TED PELLA, INC.
Microscopy Products for Science and Industry

Material Safety Data Sheet

Product No. 16056 Electrodag 502
Issue Date (03-23-06)
Review Date (06-01-12)

Section 1: Product and Company Identification

Product Name: Electrodag 502
Synonym: None
Chemical Family: Graphite/Carbon Black in Fluorelastomer

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: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m3	ACGIH TLV mg/m3	NTP	IARC	OSHA regulated
Proprietary Non-OSHA Haz./Non-WHMIS Controlled (Access # 853)	5 – 10	NE	NE	No	No	No
Methyl Ether Ketone (78-93-3)	60 – 100	200 ppm	200 ppm	No	No	No
Carbon Black (1333-86-4)	1 – 5	3.50	3.50	No	Yes	Yes
Graphite (7782-42-5)	1 – 5	2	5	No	No	No

Section 3: Hazard Identification

Emergency overview
Appearance: Black liquid
Immediate effects: Irritation.

Potential health effects
Primary Routes of entry: Inhalation, ingestion, skin and eyes.
Signs and Symptoms of Overexposure:
Eyes: Causes severe eye irritation.
Skin: May cause moderate skin irritation. The components of this product are not expected to be absorbed through the skin.
Ingestion: Harmful if swallowed.

Inhalation: Vapors and mists irritate eyes, nose and throat. Dusts generated from sanding and grinding on surfaces coated with this product may be harmful if inhaled. Vapors and mists generated from this product may be harmful if inhaled.
Chronic Exposure: This product contains methyl ethyl ketone (MEK) which has been shown to cause minor toxic effects in laboratory animals at concentrations well above those acceptable in the workplace. No evidence of these effects exists for humans. This product contains graphite which can accumulate in lung tissue after long-term exposure to the dust. The potential for such exposure from the use of this product is very limited.
Chemical Listed As Carcinogen Or Potential Carcinogen: This product contains carbon black which is classified by IARC as a 2B Carcinogen, Possibly Carcinogenic to Humans, based on "sufficient evidence in animals" and "inadequate evidence in humans."
See Toxicological Information (Section11)

Potential environmental effects

See Ecological Information (Section 12)

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: If this product is splashed into the eyes, flush eyes immediately with plenty of water for at least 15 minutes.
Skin Contact: If excessive skin contact with this product occurs, flush immediately with plenty of water, followed by washing with soap and water.
Inhalation: If excessive amounts of vapors or mists from this product are inhaled, remove to fresh air. Apply artificial respiration and other supportive measures as required. Consult a poison center, emergency room or lung specialist for additional information and guidance.
Ingestion: If swallowed, do not induce vomiting.

Note to physician

Treatment: ND
Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: 23 °F (Tag Closed Cup)
Flammable Limits: 1.8 % - 10.0 %
Auto-ignition point: ND
Fire Extinguishing Media: Large Fires: Water spray, fog or alcohol-resistant foam. Small Fires: Dry chemical, CO2, water spray or alcohol-resistant foam.
Special Fire Fighting Procedures: CAUTION: All these products have a very low flash point. Use of water spray when fighting fire may be inefficient. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Large Fires: Use water spray or fog; do not use straight streams. Move containers from fire area if you can do it without risk. General Fires: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Fore massive fire,

use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and left fire burn.
Unusual Fire and Explosion Hazards: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in swears. Those substances designated with a "P" may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water.
Hazardous combustion products: Oxides of carbon, Hydrogen fluoride, Carbonyl fluoride.
DOT Class: Flammable liquids

Section 6: Accidental Release Measures
Steps to be Taken in Case Material is Released or Spilled: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Large Spills: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces.
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: Protect material from direct sunlight. Keep container closed. Loosen closure cautiously before opening. Store in a cool and well ventilated place; away from incompatible materials (Section 10).Ground and bond containers when transferring material. Empty containers may retain hazardous properties. Follow all MSDS/label warnings even after container is emptied.
Storage Temperature: Ambient. Preferred temperature less than 90 °F.
Storage Pressure: Atmospheric

