

Safety Data Sheet

Product No. 16062, 16062-15 PELCO® Conductive Silver Paint

Issue Date (04-20-12)

Review Date (11-21-14)

Section 1: Product and Company Identification

Product Name: PELCO® Conductive Silver Paint

Synonym: None

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: Hazard Identification

GHS Pictograms



Signal Word
DANGER

GHS Categories

Criteria	Category	Signal Word	Symbol
Flammable Liquid	2	Danger	Flame
Specific Target Organ Toxicity Repeated Exposure	2	Danger	Exclamation
Eye Irritation	2A	Warning	Exclamation
Reproductive Toxicity	2	Warning	Exclamation
Specific Target Organ Toxicity Single Exposure	3	Warning	Exclamation
Skin Irritation	3	Warning	—
Acute Toxicity Oral ^{a)}	5	Warning	—
Acute Toxicity Inhalation ^{a)}	5	Warning	—
Environmental Hazard Acute Aqua. Tox.	3	—	—

a) Base on mixture acute toxicity estimate (ATE)

Physical Hazards

GHS Code: Hazard Statement

H225: Highly flammable liquid and vapor

Health Hazards

GHS Code: Hazard Statement

H319: Causes serious eye irritation

H361: Suspected of damaging fertility or the unborn child

H373: May cause damage to central nervous system through prolonged or repeated exposure
H335: May cause respiratory irritation
H336: May cause drowsiness and dizziness
H315: May cause skin irritation
H303+H333: May be harmful if swallowed or inhaled

European Risk and Safety Phrases: ND

European symbols needed: ND

Canadian WHMIS Symbols:



B2 – Flammable Liquid; D2A – Very Toxic Material (Carcinogen IARC: 2B; Teratogenicity/Embryo toxicity); D2B – Toxic Material (Skin/Eye Irritation)

HMIS Hazard Rating: Health: 2; Flammability: 3 Physical Hazard: 0

NFPA Hazard Rating: Health: 2; Fire: 3 Reactivity: 0

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Emergency overview

Appearance: Metallic silver

Immediate effects:

If inhaled: Dizziness, drowsiness, headaches, nausea, cough, blurred vision, fatigue.

Eye contact: Irritation, redness, pain, blurred vision.

Skin contact: Irritation, pain, redness.

If swallowed: Nausea, vomiting, abdominal cramps, irritation, burning sensation, or dizziness.

Potential health effects

Primary Routes of entry: Eyes, ingestion, inhalation, and skin.

Signs and Symptoms of Overexposure:

Eyes: Causes severe eye irritation if splashed in eyes or exposed to vapors. May also cause eye redness or pain. The coating contains mechanically abrasive particles.

Skin: May cause mild to moderate skin irritation.

Ingestion: Not a likely route of exposure. Harmful if swallowed. It is a central nervous system depressant. It may cause irritation and burning sensation

Inhalation: Solvents may cause respiratory tract irritation, headache, and possible dizziness.

Chronic Exposure: Prolonged and repeated exposure to the solvents used may cause dermatitis, defatting of the skin, adverse central nervous systems effects. Extreme doses can cause bladder, liver, and kidney damage. Long term accumulation of silver can lead to Argyria, which is an irreversible blue-grey discoloration of the skin.

Ingestion of paint material or inhalation of its mist or vapors during pregnancy may increase the chances of fetal death and of developmental defects..

Chemical Listed As Carcinogen Or Potential Carcinogen: None

See Toxicological Information (Section 11)

Potential environmental effects

See Ecological Information (Section 12)

Section 3: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m3	ACGIH TWA mg/m3	NTP	IARC	OSHA regulated
Silver (7440-22-4)	40-70	0.01	0.1	No	No	No
Toluene (108-88-3)	7-13	200ppm	20ppm	No	Group 3	No
2-Propanone (67-64-1)	5-10	1000ppm	500ppm	No	No	No
Isobutyl acetate (110-19-0)	1-5	NE	NE	No	No	No
2-heptanone (110-43-0)	1-5	NE	NE	No	No	No
Ethanol (64-17-5)	1-5	1000ppm	1000ppm	No	No	No
Ethyl acetate (141-78-6)	1-5	NE	400ppm	No	No	No
Talc (14807-96-6)	0.5-1.5	20mppcf	2	No	No	No
1-Methoxy-2-propanol acetate (108-65-6)	0.1-1	NE	NE	No	No	No

mppcf: Millions of particles per cubic foot of air for talc not containing asbestos

Section 4: First Aid Measures**If accidental overexposure is suspected**

Exposure Condition: **GHS Code: Precautionary Statement**

Eye(s) Contact: If in the eyes: P305: Symptoms: Immediate: irritation, redness, pain, blurred vision.

