



## Safety Data Sheet

**Product No. 16031, 16034 Pelco® Colloidal Silver**

**Issue Date (12-18-14)**

**Review Date (05-29-15)**

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### Section 1: Product and Company Identification

**Product Name:** Pelco® Colloidal Silver

Synonym: Pelco® Conductive Liquid Silver, Pelco® Colloidal Silver Paint

**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.**

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### Section 2: Hazard Identification

**GHS Pictograms:**



Explosive



Flammable



Irritant



Health hazard

**GHS Categories:**

GHS01: Explosive

GHS02: Flammable

GHS07: Irritant

GHS08: Health Hazard

Unst. Expl. H200 Unstable explosives.

Flam. Liq. 2 H225 Highly flammable liquid and vapor.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

### Signal Word: DANGER

#### **Hazard Statements:**

H200 Unstable explosives.

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

#### **Precautionary Statements:**

P303+P361+P353	If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P373	DO NOT fight fire when fire reaches explosives.
P401	Store in accordance with local/regional/national/international regulations.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

#### **Health Effects:**

NFPA Hazard Rating: Health: 2; Fire: 3; Reactivity: 4

HMIS® Hazard Rating: Health: 2; Fire: 3; Reactivity: 4  
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Results of PBT and vPvB assessment: A chemical safety assessment has not been carried out.

PBT: ND

vPvB: ND

#### **Emergency overview:**

Appearance: Grey liquid/paste.

Immediate effects: Caution! Flammable/Explosive material. Causes serious eye/skin irritation.

#### **Potential health effects**

Primary Routes of entry: Skin and eye contact.

Signs and Symptoms of Overexposure:

Eyes: Causes serious eye irritation.

Skin: Causes skin irritation.

Ingestion: ND

Inhalation: ND

Chronic Exposure: May cause damage to organs through prolonged or repeated exposure.

Chemical Listed As Carcinogen or Potential Carcinogen: No

See Toxicological Information (Section 11)

#### **Potential environmental effects**

See Ecological Information (Section 12)

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### Section 3: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m <sup>3</sup>	ACGIH TLV mg/m <sup>3</sup>	NTP Carcinogen	IARC Carcinogen	OSHA regulated Carcinogen
Silver Powder (7440-22-4)	50-75			No	No	No
toluene (108-88-3)	10-25	200 ppm Ceiling: 300 ppm	75 mg/m <sup>3</sup> 20 ppm	No	3	No
ethyl acetate (141-78-6)	5-10	1400 mg/m <sup>3</sup> 400 ppm**	1440 mg/m <sup>3</sup> 400 ppm**	No	No	No
ethanol denatured (64-17-5)	5-10	1900 mg/m <sup>3</sup> 1000 ppm**	1880 mg/m <sup>3</sup> 1000 ppm*	No	1	No
cellulose, nitrate (9004-70-0)	5-10	NE	NE	No	No	No
propan-2-ol (67-63-0)	≤ 2.5	980 mg/m <sup>3</sup> 400 ppm**	984 mg/m <sup>3</sup> 400 ppm*  492 mg/m <sup>3</sup> 200 ppm**	No	3	No
bornan-2-one (76-22-2)	≤ 2.5	2 mg/m <sup>3</sup> **	19 mg/m <sup>3</sup> 3 ppm*  12 mg/m <sup>3</sup> 2 ppm**	No	No	No

\*Short Term value

\*\*Long Term value

### Section 4: First Aid Measures

#### If accidental overexposure is suspected

Eye(s) Contact: Rinse opened eye for several minutes under running water.

Skin Contact: Immediately wash with water and soap and rinse thoroughly.

Inhalation: Supply fresh air and call for a doctor. In case of unconsciousness place patient stably in side position for transportation.

Ingestion: If symptoms persist, consult a doctor.

#### Note to physician

Treatment: ND

Medical Conditions generally Aggravated by Exposure: ND

### Section 5: Fire Fighting Measures

Flash Point: -1° C (30° F)

Flammable Limits: Lower: 1.2 Vol % Upper: 7.0 Vol %

Auto-ignition point: Product is not self-igniting.

Fire Extinguishing Media: CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray of alcohol resistant foam.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective gear.

Unusual Fire and Explosion Hazards: ND

Hazardous combustion products: Carbon dioxide/carbon monoxide.

DOT Class: Flammable liquid.

