

MATERIAL SAFETY DATA SHEET

Circuit Scribe

FILE NO.: 005
MSDS DATE: 08/05/14

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Circuit Scribe – Conductive Ink Pen **PRODUCT CODES:** CS-PEN

MANUFACTURER: Electroninks Writeables Incorporated **DIVISION:** Circuit Scribe **ADDRESS:** 60 Hazelwood Drive, Champaign, IL 61820

EMERGENCY PHONE: CHEMTREC **PHONE:** **OTHER CALLS:**

CHEMICAL NAME: Silver Flake Ink

PRODUCT USE: Writing conductive traces **PREPARED BY:** Electroninks Writeables Incorporated

SECTION 1 NOTES: www.electroninks.com

This product has been evaluated by Duke Toxicology by contract with the Writing Instrument Manufacturers Association (WIMA) to be compliant with ASTM D4236 and is labeled with the WIMA D4236 seal. As such this writing instrument and all associated materials have been certified by a medical expert to contain no materials in sufficient quantities to be toxic or injurious humans, or to cause acute toxicity or chronic health problems.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Silver (7440-22-4), Water (7723-18-5), Resins

SECTION 3: HAZARDS IDENTIFICATION

Product considered safe under normal use conditions

SECTION 4: FIRST AID MEASURES

EYES: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

SKIN: Wash skin with soap and water.

INGESTION: Rinse mouth with water

INHALATION: Remove from exposure to fresh air.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT: Non flammable **METHOD USED:** closed cup

NFPA HAZARD CLASSIFICATION HEALTH: 1 **FLAMMABILITY:** 0 **OTHER:**

HMIS HAZARD CLASSIFICATION HEALTH: 1 **FLAMMABILITY:** 0 **PROTECTION:**

REACTIVITY: 0

REACTIVITY: 0 **EXTINGUISHING MEDIA:** Use media appropriate for area surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus in pressure demand and full protective gear.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of Silver

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions

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Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

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Environmental precautions

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

Methods and materials for containment and cleaning up

Contain spillage, and then collect with a vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Avoid breathing dust, mist, or gas. **OTHER PRECAUTIONS:** Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION : Special ventilation precautions not required. Ensure adequate ventilation to maintain levels below exposure limits. **EYE PROTECTION:** Wear safety goggles if splashing is possible.

SKIN PROTECTION: Complete suit protecting against chemicals, 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.

WORK HYGIENIC PRACTICES: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Metallic liquid

ODOR: none

PHYSICAL STATE: liquid

pH AS SUPPLIED: 7-8 pH (Other):

BOILING POINT: 110°C

MELTING POINT: 0°C

SPECIFIC GRAVITY (H₂O = 1): 1.83

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con't)

SOLUBILITY IN WATER: completely miscible

PERCENT SOLIDS BY WEIGHT: 50%

SECTION 10: STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Materials to avoid

acids, Acid chlorides, Acid anhydrides, Strong oxidizing agents

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Hazardous decomposition products

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Hazardous decomposition products formed under fire conditions. - Silver/silver oxides

SECTION 11: TOXICOLOGICAL INFORMATION

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as Aldrich - W321907 Page 5 of 7

probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

SECTION 12: ECOLOGICAL INFORMATION

SECTION 12 NOTES: No information found

SECTION 13: DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT (US)

Non-hazardous

IMDG

Non-hazardous

IATA

Non-hazardous

SECTION 15: OTHER 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. Electroninks Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.