



## 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  
**Synonyms; trade names** Arbokol 682H Curing Agent, Arbokol 682M 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

**Emergency telephone** (+44) 01773 826661 (office hours only)

### SECTION 2: Hazards identification

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

##### Classification (EC 1272/2008)

**Physical hazards** Not Classified  
**Health hazards** Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Skin Sens. 1 - H317  
**Environmental hazards** Aquatic Chronic 2 - H411

**Human health** The product is irritating to eyes and skin. May cause skin sensitisation or allergic reactions in sensitive individuals.

**Environmental** 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

##### Pictogram



**Signal word** Warning

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<b>Hazard statements</b>	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.
<b>Precautionary statements</b>	P273 Avoid release to the environment. P280 Wear protective gloves. P280 Wear eye 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. P337+P313 If eye irritation persists: Get medical advice/ attention. P501 Dispose of contents/ container in accordance with national regulations.
<b>Contains</b>	EPOXY RESIN (Number average MW <= 700 ), BISPHENOL F - EPICHLOROHYDRIN RESIN (number average MW <= 700)

### 2.3. Other hazards

#### SECTION 3: Composition/information on ingredients

##### 3.2. Mixtures

<b>EPOXY RESIN (Number average MW &lt;= 700 )</b>	<b>30-60%</b>
CAS number: 25068-38-6	EC number: 500-033-5
<b>Classification</b>	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Skin Sens. 1 - H317	
Aquatic Chronic 2 - H411	
<b>BISPHENOL F - EPICHLOROHYDRIN RESIN (number average MW &lt;= 700)</b>	<b>10-30%</b>
CAS number: 28064-14-4	
<b>Classification</b>	
Skin Irrit. 2 - H315	
Eye Irrit. 2 - H319	
Skin Sens. 1 - H317	
Aquatic Chronic 2 - H411	
<b>HEXAN-6-OLIDE</b>	<b>1-5%</b>
CAS number: 502-44-3	
<b>Classification</b>	
Eye Irrit. 2 - H319	
<b>3-GLYCIDOPROPYLTRIMETHOXYSILANE</b>	<b>1-5%</b>
CAS number: 2530-83-8	
EC number: 219-784-2	
<b>Classification</b>	
Eye Dam. 1 - H318	

The full text for all hazard statements is displayed in Section 16.

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**Composition comments** Epoxy resin, with fillers, and auxiliaries.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	In all cases of doubt, or if symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Move affected person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Give plenty of water to drink. Give milk instead of water if readily available. Get medical attention if any discomfort continues.
<b>Skin contact</b>	Wipe off excess material with cloth or paper. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

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

<b>Inhalation</b>	No specific symptoms known.
<b>Ingestion</b>	May cause discomfort if swallowed. May cause irritation to mouth, throat and stomach.
<b>Skin contact</b>	Skin irritation. Allergic rash.
<b>Eye contact</b>	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

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

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Use fire-extinguishing media suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

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

<b>Specific hazards</b>	Toxic gases or vapours.
<b>Hazardous combustion products</b>	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

#### 5.3. Advice for firefighters

<b>Protective actions during firefighting</b>	Control run-off water by containing and keeping it out of sewers and watercourses.
<b>Special protective equipment for firefighters</b>	Wear self contained breathing apparatus.

### SECTION 6: Accidental release measures

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

<b>Personal precautions</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet.
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#### 6.2. Environmental precautions

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**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground.

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

**Methods for cleaning up** When handling waste, the safety precautions applying to handling of the product should be considered. Wear necessary protective equipment. Collect and place in suitable waste disposal containers and seal securely. Flush contaminated area with plenty of water. Avoid the spillage or runoff entering drains, sewers or watercourses.

### 6.4. Reference to other sections

**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

**Usage precautions** Avoid contact with skin and eyes. Persons susceptible to allergic reactions should not handle this product. Good personal hygiene procedures should be implemented.

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

**Storage precautions** 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)

**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 known for ingredient(s).

#### HEXAN-6-OLIDE (CAS: 502-44-3)

<b>DNEL</b>	- Dermal; Long term systemic effects: 2.98 mg/kg/day - Inhalation; Long term local effects: 14 mg/m <sup>3</sup> - Inhalation; Long term systemic effects: 10.4 mg/m <sup>3</sup>
<b>PNEC</b>	- STP; 32 mg/l - Fresh water; 0.204 mg/l - Intermittent release; 2.04 mg/l - Marine water; 0.0204 mg/l

### 8.2. Exposure controls

#### Protective equipment



**Appropriate engineering controls** Provide adequate ventilation.

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<b>Eye/face protection</b>	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.
<b>Hand protection</b>	Use protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.
<b>Other skin and body protection</b>	Wear appropriate clothing to prevent any possibility of skin contact.
<b>Hygiene measures</b>	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated.
<b>Environmental exposure controls</b>	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

<b>Appearance</b>	Paste.
<b>Colour</b>	Off-white.
<b>Odour</b>	Slight.
<b>Odour threshold</b>	Not applicable.
<b>pH</b>	Not applicable.
<b>Melting point</b>	Not applicable.
<b>Initial boiling point and range</b>	Not applicable.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	Not applicable.
<b>Vapour pressure</b>	Not applicable.
<b>Vapour density</b>	Not applicable.
<b>Relative density</b>	1.22 - 1.30 @ 20°C
<b>Solubility(ies)</b>	Insoluble in water.
<b>Partition coefficient</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition Temperature</b>	Not determined.
<b>Viscosity</b>	2,500 - 6,000 P @ 20°C
<b>Explosive properties</b>	Not applicable.
<b>Oxidising properties</b>	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

#### 9.2. Other information

<b>Other information</b>	None.
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### SECTION 10: Stability and reactivity

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### 10.1. Reactivity

**Reactivity** There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

**Stability** Stable at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** Not determined. Will not polymerise.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid excessive heat for prolonged periods of time.

