

## SAFETY DATA SHEET ARBOKOL 682 CURING AGENT

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

#### 1.1. Product identifier

Product name ARBOKOL 682 CURING AGENT

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

Identified uses Curing agent component of: Two component epoxy based adhesive.

#### 1.3. Details of the supplier of the safety data sheet

Supplier Adshead Ratcliffe & Co. Ltd.  
Derby Road, Belper  
Derbyshire.  
DE56 1WJ  
Tel. (+44) 01773 826661  
Fax. (+44) 01773 821215  
sds@arbo.co.uk

#### 1.4. Emergency telephone number

(+44) 01773 826661 (office hours only)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

Classification (1999/45/EEC) Xi;R36/38. R43. N;R51/53.

Human health

The product is irritating to eyes and skin. May cause allergic skin disorders in sensitive individuals.

Environment

The product contains a substance which is toxic to aquatic organisms and which may cause long term adverse effects in the aquatic environment.

#### 2.2. Label elements

Contains EPOXY RESIN (Number average MW <= 700 )  
BISPHENOL F - EPICHLOROHYDRIN RESIN (number average MW <= 700)

Labelling



Irritant



Dangerous for the environment

Risk Phrases

R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases

S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37	Wear suitable gloves.
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.
P5	Contains epoxy constituents. See information supplied by the manufacturer.

#### 2.3. Other hazards

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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## 3.2. Mixtures

EPOXY RESIN (Number average MW <= 700 )	30-60%
CAS-No.: 25068-38-6	EC No.: 500-033-5
Classification (EC 1272/2008) Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411	Classification (67/548/EEC) R43 Xi;R36/38 N;R51/53
BISPHENOL F - EPICHLOROHYDRIN RESIN (number average MW <= 700)	10-30%
CAS-No.: 28064-14-4	EC No.:
Classification (EC 1272/2008) Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317 Aquatic Chronic 2 - H411	Classification (67/548/EEC) Xi;R36/38. N;R51/53. R43.
EPSILON CAPROLACTONE	1-5%
CAS-No.: 502-44-3	EC No.:
Classification (EC 1272/2008) Eye Irrit. 2 - H319	Classification (67/548/EEC) Xi;R36.
3-GLYCIDOXYPROPYLTRIMETHOXYSILANE	1-5%
CAS-No.: 2530-83-8	EC No.: 219-784-2
Classification (EC 1272/2008) Eye Dam. 1 - H318	Classification (67/548/EEC) Xi;R41.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

### Composition Comments

Epoxy resin, with fillers, and auxiliaries.

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

#### General information

In all cases of doubt, or if symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

#### Inhalation

Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

#### Ingestion

Immediately rinse mouth and drink plenty of water (200-300 ml). Give milk instead of water if readily available. Get medical attention if any discomfort continues.

#### Skin contact

Wipe off excess material with cloth or paper. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

#### Eye contact

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring along these instructions.

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

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Inhalation.

No specific symptoms noted.

Ingestion

May cause discomfort if swallowed. May cause irritation to mouth, throat and stomach.

Skin contact

Skin irritation. Allergic rash.

Eye contact

Irritating and may cause redness and pain.

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

Treat Symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **5.1. Extinguishing media**

Extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

None known.

### **5.2. Special hazards arising from the substance or mixture**

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Unusual Fire & Explosion Hazards

Not known.

Specific hazards

When heated and in case of fire, toxic vapours/gases may be formed.

### **5.3. Advice for firefighters**

Special Fire Fighting Procedures

Keep run-off water out of sewers and water sources. Dike for water control.

Protective equipment for fire-fighters

Wear self contained breathing apparatus.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Avoid contact with skin and eyes.

### **6.2. Environmental precautions**

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

### **6.3. Methods and material for containment and cleaning up**

Wear necessary protective equipment. Collect in containers and seal securely. Flush area with water. Do not contaminate water sources or sewer.

### **6.4. Reference to other sections**

For personal protection, see section 8. See section 11 for additional information on health hazards. The product contains a substance which is hazardous to aquatic organisms and which may cause long term adverse effects in the aquatic environment. See section 12. For waste disposal, see section 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Avoid spilling, skin and eye contact. Persons susceptible to allergic reactions should not handle this product. Observe good chemical hygiene practices.

### **7.2. Conditions for safe storage, including any incompatibilities**

Store in tightly closed original container in a dry, cool and well-ventilated place.

Storage Class

Miscellaneous hazardous material storage.

### **7.3. Specific end use(s)**

The identified uses for this product are detailed in Section 1.2.

Usage Description

Gunnable sealant / adhesive.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

Ingredient Comments

No exposure limits noted for ingredient(s).  
 No DNEL or PNEC limits available.

**8.2. Exposure controls**

Protective equipment



Engineering measures

Provide adequate ventilation.

Hand protection

Use protective gloves. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Breakthrough time 10 - < 480 mins. Nitrile. Neoprene. Breakthrough time >480 min. Polyethylene/Ethylene Vinyl Alcohol (PE/EVAL). Butyl rubber.

Eye protection

Use eye protection.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

Environmental Exposure Controls

Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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

Appearance	Paste
Colour	White / off-white.
Odour	Slight odour.
Solubility	Insoluble in water
Initial boiling point and boiling range	Epoxy resin: >200 C
Melting point (°C)	Not applicable.
Relative density	1.22 @ 20°C
Vapour density (air=1)	Not applicable.
Vapour pressure	Epoxy resin: <0.01 Pa @ 20 C
Evaporation rate	Not applicable.
pH-Value, Conc. Solution	Not applicable.
Viscosity	2, 500 - 6, 000 Ps @ 20°C
Solubility Value (G/100G H2O@20°C)	Not applicable.
Decomposition temperature (°C)	Epoxy resin: >200 C
Odour Threshold, Lower	Not applicable.
Odour Threshold, Upper	Not applicable.
Flash point	Epoxy resin: >150 C
Auto Ignition Temperature (°C)	Epoxy resin: >300 C
Flammability Limit - Lower(%)	Not applicable.

