TED PELLA, INC.
Microscopy Products for Science and Industry

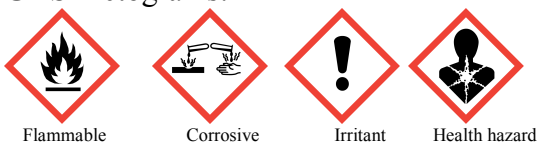
Safety Data Sheet
Product No. 16053, 16053-20, 16053-SPC PELCO® Colloidal Graphite
Issue Date (09-09-14)
Review Date (02-06-15)

Section 1: Product and Company Identification

Product Name: PELCO® Colloidal Graphite
Synonym: Dag 154
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:



GHS Categories:

HAZARD CLASS	HAZARD CATEGORY
Flammable Liquid	2
Skin Irritation	2
Serious Eye Damage	1
Skin Sensitization	1
Specific Target Organ Toxicity – Single Exposure	3
Specific Target Organ Toxicity – Repeated Exposure	1
Aspiration Hazard	1

Signal Word: DANGER

Emergency overview
Appearance: Black Liquid
Highly flammable liquid and vapor.
Immediate effects: ND
Potential health effects

Primary Routes of entry: Inhalation, ingestion, eye and skin contact.
Signs and Symptoms of Overexposure: ND
Eyes: Causes serious eye damage.
Skin: Causes skin irritation. May cause an allergic skin reaction
Ingestion: May be fatal if swallowed and enters airways.
Inhalation: May cause drowsiness or dizziness.
Chronic Exposure: Causes damage to organs through prolonged or repeated exposure

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

Results of PBT and vPvB assessment:
PBT: ND
vPvB: ND

Chemical Listed As Carcinogen Or Potential Carcinogen: No
See Toxicological Information (Section11)
Potential environmental effects
See Ecological Information (Section 12)

Section 3: Composition / Information on Ingredients
Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Principle Hazardous Component(s) **(chemical and common name(s))** **(Cas. No)**	**%***	**OSHA PEL mg/m3**	**ACGIH TLV mg/m3**	**NTP** Carcinogen	**IARC** Carcinogen	**OSHA regulated** Carcinogen
2-Propanol (67-63-0)	60-100	980 mg/m3 400 ppm	200 ppm TWA 400 ppm STEL	No	No	No
Graphite (7782-42-5)	10-30	5 mg/m3 Respirable fraction. 15 mg/m3 PEL Total dust. 15 MPPCF TWA	2 TWA Respirable fraction.	No	No	No
n-Butyl alcohol (71-36-3)	1-5	300 100 ppm	20 ppm	No	No	No
1-Methoxy -2-propanol (107-98-2)	1-5	NE	50 ppm TWA 100 ppm STEL	No	No	No

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing
appropriate protections.

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact: Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Wash clothing before reuse. Get medical attention.
Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion: DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Note to physician

Treatment: ND
Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: 11.6 °C (52.88 °F) Tagliabue closed cup
Flammable Limits: lower: 2 %, upper: 12 %
Auto-ignition point: 398.8 °C (749.84 °F)
Fire Extinguishing Media: Water spray (fog), foam, dry chemical or carbon dioxide.
Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.
Unusual Fire and Explosion Hazards: Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat.
Hazardous combustion products: Carbon dioxide, carbon monoxide, and hydrocarbons.
DOT Class: Flammable

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Environmental precautions: Do not allow product to enter sewer or waterways.
Clean-up methods: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Scrape up as much material as possible. Store in a partly filled, closed container until disposal. Wash spillage site thoroughly with soap and water or detergent solution.
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: Use only with adequate ventilation. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.

Storage temperature: For safe storage, store between 5.0 °C (41°F) and 30.0 °C (86°F). Keep container closed. Store in a cool, dry, well-ventilated area. Protect from direct sunlight.
Storage within given temperature limit: Outside temperature limits, the properties of the product will change. Store in original container until ready to use. Keep out of reach of children and away from food and drink.
Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection
Engineering Controls
Ventilation required: Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Personal Protection Equipment
Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Protective gloves: Use impermeable gloves.
Skin protection: Wear protective clothing as necessary to prevent skin contact.
Eye protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.
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: Black Liquid, Paint.
Odor (threshold): Alcohol (7.5 ppm)
Specific Gravity (H_2O=1): 0.89
Vapor Pressure (mm Hg): 33 mm
Vapor Density (air=1): 2.07
Percent Volatile by volume: ND
Partition coefficient (n-octanol/water): -0.14
VOC content: 710 g/l
Viscosity: 200 - 800 cp

