

### Safety Data Sheet

**Product No. 16050 PELCO® Conductive Carbon Glue**

**Issue Date (08-20-15)**

**Review Date (09-25-15)**

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#### Section 1: Product and Company Identification

**Product Name: PELCO® Conductive Carbon Glue**

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.**

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#### Section 2: Hazard Identification

##### 2.1 Classification of the substance or mixture

##### GHS Pictograms



##### GHS Categories

GHS02 – Flammable

Flamm. Liq. 2

H225: Highly flammable liquid and vapor

GHS08 – Health Hazard

Carcinogen 2

H351: Suspected of causing cancer

STOT – SE (Narcotic effects) 3

H336: May cause drowsiness or dizziness

Aspiration Hazard 1

H304: May be fatal if swallowed and enters airways

Reproductive Tox. 2

H361: Suspected of damaging fertility or the unborn child

GHS07 – Irritant

STOT – RE 2

H373: May cause damage to organs through repeated or prolonged exposure

Eye Irrit. 2A

H319: Cause serious eye irritation

Skin Corr./Irrit. 2

H315: Causes serious skin irritation

## 2.2 Label elements

### Hazard Pictograms



**Signal word:** DANGER

### Hazard statements:

- H225 Highly flammable liquid and vapor.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H361 Suspected of damaging fertility or the unborn child.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H402 Harmful to aquatic life.

### Precautionary statements:

- |                    |   |
|--------------------|---|
| P201               | Obtain special instructions before use.   |
| P210               | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  |
| P233               | Keep container tightly closed.  |
| P240               | Ground/bond container and receiving equipment.  |
| P241               | Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.   |
| P242               | Use only non-sparking tools.  |
| P243               | Take precautionary measures against static discharge.   |
| P260               | Do not breathe dust/fume/gas/mist/vapors/spray.   |
| P271               | Use only outdoors or in a well-ventilated area.   |
| P273               | Avoid release to the environment.   |
| P280               | Wear protective gloves/protective clothing/eye protection/face protection.  |
| P281               | Use personal protective equipment as required.  |
| P301+P310          | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.  |
| P303+P361+P353+352 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water and soap. Rinse skin with water/shower. |
| P304+P340          | IF INHALED: Remove person to fresh air and keep 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.
P308+P310	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P331	Do NOT induce vomiting.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam for extinction.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

## 2.3 Other Hazards

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: Dark grey liquid

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: ND

Eyes: Liquid in contact with eyes may cause permanent eye damage.

Skin: May cause skin irritation and possible pain and stinging if the skin is abraded.

Ingestion: Harmful if swallowed. May cause respiratory and digestive tract irritation.

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

Chronic Exposure: Prolonged and repeated exposure may cause dermatitis, defatting of the skin, liver and kidney damage, and adverse central nervous system effects.

Chemical Listed As Carcinogen Or Potential Carcinogen: Carbon black

See Toxicological Information (Section 11)

## Potential environmental effects

See Ecological Information (Section 12)

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**Section 3: Composition / Information on Ingredients**

<b>Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)</b>	<b>%</b>	<b>OSHA PEL</b>	<b>ACGIH TWA</b>	<b>NTP</b>	<b>IARC</b>	<b>OSHA regulated</b>
Toluene (108-88-3)	10-30	200ppm	20ppm	No	Group 3	No
Graphite, natural (7782-42-5)	10-30	15 mppcf	2 mg/m <sup>3</sup>	No	No	No
Acetone (67-64-1)	5-10	2400 mg/m <sup>3</sup> 1000ppm	500ppm	No	No	No
Isobutyl acetate (110-19-0)	5-10	700 mg/m <sup>3</sup> 150 ppm	150 ppm	No	No	No
Amyl methyl ketone (110-43-0)	5-10	465 mg/m <sup>3</sup> 100 ppm	50 ppm	No	No	No
Ethanol (64-17-5)	5-10	1900 mg/m <sup>3</sup> 1000ppm	NA	No	No	No
Ethyl acetate (141-78-6)	1-5	1400 mg/m <sup>3</sup> 400 ppm	400ppm	No	No	No
Propylene glycol monomethyl ether acetate, alpha-isomer (108-65-6)	1-5	NE	NE	No	No	No
Carbon Black (1333-86-4)	0.5-1.5	3.5 mg/m <sup>3</sup>	30mg/m <sup>3</sup>	No	2B	No

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

**Eye(s) Contact:** Wash out immediately with water. If irritation develops, seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

**Skin Contact:** Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

**Inhalation:** If fumes, aerosols, or combustion products are inhaled remove from contaminated area.

**Ingestion:** If spontaneous vomiting appears imminent or occurs, lean patient forward or place on left side and hold patient's head down, lower than their hips to avoid aspiration of vomitus. Do not induce vomiting. Observe patient

carefully. Rinse mouth with water; slowly provide as much water as possible to drink. Avoid giving alcohol, milk or oils. Never give liquids to an unconscious person.