Response: P351: Rinse cautiously with water for several minutes.

P338: Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: P313: Get medical attention.

Skin Contact: If on skin: P302: Symptoms: Immediate: irritation, pain, redness; Delayed: dry skin, rash.

Response: P362+ P364: Take off contaminated clothing and wash it before reuse.

P352: Wash with plenty of water.

If skin irritation or rash persists: P313: Get medical attention.

Inhalation: P304: If inhaled: Symptoms: Immediate: dizziness, drowsiness, headaches, nausea, cough, blurred vision, fatigue.

Response: P340: Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing.

If feeling unwell: P312: Call a POISON CENTER/doctor.

If exposed or concerned: P313: Get medical advice.

Ingestion: If Swallowed, P301 (Not a likely route of exposure under normal use) Symptoms: Immediate: nausea, vomiting, abdominal cramps, irritation, burning sensation, or dizziness.

Response: P312: Call a POISON CENTRE/doctor if you feel unwell. P330: Rinse mouth. P331: Do NOT induce vomiting.

If exposed or concerned: P313: Get medical advice.

Note: GHS codes and corresponding precaution statements are used when available.

Note to physician

Treatment: ND

Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: -18°C (-0.4 °F). Lower bound FP estimate is based on the closed cup value for the acetone component.

Flammable Limits: LFL 1% UFL 11% (in volume %)

Auto-ignition point: ≥315°C (599 °F). Values based on 1-methoxy-2-propanol acetate, which is the component with the lowest auto-ignition value

In case of fire: P370

Fire Extinguishing Media: Response: P378: Use dry chemical, carbon dioxide, or chemical foam to extinguish

Special Fire Fighting Procedures: Wear self-contained breathing apparatus for fire fighting

Unusual Fire and Explosion Hazards: Will burn if involved in a fire. Vapors are heavier than air, and may travel to sources of ignition near the ground.

Hazardous combustion products: Produces CO, CO₂, nitrous oxides and smoke.

DOT Class: Flammable

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Remove all sources of ignition.

Provide adequate ventilation. Wear appropriate personal protection.

Cleaning: Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe up further residue with paper towel and place in container. Wash spill area with soap and water to remove the last traces of residue.

Recommendation: A metal container is suggested. Dispose of spill waste according to Section 13

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.

Prevention: P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P261 + P271 + P284: Avoid breathing fume/mist/vapors. Use only outdoors or in well-ventilated area. In cases of inadequate ventilation, wear respiratory protection.

P270: Do not eat, drink, or smoke when using this product.

Handling: P280: Wear protective gloves/clothing/eye protection.

P242 + P243: Use non-sparking tools. Take precautionary measures against static discharge.
P264: Wash hands thoroughly after handling.

Storage temperature: P403 + P233+ P235: Keep Container tightly closed. Store in a well-ventilated area. Keep cool. Recommendation: Keep in a dry and clean area, away from incompatible substances.

Storage Pressure: NA

Note: The GHS codes and the GHS precaution statements are used when available.

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Keep airborne concentrations below exposure limits given in Section 3.

Recommendation: Respect the time weighted average of 20 ppm for toluene.

Personal Protection Equipment

Respiratory protection: If exposed to mist, wear respirator such as a half-mask respirator.

Recommendation: Consult your local safety supply store to ensure your respirator has filter cartridges appropriate for the ingredients listed in section 3 of this MSDS, and that the respirator is fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used..

Protective gloves: Wear protective gloves.

Skin protection: Wear appropriate protective clothing to prevent skin contact.

Recommendation: Use of protective gloves in butyl rubber, latex, neoprene, or other chemically resistant gloves..

Eye protection: Wear appropriate protective eyeglasses or chemical safety goggles.