Evaporation Rate (butyl acetate=1): 2.9
Boiling Point: 82 °C (179.6 °F)
Freezing point / melting point: -88.8 °C (-127.8 °F)
pH: Not applicable
Solubility in Water: Disperses in water as a suspension.
Molecular Weight: NA

Section 10: Stability and Reactivity
Stability: Stable under normal conditions of storage and use.
Conditions to Avoid: High temperatures. Oxidizing conditions.

Materials to Avoid (Incompatibility): Strong oxidizing agents. Strong acids. Aldehydes.
Hazardous Decomposition Products: Carbon dioxide. Carbon monoxide. Hydrocarbons.
Reactivity: Not available.
Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed:
Potential Health Effects/Symptoms Inhalation:
Inhalation of vapors or mists of the product may be irritating to the respiratory system. Breathing high concentrations of vapor may cause anesthetic effects. Excessive inhalation of this material causes headache, dizziness, nausea and incoordination.
Skin contact: Prolonged or excessive skin contact with this product may cause mild skin irritation. A component in this product may be absorbed through the skin, especially if skin is damaged. Repeated exposure may cause skin dryness or cracking. Dermatitis.
Eye contact: Causes eye irritation. Exposure to vapor may cause tearing of the eyes, irritation and burning sensation.
Ingestion: May irritate mouth, throat, and stomach if swallowed. May cause central nervous system depression. Toxic if swallowed. May cause dizziness, incoordination, headache, nausea, and vomiting. May cause drowsiness, faintness, weakness, collapse, and coma. Extreme overexposure may result in unconsciousness and possibly death.
Hazardous Component(s):

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
2-Propanol	Oral LD50 (RAT) = 5,045 mg/kg Oral LD50 (RABBIT) = 6,410 mg/kg Oral LD50 (RAT) = 4.7 g/kg Oral LD50 (RABBIT) = 8.0 g/kg Oral LD50 (RABBIT) = 5.03 g/kg Dermal LD50 (RABBIT) = 12,800 mg/kg	Allergen, Blood, Brain, Central nervous system, Irritant, Kidney, Liver, Spleen
Graphite	None	Lung
n-Butyl alcohol	Oral LD50 (RAT) = 790 mg/kg Dermal LD50 (RABBIT) = 3,400 mg/kg Inhalation LC50 (RAT, 4 h) = 8000 ppm	Allergen, Central nervous system, Ear, Eyes, Irritant
1-Methoxy -2-propanol	Oral LD50 (RAT) = 36 g/kg Oral LD50 (RAT) = 5.71 g/kg Oral LD50 (RAT) = 7.51 g/kg Oral LD50 (RABBIT) = 5.3 g/kg Dermal LD50 (RABBIT) = 13 g/kg Inhalation LC50 (RAT, 4 h) = 54.6 mg/l Inhalation LC50 (RAT, 4 h) = 15,000 mg/l	Central nervous system, Developmental, Irritant

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
2-Propanol	No	No	No
Graphite	No	No	No
n-Butyl alcohol	No	No	No
1-Methoxy -2-propanol	No	No	No

Human experience: ND
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: Do not empty into drains / surface water / ground water.
Chemical Fate Information: ND

Section 13 Disposal Considerations
RCRA 40 CFR 261 Classification: Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal. Hazardous waste number: If discarded, this product is considered a RCRA ignitable waste, D001.
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: UN 1263
IATA: Proper shipping name: Paint
Hazard Class: 3
Packaging group: II
UN Number: UN 1263
IMO: Proper shipping name: Paint
Class: 3
UN Number: UN 1263
Packing group: II
Marine Pollutant: No
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: Section 302 EHS: None above reporting de minimis. Section 311/312: Immediate Health, Fire.
SARA Title III: Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). n-Butyl alcohol (CAS# 71-36-3).

RCRA: D001.
TSCA: TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory. TSCA 12 (b) Export Notification: None above reporting de minimis
CERCLA:
CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Fire
CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). n-Butyl alcohol (CAS# 71-36-3).

State Regulations

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

International Regulations

Canada WHMIS:
CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
Europe EINECS Numbers: ND

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

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.