

**SECTION 1: CHEMICAL PRODUCT AND COMPANY INFORMATION****Company Address:**8125 Cobb Center Drive  
Kennesaw, GA 30152Product Information: 800-TECH-401  
Customer Service: 800-645-5244Emergency: (Chemtrec) 800-424-9300  
Revision Date: February 10, 2007**Product Identification****CIRCUITWORKS® FLEX CONDUCTIVE PEN****Product Code: CW2900****SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**

| Product Ingredient Information        | CAS No.   | Wt. % Range |
|---------------------------------------|-----------|-------------|
| Silver (Metallic)                     | 7440-22-4 | 45.0-65.0   |
| Propylene Glycol Methyl Ether Acetate | 108-65-6  | 10.0-30.0   |
| Butyl Acetate                         | 123-86-4  | 10.0-30.0   |
| Modified Polyester Resin              | mixture   | 5.0-25.0    |

**SECTION 3: HAZARD IDENTIFICATION**

**Emergency Overview:** Silver colored paint with an aromatic hydrocarbon odor. This product is flammable. Liquid and vapors will irritate eyes and skin. Breathing high concentration of product may produce headache, nausea, and drowsiness.

**Potential Health Effects:**

**Eyes:** Vapors of this product may irritate the eyes. Liquid is irritating and may cause tearing, redness, swelling or temporary corneal damage.

**Skin:** Contact may cause irritation. Prolonged contact may cause dermatitis.

**Ingestion:** Harmful if swallowed. May cause headache, drowsiness, and unconsciousness.

**Inhalation:** Harmful if inhaled. May cause irritation to the respiratory tract and to other mucous membranes.

**Pre-Existing Medical Conditions Aggravated by Exposure:** Lung, eye, skin.

**SECTION 4: FIRST AID MEASURES**

**Eyes:** Immediately flush with large amounts of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined by a Physician if discomfort persists.

**Skin:** Remove contaminated clothing and wash skin with soap and water. Get medical attention if irritation develops/persists. Wash clothes separately before reuse.

**Ingestion:** If swallowed, give two or more glasses of water immediately. **DO NOT** induce vomiting. Get medical attention.

**Inhalation:** In case of exposure to high concentrations of vapor or mist, remove to fresh air. If breathing is difficult, give oxygen and call a Physician. If breathing has stopped, apply artificial respiration and call a Physician.

**SECTION 5: FIRE FIGHTING MEASURES**

**Flash Point:** 76°F (24C) (TCC)      **LEL/UEL:** 1.5/10.0 (% by volume in air)

**Extinguishing Media:** Use alcohol foam, water foam, carbon dioxide, dry chemical, or water spray. Water may not be effective in fighting the fire but can be used to cool overheated areas. Care must be taken to not spread the fire.

**Fire Fighting Instructions:** Remove all ignition sources. Use water spray to cool overheated containers. Take care not to spread the fire with the water. As in any fire, wear self-contained breathing apparatus (pressure-demand, OSHA/NIOSH approved or equivalent) and full protective gear. Solvent vapors are an explosion hazard. Keep material away from all sources of ignition, extreme heat, sparks or open flame. Material can be easily ignited and burns with intense heat.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Large Spills:** Remove all sources of ignition (sparks, open flames, etc.). Wear self-contained breathing apparatus and appropriate personal protective equipment. Ventilate area, contain spill, and absorb spill with inert material. Collect spill by scooping up liquids and absorbent material and place in a sealed chemical waste container for proper disposal. Do not flush to sewer. Prevent material from entering storm sewers, ditches that lead to waterways and ground.

**Small Spills:** Absorb spill with absorbent material, then place in a chemical waste container for proper disposal.

**SECTION 7: HANDLING AND STORAGE**

Avoid prolonged exposure or repeated contact with skin, eyes, or clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor. Do not reuse this container. Store in a cool dry place, away from heat, sparks, or flames. Keep container tightly closed when not in use. Do not store in direct sunlight.

