point:	86 Celsius
Ignition temperature	380 Celsius
Self inflammability:	Product is not self igniting.
Danger of explosion:	Product is not explosive.
Critical values for explosion:	
	Lower: 1.3 Vol %
	Upper: 13.0 Vol %
Vapour pressure:	0.3 hPa
Density:	1.02@ 23 Celsius
Solubility/ miscibility in water:	Not miscible or difficult to mix.
Viscosity:	600-1400 mPas @ 23 Celsius.
Solvent content:	Organic solvent 0.0%

## 10 Stability and reactivity

Thermal decomposition/ conditions to be avoided:	No decomposition if used correctly.
Materials to be avoided:	Strong oxidising agents.
Dangerous reactions:	None known.
Dangerous products of decomposition:	None if stored or handled correctly.
In the event of fire:	Toxic gasses and vapours.

## 11 Toxicological information

Acute toxicity:

100-51-6 Benzyl Alcohol	Oral LD50	1230 mg/kg (rat)
	Dermal LD50	2000 mg/kg (rabbit)
	Inhalative LC50/4 h	4178 mg/kg (rat)
2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	Oral LD50	1030 mg/kg (rat)
1477-55-0 m-phenylenebis(methylamine)	Oral LD50	1040 mg/kg (rat)
	Dermal LD50	2000 mg/kg (rabbit)
	Inhalative LC50/4 h	2.4 mg/l (rat)
80-05-7 4,4'-isopropylidenediphenol	Oral LD50	3250 mg/kg (rat)
	Dermal LD50	3000 mg/kg (rabbit)

109-55-7 3-aminopropyldimethylamine	Oral LD50	1640 mg/kg (rat)
	Dermal LD50	490 mg/kg (rabbit)
	Inhalative LC50/4 h	>4.31 mg/l (rat)
90-72-2 2,4,6- tris(dimethylaminomethyl)phenol	Oral LD50	1670 mg/kg (rat)
	Dermal LC50	1400 mg/kg (rabbit)

Primary irritant effect:

On skin: Caustic effect on skin and mucous membrane.  
 On eyes: Strong caustic effect.  
 Sensitisation: Sensitisation 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:

Harmful.

Corrosive

Irritant

Swallowing will lead to strong caustic effect on mouth and throat and to the perforation of oesophagus and stomach.

## 12 Ecological information

Ecotoxicological effects: Not determined.

100-51-6 Benzyl alcohol

Algentoxizität 79 3h mg/l (Scenedesmus quadricauda)  
 Bakterien-Toxizität 71.42 30 min mg/l (Photobacterium phosphoreum)  
 400 30 min mg/l (Pseudomonas putida)  
 Daphnientoxizität 400 24 h mg/l (Daphnia magna)  
 Fischttoxizität 645 48h mg/l (Gold orfe)  
 10 96h mg/l (Lepomis macrochirus)

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Algentoxizität EC50/72/h: 37 mg/l (Scenedesmus subspicatus)  
 Bakterien-Toxizität EC10/18h: 1120 mg/l (Pseudomonas putida)  
 Daphnientoxizität EC50/24/h: 44 mg/l (Daphnia magna)  
 Fischttoxizität LC50/96h: 110 mg/l (Brachydanio rerio)

109-55-7 3-aminopropyldimethylamine

Bakterien-Toxizität EC50/17 h: 95 mg/l (Pseudomonas putida)  
 Daphnientoxizität EC50/48 h: 60 mg/l (Daphnia magna)  
 Fischttoxizität LC50/96 h: 122 mg/l (Leuciscus idus)

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

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## 13 Disposal considerations

Recommendation:

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

European waste catalogue:

- 08 00 00 Wastes from the manufacture, formulation, supply and use of coatings, adhesives, sealants and printing inks.
- 08 20 00 Wastes from MFSU of other coatings.
- 08 02 99 Waste not otherwise specified.

Unclean packaging: Recommendation, disposal must be made according to official regulations.

## 14 Transport information

Land transport ADR/RID (cross border):

ADR/RID-GGVS/E	Class 8 Corrosive substances.
Kemler Number:	80
UN Number:	1760
Packaging group:	111
Label:	8
Designation of goods:	1760 corrosive liquid,N.O.S. (3-aminopropyldimethylamine, m-phenylenebis(methylamine))

Maritime transport IMDG:

IMDG class:	8
UN Number:	1760
Label: 8 Packing group:	111
EMS Number:	F-A, S-B
Marine pollutant:	No
Correct technical name:	1760 corrosive liquid,N.O.S. (3-aminopropyldimethylamine, m-phenylenebis(methylamine))

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	8
UN/ID Number:	1760
Label:	8
Packing group:	111
Correct technical name:	1760 corrosive liquid,N.O.S. (3-aminopropyldimethylamine, m-phenylenebis(methylamine))

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## 15 Regulatory information

Designation according to EC guidelines: The product has been classified and labelled in accordance with EC Directives/Ordinance on hazardous materials.

Code letter and hazard designation for the product: C Corrosive

Hazard determining components of labelling:

3-aminomethyl-3,5,5-trimethylcyclohexylamine  
4,4'-isopropylidenediphenol  
3-aminopropyl dimethylamine  
benzyl alcohol  
m-phenylenebis(methylamine)

Risk phrases:

20/22 Harmful by inhalation and if swallowed.  
34 Causes burns.  
43 May cause sensitisation by skin contact.

Safety phrases:

20 When using do not eat or drink  
25 Avoid contact with eyes.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
28 After contact with skin, wash immediately with plenty of soap and water.  
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show this label where possible)

Water hazard class: Water hazard class 2 (self assessment): hazardous to water.

## 16 Other information

These data shall not constitute a guarantee for any specific product features and shall not establish a legally valid contract or relationship.

Relevant R phrases:

10 Flammable.  
20/22 Harmful by inhalation and if swallowed.  
21/22 Harmful in contact with the skin and if swallowed.  
22 Harmful if swallowed.  
34 Causes burns.  
36/37/38 Irritating to eyes, respiratory system and skin.  
36/38 Irritating to eyes and skin.  
43 May cause sensitisation by skin contact.  
52/53 Harmful to aquatic organisms, may cause long term adverse effects in the aquatic environment.

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