

Safety Data Sheet

Product No. 29-27, 9570 Cobalt Products

Issue Date (11-04-15)

Review Date (3-18-16)

Section 1: Product and Company Identification

Product Name: Cobalt Products

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)

Chemtrek Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Hazard Identification

2.1 Classification of the substance or mixture

GHS Classification (29 CFR 1910.1200):

Cobalt - pieces, pellets, shot, sheet, foil, rod, wire, target: Not classified as hazard

2.2 Label Elements: Void on solids.

2.3 Other hazards

Classification as powder:

GHS Pictograms for powder



GHS08



GHS07

GHS Categories for powder

GHS07 – Irritant

Skin Sens. 1

H317: May cause an allergic skin reaction.

GHS08 – Health

Resp. Sens. 1

breathing difficulties if inhaled.

H334: May cause allergy or asthma symptoms or

Carc. 2

H351: Suspected of causing cancer.

2.3 Label elements for powder

Hazard Pictograms



Signal Word: DANGER

Hazard Statements for powder

H317 May cause an allergic skin reaction.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H351 Suspected of causing cancer.

Precautionary Statements for powder

P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P284 In case of inadequate ventilation, wear respiratory protection.

P342+P311 If experiencing respiratory symptoms: Call a poison control center/doctor.

P363 Wash contaminated clothing after use.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards for powder continued

Cobalt powder/dust is flammable

Health Effects:

Powder form:

NFPA Hazard Rating: Health: 2; Fire: 1; Reactivity: 0; Personal protection: E

HMIS® Hazard Rating: Health: 2; Fire: 1; Reactivity: 0; Personal protection: E

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Other solid forms:

NFPA Hazard Rating: ND

HMIS® Hazard Rating: Health: 0; Fire: 0; Reactivity: 0

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Results of PBT and vPvB assessment: NA

Emergency overview

Appearance: Metallic grey, pieces, wire, disc or powder.

Immediate effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential health effects

Primary Routes of entry: Eyes, inhalation, ingestion.

Signs and Symptoms of Overexposure: Prolonged inhalation of cobalt dust, fumes or mist may cause serious respiratory illness. There are references in literature associating cobalt with interstitial fibrosis, a disease that can be fatal.

Eyes: May cause irritation.

Skin: May cause irritation. Single prolonged contact is essentially non-irritating.

Repeated exposure may cause allergic dermatitis, usually occurring in the skin areas of friction. May cause cross-sensitivity to Chromium and Nickel.

Ingestion: Amounts of ingested incidental to industrial handling are not likely to cause injury. Single dose oral toxicity is low. Ingestion of significant amounts of cobalt has been reported to have potential for causing blood, heart, thyroid and pancreatic damage.

Inhalation: Inhalation may cause an irritation of the respiratory organs of sensitive persons resulting in obstruction of airways.

Chronic Exposure: Prolonged inhalation of cobalt dust, fumes or mist may cause serious respiratory illness.

Chemical Listed as Carcinogen or Potential Carcinogen: Classified A3 (Proven for animal.) by ACGIH. Cobalt is an OSHA Select carcinogen. NTP Report on Carcinogens lists only cobalt sulfate as "Reasonably anticipated to be a human carcinogen".

See Toxicological Information (Section 11)

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 TLV mg/m3	NTP Carcinogen	IARC Carcinogen	OSHA regulated Carcinogen
Cobalt (7440-48-4) EC. No. 231-158-0 Index No. 027-001-00-9	99.8	0.05 ¹	0.1	ND	2B	Yes

¹ For metal dust and fumes.

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

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

Inhalation: Supply fresh aid and call for a doctor. See medical treatment in case of complaints.

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: ND

Flammable Limits: ND

Auto-ignition point: ND

Fire Extinguishing Media: Special powder for metal fires. Do not use water.

Special Fire Fighting Procedures: None.

Unusual Fire and Explosion Hazards: Powder of ≤ 3 microns is combustible. May generate toxic fumes.

Hazardous combustion products: Toxic metal oxide fumes.

DOT Class (Powder form): Flammable.

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Do not allow material to be released to environment without governmental permits. Do not allow material to reach sewage system or any water course. Do not allow to penetrate the ground/soil.

