TED PELLA, INC.
Microscopy Products for Science and Industry

# Safety Data Sheet

**Product No. 16055 PELCO® Conductive Nickel Paint**
**Issue Date (04-17-12)**
**Review Date (11-21-14)**

## Section 1: Product and Company Identification

**Product Name: PELCO® Conductive Nickel 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 | 1,2 | Danger | Exclamation |
| Eye Irritation | | 2 | Warning | Exclamation |
| Sensitization | Skin sensitizer | 1 | Warning | Exclamation |
| Carcinogenicity | | 2 | Warning | Health |
| Reproductive Toxicity | | 2 | Warning | Health |
| Specific Target Organ Toxicity | Single Exposure | 3 | Warning | Health |
| Skin Irritation | | 3 | Warning | — |
| Acute Toxicity | Oral [a)] | 5 | Warning | — |
| Acute Toxicity | Inhalation [a)] | 5 | Warning | — |
| Environmental Hazard | Acute Aqua. Tox. | 3 | — | — |
| Environmental Hazard | Chronic 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

H372: Can damage lungs through prolonged or repeated exposure
H373: May cause damage to central nervous system through prolonged or repeated exposure
H317: May cause allergic skin reaction.
H351: Suspected of causing cancer
H361: Suspected of damaging fertility or the unborn child
H336: May cause drowsiness and dizziness
H315: May cause skin irritation
H335: May cause respiratory 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; Skin sensitization in humans)
Note: Carcinogenic effects were observed in animal studies for intubation or injection routes of entries, but not for normal inhalation route [Oller 2008].

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: Steel grey
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: 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: Nickel
See Toxicological Information (Section11)
**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 |
|---|---|---|---|---|---|---|
| Nickel (7440-02-0) | 30-60 | 1.0 | 1.5 | Yes | 2B | Yes |
| 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 |
| Talc (14807-96-6) | 1-5 | 20mppcf | 2 | No | No | No |
| Ethyl acetate (141-78-6) | 1-5 | NE | 400ppm | No | No | No |
| 1-Methoxy-2-propanol acetate (108-65-6) | 0.5-1.5 | NE | NE | No | No | No |

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

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**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 CENTRE/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 to physician**
Treatment: ND
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% 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, nickel oxides, and smoke. May produce a very toxic nickel carbonyl gas in presence of CO.
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.
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.

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**Section 7: Handling and Storage**
Precautions to be taken in Handling and Storage.
**Prevention:** P202: Do not handle until all safety precautions have been read and understood.
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

## 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: Steel grey liquid.
Odor (threshold): Benzene like, sweetish (2 ppm)
Specific Gravity ($H_2O$=1): 1.65
Vapor Pressure (mm Hg): 1 PSI @21°C
Vapor Density (air=1): 4.1
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: 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, 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 a) |
|---|---|---|---|---|
| nickel | 5,000 mg/kg Rat | NE | NE | 10 mg/m3 2 h Mouse |
| 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<br>5,340 mg/kg Rabbit | >9 400 □L/kg Guinea pig | 44 g/m3 4 h Rat<br>50.1 g/m3 8 h Rat | 10 mg/m3 6 h Human<br>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<br>730 mg/kg Mouse | 12,600 □L/kg Rabbit | NE | 7,000 mg/m3 4 h Guinea pig |
| ethanol | 7,060 mg/kg Rat<br>3,450 mg/kg Mouse | NE | 20,000 ppm 10 h Rat<br>39 g/m3 4 h Mouse | 2,500 mg/m3 20 min Human<br>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<br>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<br>>5,000 mg/kg Mouse | >5 g/kg Rabbit | NE | 400 ppm Human |

a) Lowest published lethal concentration
b) Lethal concentration low

Human experience: Skin corrosion/irritation: Skin irritant. Prolonged or repeated skin contact may cause dermatitis
Serious eye damage/irritation: Causes serious eye irritation and lesions. Contains mechanically abrasive particles.
Sensitization (allergic reactions): Nickel may cause skin sensitization in humans
Carcinogenicity (risk of cancer): Elemental Nickel [7440-02-0], IARC Group 2B: Possibly carcinogenic to humans, ACGIH A5: Not suspected as human carcinogen, CA Prop 65: Listed as a carcinogen, NTP: Reasonably anticipated to be a human carcinogen
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 □g/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: Nickel particles can damage the longs. Toluene may cause damage to organs through prolonged or repeated exposure.
Aspiration hazard: Viscosity at 40 °C is >20.5 mm2/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

Ecological Information: Category 2, GHS Code: Hazard Statement:
H412: Harmful to aquatic life with long lasting effects.
P273: Avoid release to the environment.
Chronic Ecotoxicity: Long lasting effect
Biodegradability: The nickel content is not biodegradable.

Note: Nickel can be recovered from the waste to reclaim the value of the nickel.
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: None listed
Canadian TDG: Ground Canada: 4L size and smaller: Classified as Consumer Commodity.

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**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: (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)
This product contains Toluene (CAS# 108-88-3, 13%) and Nickel (CAS #7440-02-0 (45%), 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
SARA Title III:
RCRA: ND
EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45
This product contains toluene (CAS# 108-88-3) and nickel (CAS# 7440-02-0) 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:
**State Regulations**
California Proposition 65: Warning! This product is or contains chemical(s) known to the state of California to cause cancer or reproductive harm. This product contains Nickel,( metallic), which is listed as a carcinogen. 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.

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**Section 16: Other Information**
Label Information:
**Abbreviations used in this document**
NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

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