

# SAFETY DATA SHEET

## ELECTRABOND 3

According to Regulation (EC) No 1907/2006, Annex II, as amended.

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

#### 1.1. Product identifier

Product name                      ELECTRABOND 3

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

Identified uses                      Printing ink.

Uses advised against              No specific uses advised against are identified.

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

Supplier                              Electra Polymers Ltd  
Roughway Mill,  
Roughway Lane  
Tonbridge  
Kent TN11 9SG  
UK  
Tel: +44 1732 811118  
Fax: +44 1732 811119  
sds@electrapolymers.com

#### 1.4. Emergency telephone number

Emergency telephone              +44 (0)1732 811 118 (08.30 - 17.00 GMT)

### 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 Dam. 1 - H318 Skin Sens. 1 - H317

Environmental hazards              Aquatic Chronic 3 - H412

Classification (67/548/EEC or 1999/45/EC)    Xi;R36/38. R43. R52/53.

Human health                         Considered to be a low inhalation hazard at normal workplace temperatures.

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                              Danger

Hazard statements                      H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.

## ELECTRABOND 3

**Precautionary statements**

P273 Avoid release to the environment.  
 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.  
 P310 Immediately call a POISON CENTER/ doctor.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.

**Contains**

BISPHENOL F EPOXY RESIN, OXIRANE, MONO [(C12-14- ALKYLOXY)METHYL] DERIVS, BENZYLAMINOTRIFLUOROBORANE, BORON (2-PROPANAMINE)TRIFLUORO REACTIONPRODUCTS WITH BUTYL GLYCIDYL ETHER

**Supplementary precautionary statements**

P261 Avoid breathing vapour/ spray.  
 P264 Wash contaminated skin thoroughly after handling.  
 P272 Contaminated work clothing should not be allowed out of the workplace.  
 P302+P352 IF ON SKIN: Wash with plenty of water.  
 P321 Specific treatment (see medical advice on this label).  
 P332+P313 If skin irritation occurs: Get medical advice/ attention.  
 P501 Dispose of contents/ container in accordance with national regulations.

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB. May cause skin sensitisation or allergic reactions in sensitive individuals.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>SILVER POWDER</b>	<b>60-100%</b>
CAS number: 7440-22-4	
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Not Classified	-
<b>BISPHENOL F EPOXY RESIN</b>	<b>10-30%</b>
CAS number: 9003-36-5                      REACH registration number: 01-2119454392-40-XXXX	
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Skin Irrit. 2 - H315	Xi;R36/38. N;R51/53. R43.
Skin Sens. 1 - H317	
Aquatic Chronic 2 - H411	
<b>OXIRANE, MONO [(C12-14- ALKYLOXY)METHYL] DERIVS</b>	<b>1-5%</b>
CAS number: 68609-97-2	
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>
Skin Irrit. 2 - H315	R43 Xi;R38
Skin Sens. 1 - H317	

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<b>BENZYLAMINOTRIFLUOROBORANE</b>		<b>1-5%</b>
CAS number: 696-99-1		
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>	
Acute Tox. 4 - H302	Xn;R22. C;R34.	
Skin Corr. 1B - H314		

  

<b>BORON (2-PROPANAMINE)TRIFLUORO REACTIONPRODUCTS WITH BUTYL GLYCIDYL ETHER</b>		<b>1-5%</b>
CAS number: 68478-97-7		
<b>Classification</b>	<b>Classification (67/548/EEC or 1999/45/EC)</b>	
Acute Tox. 4 - H302	Xn;R22. C;R34.	
Skin Corr. 1B - H314		

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

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	Get medical attention if any discomfort continues. Treat symptomatically.
<b>Inhalation</b>	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Do not induce vomiting. Get medical attention if any discomfort continues.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Take off contaminated clothing and wash it before reuse.
<b>Eye contact</b>	Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

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

<b>General information</b>	Treat symptomatically.
<b>Inhalation</b>	No specific symptoms known. May cause respiratory irritation.
<b>Ingestion</b>	No specific symptoms known. May cause irritation.
<b>Skin contact</b>	Causes skin irritation. May cause sensitisation by skin contact.
<b>Eye contact</b>	Causes serious eye damage.