#### **Note to physician**

Treatment: Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

Treat symptomatically.

Medical Conditions generally Aggravated by Exposure: ND

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### **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 1.6% UFL 9.9% (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

**Fire Extinguishing Media:** Sand, dry powder extinguishers or other inerts should be used to smother dust fires. At temperatures above 1500°C, carbon, graphite or graphene reacts with substances containing oxygen, including water and carbon dioxide. In case of intensely hot fires sand should be used to cover and isolate these materials.

**Special Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective gloves for firefighting.

**Unusual Fire and Explosion Hazards:** Liquid and vapor are highly flammable. Severe fire hazard when exposed to heat, flame or other oxidizers. Vapors are heavier than air, and may travel to sources of ignition near the ground. May be violently or explosively reactive.

**Hazardous combustion products:** Produces CO, CO<sub>2</sub>, hydrogen fluoride, silicon dioxide (SiO<sub>2</sub>) nitrous oxides, and smoke.

**DOT Class:** Flammable

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### **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. Dispose of spill waste according to Section 13

**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:

**Storage** Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately. Check for bulging containers and vent periodically. Avoid

<b>Handling</b>	<p>smoking, naked lights, heat or ignition sources. DO NOT use plastic buckets. Keep containers securely sealed.</p> <p>Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Wear protective gloves/clothing/eye protection. When handling, DO NOT eat, drink or smoke. Always wash hands with soap and water after handling. Earth and secure metal containers when dispensing or pouring product. Use spark-free tools when handling. Take precautionary measures against static discharge. Use in a well-ventilated area. In cases of inadequate ventilation wear respiratory protection.</p>
<b>Other information</b>	<p>Carbon and charcoal may be stabilized for storage and transport, without moistening, by treatment with hot air at 50°C. Use of oxygen-impermeable bags to limit oxygen and moisture uptake has been proposed. Surface contamination with oxygenated volatiles may generate a heat of reaction (spontaneous heating). Should product reach 110°C, stacked bags should be pulled apart with each bag separated by an air space to permit cooling away from other combustible materials.</p>
<b>Storage temperature</b>	Keep cool.
<b>Storage Pressure</b>	NA

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## 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:	<p>If exposed to mist, wear respirator such as a half-mask respirator. Consult your local safety supply store to ensure your respirator has filter cartridges appropriate for the ingredients listed in section 3 of this SDS, 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.</p>
Protective gloves:	<p>Wear protective gloves in butyl rubber, latex, neoprene, or other chemically resistant gloves.</p>
Skin protection:	<p>Wear appropriate protective clothing to prevent skin contact.</p>
Eye protection:	<p>Wear chemical safety goggles with side shields.</p>
General hygiene:	<p>Wash hands thoroughly with water and soap after handling.</p>
Additional clothing and/or equipment: Eye wash station.	

### Exposure Guidelines

See Composition/Information on Ingredients (Section3)

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## Section 9 Physical and Chemical Properties

Appearance and Physical State: Steel grey liquid.

Odor (threshold): ND (ND)

Specific Gravity (H<sub>2</sub>O=1): 0.996

Vapor Pressure (mm Hg): ND

Vapor Density (air=1): ND

Percent Volatile by volume: ND  
VOC (Volatile Organic Content): ND

Evaporation Rate (butyl acetate=1): ND  
Boiling Point: >56 °C  
Freezing point / melting point: ND  
Viscosity: >34 mm<sup>2</sup>/s  
pH: ND  
Solubility in Water: Partial  
Molecular Weight: NA

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### Section 10: Stability and Reactivity

Stability: Stable at normal temperatures and pressures, except in the presence of incompatible materials.

