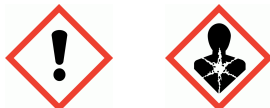


SAFETY DATA SHEET**ED5500 - 1/4 Ohm**

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** ED5500 - 1/4 Ohm**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 Irrit. 2 - H319 Muta. 2 - H341**Environmental hazards** Not Classified**Classification (67/548/EEC or 1999/45/EC)** Muta Cat. 3;R68. Xi;R36/38.**2.2. Label elements****Pictogram****Signal word** Warning**Hazard statements** H315 Causes skin irritation.
H319 Causes serious eye irritation.
H341 Suspected of causing genetic defects.

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Precautionary statements	<p>P201 Obtain special instructions before use.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P308+P313 IF exposed or concerned: Get medical advice/ attention.</p> <p>P332+P313 If skin irritation occurs: Get medical advice/ attention.</p> <p>P337+P313 If eye irritation persists: Get medical advice/ attention.</p>
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Contains PHENOL

Supplementary precautionary statements	<p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
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2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

SILVER POWDER	30-60%
CAS number: 7440-22-4	
Classification	Classification (67/548/EEC or 1999/45/EC)
Not Classified	-
PHENOL	1-5%
CAS number: 108-95-2	EC number: 203-632-7
Classification	Classification (67/548/EEC or 1999/45/EC)
Acute Tox. 3 - H301	Muta. Cat. 3;R68 T;R23/24/25 C;R34 Xn;R48/20/21/22
Acute Tox. 3 - H311	
Skin Corr. 1B - H314	
Eye Dam. 1 - H318	
Muta. 2 - H341	
STOT RE 2 - H373	
METHANOL	<1%
CAS number: 67-56-1	EC number: 200-659-6
Classification	Classification (67/548/EEC or 1999/45/EC)
Flam. Liq. 2 - H225	F;R11 T;R23/24/25,R39/23/24/25
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	
STOT SE 1 - H370	

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

Composition comments The data shown are in accordance with the latest EC Directives.

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SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention if any discomfort continues. Treat symptomatically.
Inhalation	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.
Ingestion	Do not induce vomiting. Get medical attention if any discomfort continues.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Take off contaminated clothing and wash it before reuse.
Eye contact	Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.

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

General information	Treat symptomatically.
Inhalation	No specific symptoms known. May cause respiratory irritation.
Ingestion	No specific symptoms known. May cause irritation.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.

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

Notes for the doctor	No specific recommendations.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	None.
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.
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6.2. Environmental precautions

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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 For personal protection, see Section 8.

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/m³

PHENOL

Long-term exposure limit (8-hour TWA): WEL 2 ppm 7,8 mg/m³

Short-term exposure limit (15-minute): WEL 4 ppm 16 mg/m³

Sk

METHANOL

Long-term exposure limit (8-hour TWA): WEL 200 ppm 266 mg/m³

Short-term exposure limit (15-minute): WEL 250 ppm 333 mg/m³

Sk

WEL = Workplace Exposure Limit

Sk = Can be absorbed through skin.

Sk = Can be absorbed through the skin.

8.2. Exposure controls

Protective equipment



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Appropriate engineering controls	Provide adequate general and local exhaust ventilation.
Eye/face protection	Wear eye 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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Black.
Odour	Characteristic.
Odour threshold	Not determined.
pH	Not determined.
Melting point	Not determined.
Initial boiling point and range	Not determined.
Flash point	~ 94°C Not specified. Estimated value.
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	1.2 @ 20 deg C @ °C
Bulk density	Not determined.
Solubility(ies)	Not determined.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.

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Viscosity	Kinematic viscosity > 20.5 mm ² /s.
Explosive properties	Not considered to be explosive.
Explosive under the influence of a flame	No
Oxidising properties	The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.
Comments	Information given is applicable to the product as supplied.
<u>9.2. Other information</u>	
Other information	None.
Refractive index	Not determined.
Particle size	Not applicable.
Molecular weight	Not applicable.
Volatility	Not determined.
Saturation concentration	Not determined.
Critical temperature	Not determined.
Volatile organic compound	Not determined.

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame. Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Acrid smoke or fumes. Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

ATE oral (mg/kg) 4,036.78

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

ATE dermal (mg/kg) 12,110.35

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Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

ATE inhalation (gases ppm) 28,257.48

ATE inhalation (vapours mg/l) 121.1

ATE inhalation (dusts/mists mg/l) 20.18

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 irritation.

Respiratory sensitisation

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

Skin sensitisation

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

Germ cell mutagenicity

Genotoxicity - in vitro Suspected of causing genetic defects.

Genotoxicity - in vivo Suspected of causing genetic defects.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

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 small amounts of 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 Causes skin irritation.

Eye contact Causes serious eye irritation.

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Acute and chronic health hazards	May cause genetic defects.
Route of entry	Inhalation Skin absorption Skin and/or eye contact Ingestion
Target organs	No specific target organs known.
Medical symptoms	May cause discomfort if swallowed.

Toxicological information on ingredients.**PHENOL****Acute toxicity - oral**

Acute toxicity oral (LD₅₀ mg/kg) 300.0

Species Rat

ATE oral (mg/kg) 100.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 660.0

Species Rat

ATE dermal (mg/kg) 660.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 900.0

Species Rat

ATE inhalation (dusts/mists mg/l) 900.0

SECTION 12: Ecological Information**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.

12.2. Persistence and degradability

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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.

12.3. Bioaccumulative potential

Bioaccumulative potential Not determined.

Partition coefficient Not determined.

12.4. Mobility in soil

Adsorption/desorption coefficient Not determined.

Henry's law constant Not determined.

Surface tension Not determined.

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

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

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 Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

National regulations	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.
EU legislation	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.
Health and environmental listings	None of the ingredients are listed.
Authorisations (Title VII Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Title VIII Regulation 1907/2006)	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

Classification procedures according to Regulation (EC) 1272/2008	: Calculation method.
Issued by	HS&E Manager.
Revision date	15/06/2017
Revision	9
Supersedes date	22/02/2017
Risk phrases in full	Not classified. R11 Highly flammable. R23/24/25 Toxic by inhalation, in contact with skin and if swallowed. R34 Causes burns. R36/38 Irritating to eyes and skin. R39/23/24/25 Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. R48/20/21/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. R68 Possible risk of irreversible effects.

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Hazard statements in full

H225 Highly flammable liquid and vapour.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H341 Suspected of causing genetic defects.
H370 Causes damage to organs .
H373 May cause damage to organs through prolonged or repeated exposure.

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.