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

<b>Notes for the doctor</b>	No specific recommendations.
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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	Extinguish with foam, carbon dioxide, dry powder or water fog.
<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>	None.
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**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Oxides of carbon. Toxic gases or vapours.

### 5.3. Advice for firefighters

**Protective actions during firefighting** No specific firefighting precautions known.

**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

## SECTION 6: Accidental release measures

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

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet. No smoking, sparks, flames or other sources of ignition near spillage.

### 6.2. Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground. Avoid the spillage or runoff entering drains, sewers or watercourses. Contain spillage with sand, earth or other suitable non-combustible material.

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

**Methods for cleaning up** Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Absorb spillage with non-combustible, absorbent material. Collect and place in suitable waste disposal containers and seal securely.

### 6.4. Reference to other sections

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet. For waste disposal, see Section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

**Usage precautions** Avoid inhalation of vapours and spray/mists. Wear protective clothing, gloves, eye and face protection.

**Advice on general occupational hygiene** Good personal hygiene procedures should be implemented. Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas.

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

**Storage precautions** Keep away from heat, sparks and open flame. Store in tightly-closed, original container. Protect from freezing and direct sunlight.

**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.

## SECTION 8: Exposure Controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

#### **SILVER POWDER**

Long-term exposure limit (8-hour TWA): WEL 0.1 mg/m<sup>3</sup>

WEL = Workplace Exposure Limit

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### 8.2. Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

#### Eye/face protection

Wear eye protection. Wear face protection.

#### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Wear protective gloves made of the following material: Butyl rubber. Nitrile rubber. Neoprene. Polyvinyl chloride (PVC). Laminate of polyethylene and ethylene vinyl alcohol (PE/EVOH).

#### Other skin and body protection

Wear apron or protective clothing in case of contact.

#### Hygiene measures

Do not eat, drink or smoke when using this product. Use engineering controls to reduce air contamination to permissible exposure level. Wash after use and before eating, smoking and using the toilet. Provide eyewash station. Wash contaminated clothing before reuse.

#### Respiratory protection

No specific requirements are anticipated under normal conditions of use.

#### Environmental exposure controls

Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. Avoid the spillage or runoff entering drains, sewers or watercourses.

### SECTION 9: Physical and Chemical Properties

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

Appearance	Liquid.
Colour	Silver.
Odour threshold	Not determined.
pH	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	Not determined.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	Not determined.
Other flammability	Not determined.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	Not determined.

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<b>Bulk density</b>	Not determined.
<b>Solubility(ies)</b>	Not determined.
<b>Partition coefficient</b>	Not determined.
<b>Auto-ignition temperature</b>	Not determined.
<b>Decomposition Temperature</b>	Not determined.
<b>Viscosity</b>	Kinematic viscosity > 20.5 mm <sup>2</sup> /s.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Explosive under the influence of a flame</b>	No
<b>Oxidising properties</b>	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.
<b>Comments</b>	Information given is applicable to the product as supplied.

### 9.2. Other information

<b>Other information</b>	None.
<b>Refractive index</b>	Not determined.
<b>Particle size</b>	Not applicable.
<b>Molecular weight</b>	Not applicable.
<b>Volatility</b>	Not determined.
<b>Saturation concentration</b>	Not determined.
<b>Critical temperature</b>	Not determined.
<b>Volatile organic compound</b>	Not determined.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

<b>Reactivity</b>	There are no known reactivity hazards associated with this product.
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### 10.2. Chemical stability

<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended.
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### 10.3. Possibility of hazardous reactions

### 10.4. Conditions to avoid

<b>Conditions to avoid</b>	Keep away from heat, sparks and open flame. Avoid exposure to high temperatures or direct sunlight.
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### 10.5. Incompatible materials

<b>Materials to avoid</b>	Strong alkalis. Strong oxidising agents. Strong acids.
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### 10.6. Hazardous decomposition products

<b>Hazardous decomposition products</b>	Thermal decomposition or combustion products may include the following substances: Acrid smoke or fumes. Oxides of nitrogen. Oxides of carbon.
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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

## ELECTRABOND 3

### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** Based on available data the classification criteria are not met.

