TED PELLA, INC.
Microscopy Products for Science and Industry

Material Safety Data Sheet
Product No. 16045 PELCO® Conductive Silver 187
Issue Date (02-21-09)
Review Date (04-12-12)

Section 1: Product and Company Identification

Product Name: 16045 PELCO® Conductive Silver 187
Synonym: Electrodag® 18DB70X
Company Name
Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477
Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	**%**	**OSHA PEL mg/m3**	**ACGIH TLV mg/m3**	**NTP**	**IARC**	**OSHA regulated**
Silver (7440-22-4)	30-60	0.01	0.10	No	No	No
Acetone (67-64-1)	10-30	1000 PPM	750 PPM	No	No	No
4-(Trifluoromethyl) chlorobenzene (98-56-6)	10-30	20 PPM	NE	No	No	No
Proprietary Acrylic Resin (Access # 266)	3-7	NE	NE	No	No	No
Proprietary Non-OSHA hazard/Non-WHMIS Controlled (Access #993)	1-5	NE	NE	No	No	No
Xylene (1330-20-7)	0.1-1	100 PPM/TWA	100 PPM/TWA	No	No	No
Ethyl Benzene (100-41-4)	0.1-1	100 PPM	100 PPM	No	Yes (Class 2B)	No

Section 3: Hazard Identification

Emergency overview

Appearance: Silver liquid (mixed), Separates upon standing.
Immediate effects: Eye and Skin Irritation. Harmful or Toxic if swallowed.

Potential health effects

Primary Routes of entry: Ingestion, inhalation, skin absorption.
Signs and Symptoms of Overexposure: ND
Eyes: Causes moderate eye irritation.
Skin: Prolonged or repeated exposure causes severe skin irritation
Ingestion: Harmful if swallowed.
Inhalation: Vapors and mists irritate eyes, nose and throat. Vapors and mists generated from this product may be harmful if inhaled.
Chronic Exposure: This product contains silver metal. Silver may cause discoloration of the eyes, skin and the upper respiratory tract.
Chemical Listed As Carcinogen Or Potential Carcinogen: This product contains Ethyl Benzene which has been classified by IARC as a class 2B carcinogen. There is limited evidence that Ethyl Benzene may damage the developing fetus.
See Toxicological Information (Section11)

Potential environmental effects

See Ecological Information (Section 12)

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: If this product is splashed into the eyes, flush eyes immediately with plenty of water for at least 30 minutes. Consult a poison center, emergency room or eye specialist for additional information and guidance.
Skin Contact: If excessive skin contact with this product occurs, flush immediately with plenty of water, followed by washing with soap and water. Remove clothing and wash before use or discard.
Inhalation: If excessive amounts of vapors or mists from this product are inhaled, remove to fresh air. Apply artificial respiration and other supportive measures as required. Consult a poison center, emergency room or long specialist for additional information and guidance.
Ingestion: If swallowed, do not induce vomiting. Consult a poison center, emergency room or long specialist for additional information and guidance.

Note to physician

Treatment: ND
Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: -16° C. Method: Closed cup.
Flammable Limits: Lower limits: 0.9° C. Upper limits: 13.0° C.
Auto-ignition point: NE
Fire Extinguishing Media: Small fire: Dry chemical, carbon dioxide (CO_2), water spray, regular foam. Large fire: Water spray (Do not use straight streams), fog or regular foam. Move containers from fire area if you can do it without risk.
Special Fire Fighting Procedures: Large Fires: Wear a positive pressure self-contained breathing apparatus (SCBA). Fight fire from maximum distance or use unmanned hose

holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
Unusual Fire and Explosion Hazards: Highly flammable, will be easily ignited by heat, sparks, or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas. Vapor explosion hazard indoors. Container may explode when heated.
Hazardous combustion products: Hydrogen fluoride, oxides of silver, oxides of carbon.
DOT Class: Flammable.

Section 6: Accidental Release Measures
Steps to be Taken in Case Material is Released or Spilled: Eliminate all ignition sources. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, and confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Large spill: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces.
Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage
Precautions to be Taken in Handling and Storage: Keep container closed. Loosen closure cautiously before opening. Store in a cool and well ventilated place away from incompatible materials. Keep away from heat, sparks and flame. Protect material from direct sunlight. Ground and bond containers when transferring materials.
Storage temperature: Ambient
Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection
Engineering Controls
Ventilation required: Provide sufficient mechanical ventilation to maintain exposure below TLV(s). Overexposures to vapors and mists may be prevented by ensuring ventilation controls, local exhaust and/or fresh air entry.
Personal Protection Equipment
Respiratory protection: NIOSH/MSHA Schedule TC-23C air purifying or a Schedule TC-19C air supplied respirator may also be used reduce exposures. Read the manufacture's instructions and literature carefully to determine the type(s) of airborne contaminants(s) against which the respirator is effective and how it is to be properly fitted.
Protective gloves: Solvent resistant gloves
Skin protection: Wear protective clothing, including an impermeable apron or disposable suit and gloves. This protective equipment should be constructed of material(s) which are appropriate to prevent contact with the chemicals listed in the ingredient Section 2.
Eye protection: Vapor tight chemical-type splash goggles should be worn when the possibility exists for eye contact due to splashing or spraying of liquid or the generation

of airborne particles or vapors.
Additional clothing and/or equipment: Water eye wash station or shower.
Exposure Guidelines
See Composition/Information on Ingredients (Section 2)