Conditions to Avoid: Ignition sources and incompatible substances

Materials to Avoid (Incompatibility): Strong oxidizing agents, strong acids, strong bases, ammonium nitrate, perchlorates, phosphorus, selenium, and sulfur.

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

Hazardous Polymerization: Will not occur.

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### Section 11: Toxicological Information

Results of component toxicity test performed:

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation	TCLo inhalation
toluene	636 mg/kg Rat	12,124 mg/kg Rabbit	49 g/m <sup>3</sup> 4h Rat	200 ppm Human
graphite	NE	NE	NE	NE
2-propanone	5,800 mg/kg Rat 5,340 mg/kg Rabbit	>9 400 □L/kg Guinea pig	44 g/m <sup>3</sup> 4 h Rat 50.1 g/m <sup>3</sup> 8 h Rat	10 mg/m <sup>3</sup> 6 h Human 30 g/m <sup>3</sup> 2 h Rat
isobutyl acetate	13,400 mg/kg Rat	>17 400 mg/kg Rabbit	NE	8 000 ppm 4h Rat LCLo a)
Amyl methyl ketone	1,670 mg/kg Rat 730 mg/kg Mouse	12,600 □L/kg Rabbit	NE	7,000 mg/m <sup>3</sup> 4 h Guinea pig
ethanol	7,060 mg/kg Rat 3,450 mg/kg Mouse	NE	20,000 ppm 10 h Rat 39 g/m <sup>3</sup> 4 h Mouse	2,500 mg/m <sup>3</sup> 20 min Human 50,000 mg/m <sup>3</sup> 2 h Mouse
Ethyl Acetate	5,620 mg/kg Rat 4,100 mg/kg Mouse	>20,000 □L/kg Rabbit	45 g/m <sup>3</sup> 2 h Mouse	1,105 mg/m <sup>3</sup> 4 h Rat
Propylene glycol monomethyl ether acetate, alpha-isomer	8,532 mg/kg Rat >5,000 mg/kg Mouse	>5 g/kg Rabbit	NE	400 ppm Human
carbon black	>15g/kg Rat	>3g/kg Rabbit	NE	1.6mg/m <sup>3</sup> 7h Rat

a) Lowest published lethal concentration

### Human experience

Skin corrosion/irritation: Skin irritant. Prolonged or repeated skin contact may cause dermatitis.  
Serious eye damage/irritation: Causes serious to moderate eye irritation. Contains mechanically abrasive particles.

Sensitization (allergic reactions): None listed

Carcinogenicity (risk of cancer): Carbon Black (1333-86-4).

IARC Group 2B: Possibly carcinogenic to humans

ACGIH A4: Not classified as human carcinogen

CA Prop 65: Listed as a carcinogen

NTP: Not listed

Mutagenicity (risk of heritable genetic effects): Not known

Reproductive Toxicity (risk to sex functions): Toluene, ethanol, and acetone present reproductive and developmental hazards at high doses (>13 000 µg/day)

Teratogenicity (risk of fetus malformation): Harmful to unborn fetus in large doses

STOT-single exposure: Inhalation of toluene may affect the central nervous system

STOT-repeated exposure: Toluene may cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Viscosity at 40 °C is >20.5 mm<sup>2</sup>/s, thus not classified as aspiration hazard.

This product **does** contain compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

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## Section 12: Ecological Information

Acute Ecotoxicity: Harmful to aquatic life. Avoid release to the environment.

Chronic Ecotoxicity: Unknown

Biodegradability: Microbially and photodegradable.

Chemical Fate Information: ND

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## 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.

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## 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: No

Canadian TDG: Ground Canada: 4L size and smaller: Classified as Consumer Commodity.

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## Section 15: Regulatory Information

### United States Federal Regulations

SDS 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: (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)



This product contains Toluene (CAS# 108-88-3, 13%) toxic chemicals subject to the reporting requirements of section 313 of Title III of the superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

RCRA: ND

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45

This product contains toluene (CAS# 108-88-3) 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.

### **State Regulations**

California Proposition 65: Warning! This product contains chemical(s) known to the state of California to cause cancer or reproductive harm.

### **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.

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### **Section 16: Other Information**

Ingredients with multiple CAS No.: Propylene glycol monomethyl ether acetate, alpha-isomer: 108-65-6, 142300-82-1, 84540-57-8

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

NE= Not established

NA= Not applicable

NIF= No Information Found

ND= No Data

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### **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.