**ATE oral (mg/kg)** 14,430.01

### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** Based on available data the classification criteria are not met.

### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** Based on available data the classification criteria are not met.

### Skin corrosion/irritation

**Animal data** No information available.

**Human skin model test** No information available.

**Extreme pH** Based on available data the classification criteria are not met.

### Serious eye damage/irritation

**Serious eye damage/irritation** Causes serious eye damage.

### Respiratory sensitisation

**Respiratory sensitisation** Based on available data the classification criteria are not met.

### Skin sensitisation

**Skin sensitisation** Sensitising.

### Germ cell mutagenicity

**Genotoxicity - in vitro** Based on available data the classification criteria are not met.

**Genotoxicity - in vivo** Based on available data the classification criteria are not met.

### Carcinogenicity

**Carcinogenicity** Based on available data the classification criteria are not met. Does not contain any substances known to be carcinogenic.

### Reproductive toxicity

**Reproductive toxicity - fertility** Based on available data the classification criteria are not met. Does not contain any substances known to be toxic to reproduction.

**Reproductive toxicity - development** Based on available data the classification criteria are not met. Does not contain any substances known to be toxic to reproduction.

### Specific target organ toxicity - single exposure

**STOT - single exposure** Based on available data the classification criteria are not met.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Based on available data the classification criteria are not met.

### Aspiration hazard

**Aspiration hazard** Based on available data the classification criteria are not met.

### **General information**

The product contains organic solvents. Extensive use of the product in areas with inadequate ventilation may result in the accumulation of hazardous vapour concentrations.

### **Inhalation**

No specific health hazards known. May cause respiratory system irritation.

### **Ingestion**

No specific health hazards known. May cause discomfort if swallowed.

### **Skin contact**

May cause sensitisation by skin contact.

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<b>Eye contact</b>	Causes serious eye irritation.
<b>Acute and chronic health hazards</b>	May cause skin sensitisation or allergic reactions in sensitive individuals. May cause chemical eye burns.
<b>Route of entry</b>	Inhalation Skin absorption Skin and/or eye contact Ingestion
<b>Target organs</b>	No specific target organs known.
<b>Medical symptoms</b>	Symptoms following overexposure may include the following: Allergic rash. May cause discomfort if swallowed.
<b>Medical considerations</b>	May cause allergic contact eczema.