Section 9 Physical and Chemical Properties
Appearance and Physical State: Silver liquid (mixed), Separates upon standing.
Odor (threshold): NE
Specific Gravity (H_2O=1): 1.618 g/ml
Vapor Pressure (mm Hg): 184.0 mm Hg at 20° C.
Vapor Density (air=1): 1.
Percent Volatile by volume: NE
VOC: 60 g/l
Viscosity : 25

Evaporation Rate (butyl acetate=1): < BUAC
Boiling Point: 56° C
Freezing point / melting point: ND
pH: NA
Solubility in Water: Partially.
Molecular Weight: NA

Section 10: Stability and Reactivity
Stability: Stable
Conditions to Avoid: Heat, sources of ignition.
Materials to Avoid (Incompatibility): Strong oxidizers
Hazardous Decomposition Products: Hydrogen fluoride, oxides of silver, oxides of carbon.
Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information
Results of component toxicity test performed:
Silver (7440-22-4): LD50/LC50: NE
4-(Trifluoromethyl)chlorobenzene (98-56-6): Oral (Rat) LD50 13000 mg/Kg. Inhalation (Rat) LC50(4hr): 22000 mg/M^3.
Acetone (67-64-1): Oral (Mouse) LD50 5.8 g/Kg. Dermal (Rabbit) LD50 20 g/Kg. Inhalation (Rat) LC50(4hr): 16000 ppm.
Ethyl Benzene (100-41-4): Oral (Rat) LD50 3500 mg/Kg. Dermal (Rabbit) LD50 17800 mg/Kg. Inhalation (Rat) LC50(4hr): 16000 ppm.
Xylene (1330-20-7): Oral (Rat) LD50 4300 mg/Kg. Dermal (Rabbit) LD50 2000` mg/Kg. Inhalation (Rat) LC50(4hr): 6350 ppm
Human experience: This product contains silver metal. Silver may cause discoloration of the eyes, skin and the upper respiratory tract.
This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information
Ecological Information: NE
Chemical Fate Information: NE

Section 13 Disposal Considerations
RCRA 40 CFR 261 Classification: Care must be taken to prevent environmental contamination from the use of this material.. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and non-hazardous wastes.
Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information
US DOT Information: Proper shipping name: Paint
Hazard Class: 3
Packaging group: II
UN Number: UN1263
IATA: Proper shipping name: Paint
Hazard Class: 3
Packing group: II
UN Number: UN1263
IMO: Proper shipping name: Paint
Class: 3
UN Number: UN1263
Packing group: II
Marine Pollutant: ND
Canadian TDG: Proper shipping name: Paint

Section 15: Regulatory Information
United States Federal Regulations
MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.
SARA: ND
SARA Title III: This product contains a chemical which is listed in Section 313 at or above DE MINIMIS concentrations. The following listed chemicals are present: See EPA Consolidated List of Chemicals (EPCRA).
Silver (7440-22-4) 41.49% by weight
Xylene (mixed isomers) 0.6 % by weight
Ethylbenzene (100-41-4) 0.2% by weight
RCRA: Acetone (67-64-1) Code: U002
TSCA: This product is manufactured in compliance with all provisions of the Toxic Substance Control Act, 15 U.S.C. 2601 et seq.
CERCLA: Silver (7440-22-4) RQ: 1000 lbs (454 Kg), Acetone (67-64-1) RQ: 5000 lbs (2270 Kg), Ethylbenzene (100-41-4) RQ: 1000 lbs (454 Kg)
State Regulations

California Proposition 65: Warning: This product contains the following chemicals that are known to the state of California to cause cancer, birth defects or other reproductive harm.
Unless a concentration is specified in Section 2 of the MSDS, the below chemical/s are present in trace amounts.
Ethylbenzene (100-41-4)
Crystalline Silica (14808-60-7)
Toluene (108-88-3)
Benzene (71-43-2)
Lead (7439-92-1)

International Regulations

Canada WHMIS: ND
Europe EINECS Numbers: ND

Section 16: Other Information

Label Information: Irritant, Flammable
European Risk and Safety Phrases: ND
European symbols needed: ND
Canadian WHMIS Symbols: ND
HMIS Hazard Rating: Health: **2**; Fire: **4**; Reactivity: **0**
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Abbreviations used in this document

NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

Disclaimer

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.