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Flammability Limit - Upper(%)

Not applicable.

Partition Coefficient  
(N-Octanol/Water)

Not applicable.

Explosive properties

Not applicable.

Oxidising properties

Not applicable.

## **9.2. Other information**

None.

## **SECTION 10: STABILITY AND REACTIVITY**

### **10.1. Reactivity**

No specific reactivity hazards associated with this product.

### **10.2. Chemical stability**

Stable under normal temperature conditions.

### **10.3. Possibility of hazardous reactions**

Not determined.

Hazardous Polymerisation

Will not polymerise.

### **10.4. Conditions to avoid**

Avoid excessive heat for prolonged periods of time.

### **10.5. Incompatible materials**

Materials To Avoid

Strong acids. Strong alkalis. Strong oxidising substances.

### **10.6. Hazardous decomposition products**

None under normal conditions. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### **11.1. Information on toxicological effects**

Toxic Dose 1 - LD 50

CAS 25068-38-6: >2000 mg/kg (oral rat)

Toxic Dose 2 - LD 50                      CAS 25068-38-6: >2000 mg/kg (dermal rat)

Toxicological information

The product has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly.

#### **Acute toxicity:**

Based on available data the classification criteria are not met.

#### **Skin Corrosion/Irritation:**

OECD 404 Acute dermal irritation / corrosion: CAS 25068-38-6 - Mildly irritating (rabbit) OECD 405 Acute eye irritation / corrosion: CAS 25068-38-6 - Mildly irritating (rabbit)

Slightly irritating.

#### **Respiratory or skin sensitisation:**

Skin sensitisation

Local Lymph Node Assay (LLNA) Mouse

CAS 25068-38-6 - Sensitising

#### **Germ cell mutagenicity:**

Does not contain any substances known to be mutagenic.

#### **Carcinogenicity:**

Does not contain any substances known to be carcinogenic.

#### **Reproductive Toxicity:**

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Does not contain any substances known to be toxic to reproduction.

## Aspiration hazard:

Not relevant, due to the form of the product.

## Inhalation

No specific health warnings noted.

## Ingestion

May cause irritation of mouth, throat and stomach.

## Skin contact

Irritating to skin. May cause sensitisation by skin contact.

## Eye contact

Irritating to eyes.

## Health Warnings

EYES, NOSE AND MOUTH. Repeated exposure may cause chronic eye irritation. SKIN. Mild dermatitis, allergic skin rash. Defatting, drying and cracking of skin.

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity

Dangerous for the environment: May cause long-term adverse effects in the aquatic environment.

### **12.1. Toxicity**

LC 50, 96 Hrs, Fish mg/l	CAS 25068-38-6: 1.5
EC 50, 48 Hrs, Daphnia, mg/l	CAS 25068-38-6: 1.7
EC50, 72 Hrs, Algae, mg/l	CAS 25068-38-6: 9.4
IC50, 3 hrs, Bacteria, mg/l	CAS 25068-38-6: >100

### **12.2. Persistence and degradability**

#### Degradability

The product is not readily biodegradable.

### **12.3. Bioaccumulative potential**

#### Bioaccumulative potential

Has the potential to bioaccumulate.

#### Partition coefficient

Not applicable.

### **12.4. Mobility in soil**

#### Mobility:

The product is insoluble in water.

### **12.5. Results of PBT and vPvB assessment**

This product does not contain any PBT or vPvB substances.

### **12.6. Other adverse effects**

None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

### **13.1. Waste treatment methods**

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

May be mixed with base component to give an inert polymeric material.

#### Waste Class

H4 - Irritant

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H13 - Sensitising  
H14 - Ecotoxic  
Recommended EWC Code 08 04 09\*

## SECTION 14: TRANSPORT INFORMATION

### 14.1. UN number

UN No. (ADR/RID/ADN)	3077
UN No. (IMDG)	3077
UN No. (ICAO)	3077

### 14.2. UN proper shipping name

Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BISPHENOL A/F EPOXY RESIN)

### 14.3. Transport hazard class(es)

ADR/RID/ADN Class	Class 9: Miscellaneous dangerous substances and articles.
IMDG Class	9
ICAO Class/Division	9

Transport Labels



### 14.4. Packing group

ADR/RID/ADN Packing group	III
IMDG Packing group	III
ICAO Packing group	III

### 14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant



### 14.6. Special precautions for user

EMS	F-A, S-F
Emergency Action Code	2Z
Hazard No. (ADR)	90 Environmentally hazardous substance; miscellaneous dangerous substances.
Tunnel Restriction Code	(E)

### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

## SECTION 15: REGULATORY INFORMATION

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

Uk Regulatory References  
Chemicals (Hazard Information & Packaging) Regulations.  
Guidance Notes  
Workplace Exposure Limits EH40.

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EU Legislation

Dangerous Preparations Directive 1999/45/EC. Regulation (EC) 1907/2006 REACH. Regulation (EC) 1272/2008 CLP.

## **15.2. Chemical Safety Assessment**

No chemical safety assessment has been carried out.

### **SECTION 16: OTHER INFORMATION**

#### Revision Comments

New format as required by REACH Annex II

Revision Date 31/07/12

Supersedes date 21/10/10

SDS No. 10170

#### Risk Phrases In Full

R36/38 Irritating to eyes and skin.

R36 Irritating to eyes.

R43 May cause sensitisation by skin contact.

R41 Risk of serious damage to eyes.

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

#### Hazard Statements In Full

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

#### Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in a process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.