**Toxicological information on ingredients.****BISPHENOL F EPOXY RESIN****Acute toxicity - oral**

**Acute toxicity oral (LD<sub>50</sub> mg/kg)** 5,001.0

**Species** Rat

**ATE oral (mg/kg)** 5,001.0

**Acute toxicity - dermal**

**Acute toxicity dermal (LD<sub>50</sub> mg/kg)** 2,000.0

**Species** Rat

**Skin corrosion/irritation**

**Animal data** Slightly irritating.

**Serious eye damage/irritation**

**Serious eye damage/irritation** Not irritating.

**Skin sensitisation**

**Skin sensitisation** - Mouse: Sensitising.

**Germ cell mutagenicity**

**Genotoxicity - in vitro** : Positive. Inconclusive data.

**Carcinogenicity**

**Carcinogenicity** No evidence of carcinogenicity in animal studies.

**BENZYLAMINOTRIFLUOROBORANE****Acute toxicity - oral**

**ATE oral (mg/kg)** 500.0

**BORON (2-PROPANAMINE)TRIFLUORO REACTIONPRODUCTS WITH BUTYL GLYCIDYL ETHER****Acute toxicity - oral**

**ATE oral (mg/kg)** 500.0



## ELECTRABOND 3

**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

**Acute toxicity - fish** Not determined.

**Acute toxicity - aquatic invertebrates** Not determined.

**Acute toxicity - aquatic plants** Not determined.

**Acute toxicity - microorganisms** Not determined.

**Acute toxicity - terrestrial** Not determined.

**Chronic toxicity - fish early life stage** Not determined.

**Short term toxicity - embryo and sac fry stages** Not determined.

**Chronic toxicity - aquatic invertebrates** Not determined.

### Ecological information on ingredients.

#### BISPHENOL F EPOXY RESIN

<b>Acute toxicity - fish</b>	, 96 hours: 0.55 mg/l,
<b>Acute toxicity - aquatic invertebrates</b>	EC <sub>50</sub> , 48 hours: 1.6 mg/l, Daphnia magna
<b>Acute toxicity - aquatic plants</b>	EC <sub>50</sub> , 72 hours: 1.8 mg/l, Freshwater algae
<b>Chronic toxicity - aquatic invertebrates</b>	NOEC, 21 days: 0.3 mg/l, Daphnia magna

### 12.2. Persistence and degradability

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

**Phototransformation** Not determined.

**Stability (hydrolysis)** Not determined.

**Biodegradation** Not determined.

**Biological oxygen demand** Not determined.

**Chemical oxygen demand** Not determined.

### Ecological information on ingredients.

#### BISPHENOL F EPOXY RESIN

<b>Persistence and degradability</b>	The product is not readily biodegradable.
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### 12.3. Bioaccumulative potential

**Bioaccumulative potential** Not determined.

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**Partition coefficient** Not determined.

### Ecological information on ingredients.

#### BISPHENOL F EPOXY RESIN

**Bioaccumulative potential** May accumulate in soil and water systems.

**Partition coefficient** Pow: 2.7 - 3.6

### 12.4. Mobility in soil

**Adsorption/desorption coefficient** Not determined.

**Henry's law constant** Not determined.

**Surface tension** Not determined.

### Ecological information on ingredients.

#### BISPHENOL F EPOXY RESIN

**Adsorption/desorption coefficient** Not available.

### 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.

### Ecological information on ingredients.

#### BISPHENOL F EPOXY RESIN

**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current EU criteria.

### 12.6. Other adverse effects

**Other adverse effects** None known.

### Ecological information on ingredients.

#### BISPHENOL F EPOXY RESIN

**Other adverse effects** None known.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** Waste is classified as hazardous waste.

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

## SECTION 14: Transport information

**General** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

### 14.1. UN number

### 14.2. UN proper shipping name

## ELECTRABOND 3

### 14.3. Transport hazard class(es)

### 14.4. Packing group

### 14.5. Environmental hazards

### 14.6. Special precautions for user

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

## SECTION 15: Regulatory information

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

<b>National regulations</b>	Control of Substances Hazardous to Health Regulations 2002 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. Health and Safety at Work etc. Act 1974 (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
<b>EU legislation</b>	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). 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 (as amended). Dangerous Preparations Directive 1999/45/EC. Dangerous Substances Directive 67/548/EEC.
<b>Health and environmental listings</b>	None of the ingredients are listed.
<b>Authorisations (Title VII Regulation 1907/2006)</b>	No specific authorisations are known for this product.
<b>Restrictions (Title VIII Regulation 1907/2006)</b>	No specific restrictions on use are known for this product.

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

<b>Classification procedures according to Regulation (EC) 1272/2008</b>	: Calculation method.
<b>Issued by</b>	HS&E Manager.
<b>Revision date</b>	22/02/2017
<b>Revision</b>	5
<b>Supersedes date</b>	16/06/2016

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**Risk phrases in full**

Not classified.

R22 Harmful if swallowed.

R34 Causes burns.

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.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Hazard statements in full**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful 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.