Section 8: Exposure Controls / Personal Protection
Engineering Controls
Ventilation required: Provide sufficient mechanical ventilation to maintain exposure below TLV(s). Overexposure to vapors and mists may be prevented by ensuring ventilation controls, local exhaust and/or fresh air entry.
Personal Protection Equipment
Respiratory protection: NIOSH/MSHA Schedule TC-23C- air purifying or a Schedule TC-19C- air supplied respirator may also be used to reduce exposures. Read the manufacture's instructions and literature carefully to determine the type(s) of airborne contaminant(s) against which the respirator is effective and how it is to be properly fitted.

Protective gloves: Disposable gloves.
Skin protection: Protective clothing, including an impermeable apron or disposable suit. This protective equipment should be constructed of material(s) which are appropriate to prevent contact with the chemicals listed in the ingredient section of the MSDS.
Eye protection: Vapor tight chemical-type splash goggles should be worn when the possibility exists for eye contact due to splashing or spraying of liquid or the generation of airborne particles or vapors.
Additional clothing and/or equipment: ND

Exposure Guidelines

See Composition/Information on Ingredients (Section2)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Black
Odor (threshold): ND
Specific Gravity (H_2O=1): 0.87
Vapor Pressure (mm Hg): 70.00 mmHg at 20 °C
Vapor Density (air=1): >1
VOC: 755 g/l
Reduced VOC: NA
Percent Volatile by volume: ND
Viscosity (CPS): 400-800

Evaporation Rate (butyl acetate=1): >BUAC
Boiling Point: 176 °F
Freezing point / melting point: -86 ºC
pH: NE
Solubility in Water: None
Molecular Weight: NA

Section 10: Stability and Reactivity

Stability: Stable
Conditions to Avoid: ND
Materials to Avoid (Incompatibility): Strong oxidizers.
Hazardous Decomposition Products: ND
Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed: Methyl Ethyl Ketone (78-93-3): (Oral, Rat) LD50 = 2600 mg/kg
Human experience: ND
This product **does** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Ecological Information: ND
Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: U159. Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and non-hazardous waste.

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: Ethyl Methyl Ketone Solution
Hazard Class: 3
Packaging group: II
UN Number: UN1193
IATA: Proper shipping name: Ethyl Methyl Ketone Solution
Hazard Class: 3
Packing group: II
UN Number: UN1193
Domestic shipments only:
IMO: Proper shipping name: Ethyl Methyl Ketone Solution
Class: 3
UN Number: UN1193
Packing group: II
Marine Pollutant: No
Canadian TDG: Proper shipping name: Ethyl Methyl Ketone Solution

Section 15: Regulatory Information

United States Federal Regulations

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.
SARA: Yes
SARA Title III: This product contains a chemical which is listed in Section 313 at or above DE MINIMIS concentration. The following listed chemicals are present: Methyl Ethyl Ketone (78-93-3): 86.74%.
RCRA: U159
TSCA: All components of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
CERCLA: Methyl Ether Ketone (78-93-3), RQ = 5000 lbs (2270 kg)

State Regulations

California Proposition 65: This product contains the following chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm: Carbon Black (1333-86-4).

International Regulations

Canada WHMIS: All components of this product are listed or are excluded from listing on the Canadian Domestic Substances List (DSL) Inventory.

Europe EINECS Numbers: Methyl ethyl ketone (78-93-3) EINECS#: 201-159-0, Carbon black (1333-86-4) EINECS#: 215-609-9, Graphite (7782-42-5) EINECS#: 231-955-3.

Section 16: Other Information
Label Information: ND
European Risk and Safety Phrases: ND
European symbols needed: ND
Canadian WHMIS Symbols: ND
Hazard Rating: Health: **NIF**; Fire: **NIF**; Reactivity: **NIF**
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)
Abbreviations used in this document
NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

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