**KEEP OUT OF REACH OF CHILDREN.****SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****Exposure Guidelines:**

| CHEMICAL/NAME                         | ACGIH TLV                    | OSHA PEL                      | ACGIH STEL |
|---------------------------------------|------------------------------|-------------------------------|------------|
| Silver                                | 0.1 mg/m <sup>3</sup> (dust) | 0.01 mg/m <sup>3</sup> (dust) | NA         |
| Propylene Glycol Methyl Ether Acetate | NA                           | NA                            | NA         |
| Butyl Acetate                         | 150 ppm                      | 150 ppm                       | 2000 ppm   |
| Modified Polyester Resin              | NA                           | NA                            | NA         |

**Work/Hygienic Practices:** Good general ventilation should be sufficient to control airborne levels. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. If vapor concentration exceeds TLV, use NIOSH approved organic vapor cartridge respirator. Wear safety glasses with side shields and rubber or other chemically resistant gloves when handling this material.

**NFPA and HMIS Codes:**

|                     | NFPA | HMIS |
|---------------------|------|------|
| Health              | 2    | 2    |
| Flammability        | 3    | 3    |
| Reactivity          | 1    | 1    |
| Personal Protection | -    | B    |

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Silver colored paint  
Odor: Aromatic Hydrocarbon  
pH: NA  
Vapor Pressure: 6 mm @ 20 °C  
Vapor Density: >1  
 (Air = 1)

Solubility in Water: > 10%  
Specific Gravity: 1.7-2.0  
Evaporation Rate: >1  
 (Butyl acetate=1)  
Boiling Range: 259-284 °F (127 – 140C)  
Percent Volatile: 35-45%

**SECTION 10: STABILITY AND REACTIVITY INFORMATION**

Stability: This product is stable.  
Conditions to Avoid: Avoid heat, sparks, open flame, and strong oxidizing conditions  
Incompatibility: Do not mix strong oxidizing agents, strong acids, strong bases, mineral acids, organic acids, caustics and amines.  
Products of Decomposition: Decomposition may release carbon monoxide, oxides of nitrogen, monomers and smoke. Depending on conditions, some highly reactive peroxides may be formed.  
Hazardous Polymerization: Will not occur. Material is not known to polymerize.  
Conditions to avoid: NA

**SECTION 11: TOXICOLOGICAL INFORMATION**

| Ingredients   | LD50                 | LD50                      | LC50                    |
|---|----------------------|---------------------------|-------------------------|
|   | (rat) Oral           | (rbt) Dermal              | (rat) Inhalation        |
| Silver  | >10000 mg/kg (mouse) | NA                        | NA                      |
| Propylene Glycol Methyl Ether Acetate   | 8532 mg/kg           | >5000 mg/kg               | >4300 ppm               |
| Butyl Acetate   | 10768 mg/kg          | 500 mg/24H MLD            | 2000 ppm/4H             |
| Modified Polyester Resin  | NA                   | NA                        | NA                      |
| Cancer Information: No ingredients listed as human carcinogens by NTP or IARC |                      |                           |                         |
| Reproductive effects: none  |                      | Teratogenic effects: none | Mutagenic effects: none |

**SECTION 12: ECOLOGICAL INFORMATION**

**Environmental Impact Information**  
 Avoid runoff into storm sewers and ditches which lead to waterways. Water runoff can cause environmental damage.

**REPORTING**

US regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is: **1-800-424-8802**

**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of in accordance with all federal, state and local regulations. Water runoff can cause environmental damage.

**SECTION 14: TRANSPORTATION INFORMATION**

| Proper Shipping Name                          | UN Number | Class | Sub. Risk | Pkg. Group | Hazard Label     | Pkg. Instr. | Max. Quantity |
|---|-----------|-------|-----------|------------|------------------|-------------|---------------|
| Air: Flammable liquids n.o.s. (Butyl Acetate) | UN1993    | 3     | -         | III        | Flammable liquid | Y305<br>305 | 1L<br>5L      |
| Ground: Consumer Commodity ORM-D              | -         | ORM-D | -         | -          | ORM-D            | 173.150     | 5L            |

**SECTION 15: REGULATORY INFORMATION**

**SECTION 313 SUPPLIER NOTIFICATION**

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To- Know Act of 1986 (40 CFR 372).

Silver CAS# 7440-22-4 45.0-65.0%

This information should be included on all MSDSs copied and distributed for this material.

**TOXIC SUBSTANCES CONTROL ACT (TSCA).**

All ingredients of this product are listed on the TSCA Inventory.

WHMIS: Class B2: Class D2B

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**SECTION 16: OTHER INFORMATION**

Normal ventilation for standard manufacturing practices is usually adequate. Local exhaust should be used when large amounts are released.

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.