

# SAFETY DATA SHEET



File No. 044      Conductive Ink Pen  
Version            2.1  
SDS Date         09/28/2018  
Revision Date    11/30/2018

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## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

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### 1.1 Product identifiers

Product name        : **Conductive Ink Pen**  
Chemical name      : Silver Flake Ink  
Product codes      : CS-Pen  
CAS-no.             :

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

Identified uses     : Writing conductive features

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

Manufacturer        : Electroninks Incorporated DBA Circuit Scribe  
Division             : Writeables, Circuit Scribe  
Address              : 7901 East Riverside Dr. Bldg. 1 Unit 150 Austin, TX 78744  
Telephone phone    : +1 (737) 300-1366  
Fax                   : +1 (512) 957-0195

### 1.4 Emergency telephone number

Emergency phone    : +1 (737) 300-1366  
Section 1 notes     : [www.electroninks.com](http://www.electroninks.com)

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## SECTION 2: HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**  
Acute toxicity, Aquatic (Category 4), H413

For the full text of the H-statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

Pictograms         : N/A  
Signal Word        : N/A

#### Hazard statement(s)

H302 + H332        : Harmful if swallowed or if inhaled.  
H335                : May cause respiratory irritation.

#### Precautionary Statement(s)

P233                : Keep Container tightly closed  
P261                : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264                : Wash skin thoroughly after handling.  
P270                : Do not eat, drink or smoke when using this product.  
P301 + P312        : IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.  
P301 + P330+ P331 : IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
P303 + P361+ P353 : IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water  
P304 + P340        : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
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 or doctor/ physician.  
P321                : Specific treatment (see supplemental first aid instructions on this label).  
P363                : Wash contaminated clothing before reuse.  
P370 + P378        : In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P233        : Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235        : Store in a well-ventilated place. Keep cool.  
P501                : Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms : No Data Available  
Molecular Weight : No Data Available  
EC-no. : No Data Available

#### Hazardous components

INGREDIENT: Silver

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
7440-22-4	up to 50	up to 70	Yes

INGREDIENT: Water

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>	<u>SARA 313 REPORTABLE</u>
7723-18-5	up to 35	up to 15	No

The majority of the remainder is water with small amounts of proprietary ingredients. Chemicals responsible for any special care are listed above. For the full text of the H-statements mentioned in this Section, see Section 16.

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of a dangerous area.

#### Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

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

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. For larger fires, apply water from far away as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

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

Silver / Silver Oxides

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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

Wear personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

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- 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**  
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations
- 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.  
For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- 7.3 Specific end use(s)**  
Apart for 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

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### 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.

##### Body Protection

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

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Use in a well-ventilated area. If ventilation is not available, consult respiratory protection. 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

- a) Appearance : Physical state – Liquid  
Colour – Metallic.
- b) Odour : No Data Available
- c) Odour threshold : No Data Available
- d) pH : 7-8

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- e) Melting point/  
freezing Point : 0°C (32°F)
- f) Initial boiling point and  
boiling range : 110°C (230°F)
- g) Flash point : Non-Flammable
- h) Evaporation rate : No Data Available
- i) Flammability : No Data Available
- j) Upper/lower flammability  
or explosive limits : No Data Available
- k) Vapour pressure : No Data Available
- l) Vapour density : No Data Available
- m) Relative density : 1.83 g/cm<sup>3</sup> at 25°C (77°F)
- n) Water solubility : No Data Available
- o) Auto-ignition  
temperature : No Data Available
- p) Decomposition  
temperature : No Data Available
- q) Viscosity : No Data Available
- r) Explosive properties : No Data Available
- s) Oxidizing properties : No Data Available

## 9.2 Other safety information

- Solubility in water : completely miscible
- Percent solids by weight : 50%

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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.

### 10.3 Possibility of hazardous reactions

N/A

### 10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

### 10.5 Incompatible materials

Acids, acid chlorides, acid anhydrides, strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. – silver / silver oxides.

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## SECTION 11: TOXICOLOGICAL INFORMATION

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### 11.1 Information on toxicological effects

#### Acute toxicity

May cause long lasting harmful effects to aquatic life.

#### Skin corrosion/irritation

No data available.

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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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

## Reproductive toxicity

No data available

## Specific target organ toxicity – single exposure

Inhalation – May cause respiratory irritation – Lungs  
Acute oral toxicity – Stomach/intestinal disorders  
Acute inhalation toxicity – Local irritation

## Specific target organ toxicity – repeated exposure

No data available

## Aspiration hazard

RTECS: No data available

## Additional Information

No data available

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## SECTION 12: ECOLOGICAL INFORMATION

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- 12.1 Toxicity**  
May cause long lasting harmful effects to aquatic life.
- 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**  
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
- 12.6 Other adverse effects**  
No data available

**SECTION 12 NOTES:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.

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## SECTION 13: DISPOSAL CONSIDERATIONS

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- 13.1 Waste treatment methods**
- 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.

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## SECTION 14: TRANSPORT INFORMATION

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**DOT (US)**  
Not hazardous material.

**IMDG**  
Not hazardous material.

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**IATA**  
Not hazardous material.

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## SECTION 15: REGULATORY INFORMATION

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### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

No SARA hazards available.

### Massachusetts Right to Know Components

	CAS-No.	Revision Date
Silver	7440-22-4	1993-04-24

### Pennsylvania Right to Know Components

	CAS-No.	Revision Date
Silver	7440-22-4	1993-04-24

### New Jersey Right to Know Components

	CAS-No.	Revision Date
Silver	7440-22-4	1993-04-24

### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

### TSCA (Toxic Substances Control Act):

All ingredients are listed or exempt from listing.

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## SECTION 16: OTHER INFORMATION

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### Full text of H-statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Eye Dam.	Serious eye damage
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H302 + H332	Harmful if swallowed or if inhaled
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.

### HMIS Rating

Health hazard	:	1
Chronic health hazard	:	
Flammability	:	0
Physical hazard	:	0

### NFPA Rating

Health hazard	:	1
Fire hazard	:	0
Reactivity hazard	:	0

### OSHA Hazards

Corrosive Liquid, Flammable, Toxic by ingestion.

### Further 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.

### Preparation Information

Electroninks Incorporated  
Product information  
1-737-300-1366