### 10.5. Incompatible materials

**Materials to avoid** Strong acids. Strong alkalis. Strong oxidising agents.

### 10.6. Hazardous decomposition products

**Hazardous decomposition products** Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** For this endpoint no toxicological data is available for the whole product.

#### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** For this endpoint no toxicological data is available for the whole product.

#### Skin corrosion/irritation

**Animal data** For this endpoint no toxicological data is available for the whole product.

#### Serious eye damage/irritation

**Serious eye damage/irritation** For this endpoint no toxicological data is available for the whole product.

#### Skin sensitisation

**Skin sensitisation** For this endpoint no toxicological data is available for the whole product.

#### Germ cell mutagenicity

**Genotoxicity - in vitro** For this endpoint no toxicological data is available for the whole product.

#### Carcinogenicity

**Carcinogenicity** For this endpoint no toxicological data is available for the whole product.

#### Reproductive toxicity

**Reproductive toxicity - fertility** For this endpoint no toxicological data is available for the whole product.

#### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

#### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

#### Aspiration hazard

**Aspiration hazard** Not relevant, due to the form of the product.

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<b>Inhalation</b>	No specific health hazards known.
<b>Ingestion</b>	May cause discomfort if swallowed.
<b>Skin contact</b>	Irritating to skin. May cause sensitisation by skin contact.
<b>Eye contact</b>	Irritating to eyes.
<b>Acute and chronic health hazards</b>	Mild dermatitis, allergic skin rash. Defatting, drying and cracking of skin.

### Toxicological information on ingredients.

#### EPOXY RESIN (Number average MW ≤ 700 )

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Oral, Rat

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Dermal, Rat

##### Skin corrosion/irritation

**Animal data** OECD 404 Acute dermal irritation / corrosion: Mildly irritating (rabbit)

##### Serious eye damage/irritation

**Serious eye damage/irritation** OECD 405 Acute eye irritation / corrosion: Mildly irritating (rabbit)

##### Skin sensitisation

**Skin sensitisation** Local Lymph Node Assay (LLNA) - : Sensitising.

### SECTION 12: Ecological Information

**Ecotoxicity** The product contains substances which are toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

#### 12.1. Toxicity

**Toxicity** There are no data for the product.

### Ecological information on ingredients.

#### EPOXY RESIN (Number average MW ≤ 700 )

**Acute toxicity - fish** LC<sub>50</sub>, 96 hours: 1.5 mg/l, Algae

**Acute toxicity - aquatic invertebrates** EC<sub>50</sub>, 48 hours: 1.7 mg/l, Daphnia magna

**Acute toxicity - aquatic plants** EC<sub>50</sub>, 72 hours: 9.4 mg/l, Fish

**Acute toxicity - microorganisms** IC<sub>80</sub>, 3 hours: >100 mg/l, Bacteria

#### 12.2. Persistence and degradability

**Persistence and degradability** This product is not expected to be readily biodegradable.

### Ecological information on ingredients.

#### EPOXY RESIN (Number average MW ≤ 700 )

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**Persistence and degradability** The product is not readily biodegradable.

**Biodegradation** - Degradation 5%: 28 days

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

**Partition coefficient** Not applicable.

### Ecological information on ingredients.

#### EPOXY RESIN (Number average MW <= 700 )

**Bioaccumulative potential** BCF: 31,

**Partition coefficient** log Pow: 3.242

### 12.4. Mobility in soil

**Mobility** The product is insoluble in water.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

### 12.6. Other adverse effects

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

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

**Waste class** HP4 Irritant HP13 Sensitising HP14 Ecotoxic Recommended EWC Code 08 04 09\*

## SECTION 14: Transport information

### 14.1. UN number

**UN No. (ADR/RID)** 3077

**UN No. (IMDG)** 3077

**UN No. (ICAO)** 3077

**UN No. (ADN)** 3077

### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (epoxy resin)

**Proper shipping name (IMDG)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (epoxy resin)

**Proper shipping name (ICAO)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (epoxy resin)

**Proper shipping name (ADN)** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (epoxy resin)

### 14.3. Transport hazard class(es)

**ADR/RID class** 9

**ADR/RID classification code** M7



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ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

### Transport labels



### 14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN 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
ADR transport category	3
Emergency Action Code	2Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

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

## SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) 1907/2006 REACH (as amended). Regulation (EC) 1272/2008 CLP (as amended).
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Guidance	Workplace Exposure Limits EH40.
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### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

Revision comments	General review
Revision date	15/05/2017
Revision	1
Supersedes date	29/06/2015

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<b>SDS number</b>	10170
<b>Hazard statements in full</b>	H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H411 Toxic to aquatic life with long lasting effects.

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 any 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.