Recommendation: Use safety glasses with lateral protection (side shields).

Wash hands thoroughly with water and soap after handling.

Additional clothing and/or equipment: ND

Exposure Guidelines

See Composition/Information on Ingredients (Section 3)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Metallic silver, liquid.

Odor (threshold): Benzene like, sweetish (2 ppm)

Specific Gravity (H₂O=1): 2.15

Vapor Pressure: ≥ 10 kP @20°C (≥ 1.5 lb/in²)

Vapor Density (air=1): >2

Percent Volatile by volume: ND

VOC (Volatile Organic Content): 27% (466 g/L)

Evaporation Rate (butyl acetate=1): Fast

Boiling Point: ≥ 56 °C

Freezing point / melting point: NE

Partition Coefficient: NE

Viscosity: ≥ 34 mm²/s

pH: 7

Solubility in Water: Partial

Molecular Weight: NA

Section 10: Stability and Reactivity

Stability: Chemically stable at normal temperatures and pressures.

Conditions to Avoid: Ignition sources and incompatible substances.

Materials to Avoid (Incompatibility): Strong oxidizing agents, strong acids, strong bases,.

Hazardous Decomposition Products: Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed:

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation	TCLo inhalation a)
Silver	>5g/Kg Guinea Pig	NE	NE	NE
toluene	636 mg/kg Rat	12,124 mg/kg Rabbit	49 g/m3 4h Rat	200 ppm Human
2-propanone	5,800 mg/kg Rat 5,340 mg/kg Rabbit	>9 400 □L/kg Guinea pig	44 g/m3 4 h Rat 50.1 g/m3 8 h Rat	10 mg/m3 6 h Human 30 g/m3 2 h Rat
isobutyl acetate	13,400 mg/kg Rat	>17 400 mg/kg Rabbit	NE	8 000 ppm 4h Rat LCLo b)
2-heptanone	1,670 mg/kg Rat 730 mg/kg Mouse	12,600 □L/kg Rabbit	NE	7,000 mg/m3 4 h Guinea pig
ethanol	7,060 mg/kg Rat 3,450 mg/kg Mouse	NE	20,000 ppm 10 h Rat 39 g/m3 4 h Mouse	2,500 mg/m3 20 min Human 50,000 mg/m3 2 h Mouse
Talc	NE	NE	NE	17 mg/m3 6 h 26 d Rat
Ethyl Acetate	5,620 mg/kg Rat 4,100 mg/kg Mouse	>20,000 □L/kg Rabbit	45 g/m3 2 h Mouse	1,105 mg/m3 4 h Rat
1-methoxy-2-propanol acetate	8,532 mg/kg Rat >5,000 mg/kg Mouse	>5 g/kg Rabbit	NE	400 ppm Human

Note: Representative toxicity data from by RTECS database of the Canadian Centre for Occupational Health and Safety (CCOHS) data from supplier MSDS were also consulted.

a) Lowest published lethal concentration

b) Lethal concentration low

Section 12: Ecological Information

Ecological Information: Category 2, GHS Code: Hazard Statement:

H402: Harmful to aquatic life.

P273: Avoid release to the environment.

Chronic Ecotoxicity: NIF

Biodegradability: The metal content is not biodegradable.

Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: ND

Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal. GHS code: P501.

Section 14: Transportation Information

Classified as Consumer Commodity. Ground USA: - 4L size and smaller

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
Marine Pollutant: None listed
Canadian TDG: Ground Canada: 4L size and smaller: Classified as Consumer Commodity.

Section 15: Regulatory Information

United States Federal Regulations

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product contains toluene (CAS# 108-88-3), which is listed as hazardous air pollutants.

SARA Title III: EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45

This product contains toluene (CAS# 108-88-3) and silver (CAS# 7440-22-4), which are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

TSCA: (Toxic Substances Control Act of 1976, USA), All substances are TSCA listed.

CERCLA: ND

State Regulations

California Proposition 65: Warning! This product is or contains chemical(s) known to the state of California to cause reproductive harm. This product contains toluene, which is listed as reproductively toxic.

International Regulations

Canada WHMIS: Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL/NDSL.

Europe EINECS Numbers: ND

Europe

RoHS: This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

Label Information: Flammable

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.

MSDS Form 0013F1 V2