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: Store in a cool, dry place and keep container tightly sealed. Ensure good ventilation in workplace. Prevent formation of dust. Do not store with acids or in proximity to other known incompatible materials (see section 10).

Storage temperature: Room temperature to cool.

Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection

Components with limit values that require monitoring in the workplace:

PEL (USA)	Long-term value: 0.01^* mg/m ³ . As Co; *for metal dust and fumes.
REL (USA)	Long-term value: 0.05^* mg/m ³ . As Co; *for metal dust and fumes.
TLV (USA)	Long-term value: 0.02 mg/m ³ . As Co; BEI.
EL (Canada)	Long-term value: 0.02 mg/m ³ . IARC 2B.
EV (Canada)	Long-term value: 0.1 mg/m ³
BEI (USA)	Ingredients with biological limit values: 7440-48-4 (Cobalt 100%) 15 µg/L. Medium: urine. Time: End of shift at end of workweek. Parameter: Cobalt (background). 1 µg/L. Medium: blood. Time: End of shift at end of workweek. Parameter: Cobalt (background and semi-quantitative).

Engineering Controls

Ventilation required: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection Equipment

Respiratory protection: Use suitable respirator when high concentrations are present.

Protective gloves: Impervious gloves. Check condition of gloves before use.

Skin protection: Protective work clothing.

Eye protection: Safety glasses.

Additional clothing and/or equipment: Safety shower and eye wash station.

Exposure Guidelines

See Composition/Information on Ingredients (Section 3)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Grey solid in various forms

Odor (threshold): None (NA)

Specific Gravity (H₂O=1): 8.92 g/cm³

Vapor Pressure (mm Hg): NA

Vapor Density (air=1): NA

Percent Volatile by volume: ND

Evaporation Rate (butyl acetate=1): NA

Boiling Point: 2927 °C

Melting point: 1495 °C

pH: NA

Solubility in Water: Not soluble

Molecular Weight: 58.93 g/mol

Section 10: Stability and Reactivity

Stability: Stable if used and stored properly.

Conditions to Avoid: ND

Materials to Avoid (Incompatibility): Hydrazinium nitrate, bromine pentafluoride, strong acids, oxidizers and acetylene.

Hazardous Decomposition Products: Metal oxide fumes.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed:

LD/LC50 values for classification: Oral LD50 (Rat): 6171 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: Do not allow material to be released into the environment without proper government permits. Do not allow undiluted or large quantities to reach groundwater, water course, or sewage system. Avoid transfer to the environment. May cause long-lasting harmful effects to aquatic life.

Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: ND

Consider recycling this material.

Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information

Other solid forms are not regulated.

For powder/dust forms only.

US DOT: Proper shipping name: Metal powder, Flammable, n.o.s. (Cobalt metal, powder).

Hazard Class: 4.1

Packaging group: III

UN Number: UN3089

Limitations:

IATA: Proper shipping name: Metal powder, Flammable, n.o.s. (Cobalt metal, powder).

Hazard Class: 4.1

Packing group: III

UN Number: UN3089

Limitations: Powder only

Domestic shipments only: ND

IMO: Proper shipping name: Metal powder, Flammable, n.o.s. (Cobalt metal, powder).

Class: 4.1

UN Number: UN3089

Packing group: III

Marine Pollutant: No

Canadian TDG: Metal powder, Flammable, n.o.s. (Cobalt metal, powder).

Section 15: Regulatory Information

United States Federal Regulations

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

SARA: ND

SARA Title III (Section 313): Subject to reporting requirements.

RCRA: None

TSCA: Substance listed.

CERCLA: Substance listed.

State Regulations

California Proposition 65: Warning! This product contains the chemical(s) for which the State of California has found to cause cancer. Listed as Cobalt metal powder (7440-48-4).

International Regulations

Canada WHMIS: D2A – Very toxic material causing other toxic effects.

Europe EINECS Numbers: See section 3

Section 16: Other Information

Label Information: See section 2

European Risk and Safety Phrases: R42/43: May cause sensitization by inhalation and skin contact; R53: May cause long-term adverse effects in the aquatic environment.

European symbols needed: Xn - Sensitizing

Canadian WHMIS Symbols:



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.

SDS Form 0013F1V4