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## **Section 6: Accidental Release Measures**

Steps to be Taken in Case Material is Released or Spilled: Remove persons from danger area. Ensure adequate ventilation. Use respiratory protective device against the effects of fumes/dust/aerosol. Wear protective clothing.

Environmental precautions: Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/surface or ground water.

Methods and materials for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust.) Dispose contaminated material as waste according to section 13. Ensure adequate ventilation.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

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## **Section 7: Handling and Storage**

Precautions to be taken in Handling and Storage: Ensure adequate ventilation/exhaustion at the workplace. Open and handle receptacle with care. Prevent formation of aerosols.

Keep ignition sources away – Do not smoke. Prevent impact and friction. Protect from heat and direct sunlight. Prevent from drying out. Store only in the original receptacle.

Store away from foodstuffs.

Storage temperature: Ambient or lower.

Storage Pressure: ND

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## **Section 8: Exposure Controls / Personal Protection**

### **Ingredients with biological limit values:**

#### **108-88-3 toluene**

**BEI** 0.02 mg/L

Medium: blood

Time: prior to last shift of workweek

Parameter: toluene

0.03 mg/L

Medium: urine

Time: end of shift

Parameter: toluene

0.3 mg/g creatinine

Medium: urine

Time: end of shift

Parameter: o-Cresol with hydrolysis (background)

#### **67-63-0 propan-2-ol**

**BEI** 40 mg/L

Medium: urine  
Time: end of shift at end of workweek  
Parameter: Acetone (background, nonspecific)

## **Engineering Controls**

Ventilation required: Ensure adequate ventilation.

General protective and hygienic measures: Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the skin. Avoid contact with the eyes and skin.

## **Personal Protection Equipment**

Respiratory protection: Use suitable respiratory protective device in case of insufficient ventilation. Filter A2B2P3.

Protective gloves: Only use chemical protective gloves with CE-labeling of category III. Check protective gloves prior to each use for their proper condition. After use of gloves apply skin-cleaning agents and skin cosmetics.

Skin protection: Appropriate protective clothing.

Eye protection: Tightly sealed goggles.

Additional clothing and/or equipment: Eye wash facility available.

## **Exposure Guidelines**

See Composition/Information on Ingredients (Section 3)

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## **Section 9 Physical and Chemical Properties**

Appearance and Physical State: Grey liquid/paste.

Odor (threshold): Aromatic

Specific Gravity (H<sub>2</sub>O=1): ND

Vapor Pressure (mm Hg): 29 hPa (22 mm Hg)

Vapor Density (air=1): ND

Percent Volatile by volume: ND

Evaporation Rate (butyl acetate=1): ND

Boiling Point: 75 °C (167 °F)

Freezing point / melting point: ND

pH: ND

Solubility in Water: Not miscible or difficult to mix.

Molecular Weight: ND

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## **Section 10: Stability and Reactivity**

Stability: Stable under recommended storage conditions.

Conditions to Avoid: Incompatible materials.

Materials to Avoid (Incompatibility): Strong oxidizers, acids, and alkalis.

Hazardous Decomposition Products: Carbon dioxide/carbon monoxide.

Hazardous Polymerization: Will not occur.

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## **Section 11: Toxicological Information**

LD/LC50 values that are relevant for classification:

<b>108-88-3 toluene</b>		
Dermal	LD50	12124 mg/kg (rbt)
Inhalative	LC50/4 h	28.1 mg/l (rat)
<b>141-78-6 ethyl acetate</b>		
Oral	LD50	11300 mg/kg (rat) 5620 mg/kg (rbt)
Dermal	LD50	> 18000 mg/kg (rabbit)
Inhalative	LC50/1 h	200 mg/l (rat)
	LC50/4 h	1600 mg/l (rat)
<b>64-17-5 ethanol denatured</b>		
Oral	LD50	5560 mg/kg (guinea pig) 3450 mg/kg (mouse) 6300 mg/kg (rabbit) 7060 mg/kg (rat)
Inhalative	LC50/ 4 h	20000 mg/l (rat)
<b>9004-70-0 Cellulose, nitrate</b>		
Oral	LD50	> 2000 mg/kg (rat)
<b>67-63-0 propan-2-ol</b>		
Oral	LD50	5045 mg/kg (rat)
Dermal	LD50	12800 mg/kg (rbt)
Inhalative	LC50/4 h	30 mg/l (rat)

Primary irritant effect:

On the skin: Irritant to skin and mucous membranes.

