



# MATERIAL SAFETY DATA SHEET

## Carbon Paste

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

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#### 1.1 Product Identifiers

Product name : Transparent Conductive Ink  
 Brand : DM-CAP-4511-S  
 Product codes : Research Batch This MSDS is for product trials only  
 REACH No. : Not available. Annual tonnage does not require a registration.

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

Identified uses : Scientific research and development, professional use only. Industrial Ink

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

Company : Dycotec Materials Ltd  
 Unit 12 Star West,  
 Westmead Drive, Westlea,  
 Swindon, Wiltshire SN5 7SW, UK  
 Telephone : +44 (0) 1788 814025  
 E-mail address : info@dycotecmaterials.com

#### 1.4 Emergency telephone number

Emergency Phone No. : +44 (0) 7495 248908 Only available during office hours

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### SECTION 2: Hazards Identification

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#### 2.1 Classification of the substance or mixture

Physical hazards : H225  
 Health hazards : H315 H336 H361d H373 H302 H332 H319  
 Environmental hazards : H412  
 Physicochemical : Stable under ordinary conditions of storage for flammable liquids

Repeated long-term exposure to silver dust can cause permanent blue-grey staining of eyes, mouth and skin. Direct contact with eyes is likely irritating.

#### 2.2 Label elements

Pictogram



Signal word : Danger  
 Hazard statements : H225 Highly flammable liquid and vapour.  
 H315 Causes skin irritation.  
 H361d Suspected of damaging the unborn child.  
 H336 May cause drowsiness or dizziness.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H412 Harmful to aquatic life with long lasting effects.  
 H302 Acute toxicity, Oral  
 H332 Acute toxicity, Inhalation  
 H319 Eye irritation

Precautionary statements : P201 Obtain special instructions before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P403 + P235 Store in a well-ventilated place. Keep cool.  
 P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for

breathing. Call a POISON CENTER/doctor if you feel unwell.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 2.3 Other hazards

No data available

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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### 3.2 Mixtures

Blended adhesion resin in aromatic hydrocarbons, C9 and alcohols ; Synonyms:		Bal
CAS #:	EC #:	
Classification	H225 H315 H361d H336 H373 H412 H302 H332 H319	
Blended carbon mixture; Synonyms:		<40%
CAS #:	EC #:	
Classification		

The full text for all Hazard Statements are displayed in Section 16.

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## SECTION 4: FIRST AID MEASURES

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### 4.1 Description of first aid measures

#### General information

Remove affected person from source of contamination. Remove contaminated clothing. First aid personnel must be aware of own risk during rescue. Consult a physician. Show this safety data sheet to the doctor in attendance.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately..

#### Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with plenty of water. Consult a physician

#### Skin contact

Flush with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention if irritation develops or persists. Wash clothing before reuse. Thoroughly clean shoes before reuse

#### Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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## SECTION 5: FIRE-FIGHTING MEASURES

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### 5.1 Extinguishing media

#### Suitable extinguishing media

Carbon dioxide. Sand. Alcohol resistant form. Dry powder.

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

Carbon oxides, Metal oxides.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. Remove all source of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Wipe up with inert absorbent material and disposal of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from source of ignition – No smoking. Take measures to prevent the build up of electrostatic charge

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

Kept upright to prevent leakage. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Storage class:  
Flammable liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### 8.1 Control parameters – Components with workplace control parameters

No occupational exposure limits known.

### 8.2 Exposure Controls

#### Protective equipment



#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Eye/face protection

Use approved safety glasses with side shields. Eyewear complying with an approved standard should be worn if a risk assessment indicate eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Other skin and body protection

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Do not smoke in work area. Wash hands thoroughly after handling. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke. Contaminated clothing should be placed in a closed container for disposal or decontamination. Warn cleaning personnel of any hazardous properties of the product.

#### Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn.

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

Appearance	paste
Colour	black
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting / freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	No data available
Partition coefficient	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	See TDS
Explosive properties	No data available
Oxidizing properties	No data available

**9.1 Other information**

No data available

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**SECTION 10: STABILITY AND REACTIVITY**

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**10.1 Reactivity**

No data available.

**10.2 Chemical stability**

Stable under recommended storage conditions. Stable at normal ambient temperatures.

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

Heat, flames and sparks

**10.5 Incompatible materials**

Oxidizing agents, Acid anhydrides, Halogenated compounds, Acids.

**10.6 Hazardous decomposition products**

Other decomposition products - no data available

In the event of fire - see section 5

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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**Acute toxicity:** Mixture. No known toxicological effects from this product.**Skin corrosion/irritation:** Mixture. No data available**Germ cell mutagenicity:** Mixture. No data available**Carcinogenicity:** Mixture. No data available**Reproductive toxicity:** Mixture. No data available**Specific target organ toxicity – single exposure:** Mixture. No data available**Specific target organ toxicity – repeated exposure:** Mixture. No data available**Aspiration hazard:** Mixture. No data available**Signs and Symptoms of Exposure:** Mixture. No data available**Additional Information:** Mixture. No data available.

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**SECTION 12: ECOLOGICAL INFORMATION**

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**Ecotoxicity**

Do not empty into drains, soil or bodies of water.

**12.1 Toxicity**

no data available

**12.2 Persistence and degradability**

no data available

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

no data available

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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**13.1 Waste treatment methods****General Information**

When handling waste, the safety precautions applying to handling of the product should be considered. Do not dump into any sewers, on the ground, or into any body of water. Not to be disposed of together with household waste. Any disposal practice must be in compliance with all local and national laws and regulations. Handle and dispose contaminated packages in the same way as the product itself.

**Disposal methods**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: TRANSPORT INFORMATION****14.1 UN number**

ADR/RID	IMDG	IATA
UN1866	UN1866	UN1866

**14.2 UN proper shipping name**

ADR/RID	IMDG	IATA
Resin Solution		

**14.3 Transport hazard class(es)**

ADR/RID	IMDG	IATA
3		

**14.4 Packaging group**

ADR/RID	IMDG	IATA
II		

**14.5 Environmental hazards**

ADR/RID	IMDG Marine pollutant	IATA
Yes	Yes	Yes

**14.6 Special precautions for user**

Read safety instructions, SDS and emergency procedures before handling

**SECTION 15: REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out

**SECTION 16: OTHER INFORMATION****General Information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is finished without warranty and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This is an experimental product. This safety data sheet is for product trials only!

**Hazard statements in full**

Flammable liquids, Category 2 (H225)  
 Skin irritation, Category 2 (H315)  
 Reproductive toxicity, Category 2 (H361d)  
 Specific target organ toxicity (single exposure), Category 3 (H336)  
 Specific target organ toxicity (repeated exposure), Category 2 (H373)  
 Chronically hazardous to the aquatic environment, Category 3 (H412)  
 Acute toxicity, Oral (Category 4), H302  
 Acute toxicity, Inhalation (Category 4), H332  
 Eye irritation (Category 2), H319