On the eye: Irritating effect.

Sensitization: No sensitizing effects known.

Human experience: ND

This product **does** contain compounds listed by NTP or IARC or regulated by OSHA as a carcinogen: toluene (108-88-3): IARC 3, ethanol denatured (64-17-5): IARC 1, propan-2-ol, (67-63-0): IARC 3

## Section 12: Ecological Information

Ecological Information:

**Aquatic toxicity:**

<b>7440-22-4 Silver powder</b>		
LC50/96 h		0.0102 mg/l (fish) (anguilla anguilla)(valid for particle size <1mm)
<b>108-88-3 toluene</b>		
EC50/30 min		20 mg/l (bak)
EC50/48 h		6 mg/l (daphnia)
IC50/72 h		12 mg/l (algae)
LC50/96 h		5.8 mg/l (fish)

**141-78-6 ethyl acetate**

EC10/18 h	2900 mg/l (bak)
EC50/48 h	717 mg/l (daphnia)
IC50/48 h	3300 mg/l (algae)
LC50/48 h	333 mg/l (fish)
LC50/96 h	230 mg/l (fish)

**64-17-5 ethanol denatured**

LC50/24 h	> 100 mg/l (daphnia)
LC50/48 h	8140 mg/l (fish)

**9004-70-0 Cellulose, nitrate**

EC50	> 50000 mg/l (bak)
EC50/48 h	10000 mg/l (daphnia)
EC50/72 h	9000 mg/l (algae)
LC0/96 h	> 5000 mg/l (fish)
LC50/96 h	> 7500 mg/l (fish)

**67-63-0 propan-2-ol**

EC50/72 h	1000 mg/l (algae)
LC50/96 h	9640 mg/l (fish)

Remark: Very toxic for fish.

Water hazard class 2: Hazardous for water, do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Very toxic for aquatic organisms.

Chemical Fate Information: ND

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**Section 13 Disposal Considerations**

RCRA 40 CFR 261 Classification: Ethyl Acetate (141-78-6): U112; Toluene (108-88-3): U220. Can be recycled to recover precious metal. Federal, State and local laws governing disposal of materials can differ. Must not be disposed of together with household garbage. Do not allow product to enter sewage system. Ensure proper disposal compliance with proper authorities before disposal.

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**Section 14: Transportation Information**

US DOT Information: Proper shipping name: Flammable liquids, n.o.s. (Toluene, Ethyl acetate)

Hazard Class: 3

Packaging group: II

UN Number: UN1993

IATA: Proper shipping name: Flammable liquids, n.o.s. (Toluene, Ethyl acetate)

Hazard Class: 3

Packing group: II

UN Number: UN1993

EMS: F-E, S-E

Marine Pollutant: Yes

Canadian TDG: Flammable liquids, n.o.s. (Toluene, Ethyl acetate)  
IMDG: Flammable liquid, n.o.s. (toluene, ethyl acetate), marine pollutant

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## **Section 15: Regulatory Information**

### **United States Federal Regulations**

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

SARA Section 355: Substance not listed.

SARA Section 313: Silver powder (7440-22-4) is listed. Toluene (108-88-3) is listed. Propan-2-ol (67-63-0) is listed.

RCRA: Ethyl Acetate (141-78-6): U112; Toluene (108-88-3): U220

TSCA: All components are listed on the TSCA public inventory.

CERCLA: Silver: RQ = 1000 lbs. Ethyl Acetate (141-78-6): RQ = 5000 lbs (2270 kg); Toluene (108-88-3): RQ = 1000 lbs (454 kg).

### **State Regulations**

California Proposition 65:

toluene (108-88-3): Chemicals known to cause reproductive toxicity for females.

toluene (108-88-3), ethanol (64-17-5): Chemicals known to cause developmental toxicity.

### **International Regulations**

Canada WHMIS: ND

Europe EINECS Numbers: Toluene (108-88-3): EINECS#: 203-625-9; Ethanol (64-17-5): EINECS#: 200-578-6; Ethyl acetate (141-78-6): EINECS#: 205-500-4.

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## **Section 16: Other Information**

Label Information: Flammable

European Risk and Safety Phrases: ND

European symbols needed: ND

Canadian WHMIS Symbols: ND

### **Abbreviations used in this document**

NE= Not established

NA= Not applicable

NIF= No Information Found

ND= No Data

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### **Disclaimer**

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