SECTION 1: Identification

1.1 Product identifier: Cobalt Chrome Alloy Powder

1.2 Other means of identification: Cobalt Chrome Powder, F75 CoCr Powder, ASTM F75, Cobalt 28 UNS30075
Cobalt Base Superalloy, Mar M509 alloy

1.3 Recommended use of the chemical: Powder metallurgy, Additive manufacturing

1.4 Supplier's details

Name: Continuum
Address: 27705 Dutcher Creek
Cloverdale, CA 95425
United States
Contact: PERS Account # 12323
Domestic #: 800-366-8253
International: 801-317-0899

SECTION 2: Hazard identification

2.1 GHS classification of the substance or mixture in accordance with: OSHA (29 CFR 1910.1200) - -
Sensitization, skin, Cat. 1
Carcinogenicity, Cat. 2B
Germ Cell Mutagenicity, Cat 2
Reproductive Toxicology, Cat 1B
Sensitization, respiratory, Cat. 1
Specific target organ toxicity (repeated exposure), Cat. 1

2.2 GHS label elements, including precautionary statements

Signal word **Danger**

Hazard determining components of labeling
Cobalt
Chromium
Nickel

Hazard statement(s)

H317 May cause an allergic skin reaction
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341 Suspected of causing genetic defects
H351 Suspected of causing cancer
H360F May damage fertility
H372 Causes damage to lungs through prolonged or repeated exposure by inhalation

Precautionary statement(s)

P201 Obtain special instructions before use.
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.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P370+P378 In case of fire: Use appropriate extinguishing media.
P405 Store locked up.

SECTION 3: Composition/information on ingredients

3.1 Substances

This product contains powder of a single alloyed substance.

3.2 Hazardous and non-hazardous components

CAS no.	Component	Concentration* (weight%)
7440-48-4	**Cobalt**	60 - 80
7440-47-3	**Chromium**	10 - 30
	May contain elements below at varying percentages	
7440-02-0	**Nickel**	0 - 15
7440-33-7	**Tungsten**	0 - 10
7439-98-7	**Molybdenum**	0 - 10
7440-25-7	**Tantalum**	0 - 5
7439-96-5	**Manganese**	0 - 1
7440-21-3	**Silicon**	0 - 1

*The specific chemical identity and/or exact percentage of the composition is estimated. Refer to a Certificate of Analysis for more detailed information on composition.

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician
In case of skin contact	Remove contaminated clothing, brush material off skin, wash off with soap and plenty of water. Seek medical attention if irritation develops or persists
In case of eye contact	Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation develops or persists.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. **Consult a physician.**

4.2 Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

4.3 Indication of immediate medical attention and special treatment needed, if necessary

No data available

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use Class E fire extinguisher material, water fog, alcohol-resistant foam, dry chemical or carbon dioxide.

UNSUITABLE EXTINGUISHING MEDIA: No data available

5.2 Specific hazards arising from the chemical No data available

5.3 Special protective actions for fire-fighters

Wear full face, self-contained breathing apparatus and full protective clothing.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate respiratory and protective equipment specified in section 8. Isolate spill area and provide ventilation. Avoid breathing dust or fume. Avoid contact with skin and eyes. Eliminate all sources of ignition.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Avoid dust formation. Use only non-sparking tools and natural bristle brushes. Do not push powder for long distances across the floor. Keep in small piles away from each other. Place in non-sparking or anti-static containers.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid formation of dust. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters:

1. Cobalt (CAS: 7440-48-4)

OSHA/PEL: (Inhalation): 0.1 mg/m3
OSHA/PEL: (Inhalation): 0.02 mg/m3
NIOSH/REL: (Inhalation): 0.05 mg/m3

2. Chromium (CAS: 7440-47-3)
OSHA/PEL: (Inhalation): 0.5 mg/m3
OSHA/PEL: (Inhalation): 0.5 mg/m3
NIOSH/REL: (Inhalation): 0.5 mg/m3

3. Nickel (CAS: 7440-02-0)
OSHA/PEL: (Inhalation): 1 mg/m3
OSHA/PEL: (Inhalation): metal 0.5 mg/m3, insoluble 0.1 mg/m3
NIOSH/REL: (Inhalation): Ca, 0.015 mg/m3

4. Tungsten (CAS: 7440-33-7)
OSHA/PEL: (Inhalation): 0.01 mg/m3
NIOSH/REL: (Inhalation): 5 mg/m3

5. Molybdenum (CAS: 7439-98-7)
OSHA/PEL: (Inhalation): 0.015 mg/m3
OSHA/PEL: (Inhalation): metal 0.01 mg/m3

6. Manganese (CAS: 7439-96-5)
OSHA/PEL: (Inhalation): 5 mg/m3

7. Silicon (CAS: 7440-21-3)
OSHA/PEL: (Inhalation): 15 mg/m3
NIOSH/REL: (Inhalation): 10 mg/m3

8.2 Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of each workday. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Impermeable gloves, protective work clothing as necessary.

Body protection

Protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Thermal hazards No data available

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. **Do not let products enter drains.**

SECTION 9: Physical and chemical properties

Physical State	Solid	**Appearance**	Powder
Color	Grey	**pH**	Not applicable
Odor	Odorless	**Melting point/freezing point**	No data available
Odor threshold	No data available	**Initial boiling point and boiling range**	No data available
Flash point	Not applicable	**Evaporation rate**	Not applicable
Flammability (solid, gas)	No data available	**Upper/lower flammability limits**	No data available
Vapor pressure	No data available	**Upper/lower explosive limits**	No data available
Vapor density	No data available	**Relative density**	No data available
Solubility	No data available	**Decomposition temperature**	No data available
Auto-ignition temperature	No data available	**Partition coefficient n-octanol/water**	No data available
Viscosity	No data available	**Explosive properties**	Not explosive
Oxidizing properties	The substance or mixture is not classified		

SECTION 10: Stability and reactivity

10.1 Reactivity	No data available.
10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	None under normal use conditions.
10.4 Conditions to avoid	Heat, flames and sparks. Dusting conditions
10.5 Incompatible materials	Do not store near acids, Strong oxidizing agents, Carbon dioxide (CO2)
10.6 Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Hexavalent Chromium (Chromium VI) which may be considered carcinogenic. In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Acute toxicity

7440-02-0 Nickel	Oral	LD50	>9000 mg/kg (rat)
7440-48-4 Cobalt	Oral	LD50	6171 mg/kg (rat)
	Inhal.	LD50	>10 mg/L/1H (rat)

11.2 Skin corrosion/irritation May cause skin irritation
11.3 Serious eye damage/irritation May cause abrasive eye irritation
11.4 Respiratory or skin sensitization May cause an allergic skin reaction
May cause allergy or asthma symptoms or breathing difficulties if inhaled
11.5 Germ cell mutagenicity cobalt
11.6 Carcinogenicity OSHA specifically regulated carcinogen, nickel
IARC-2B: Possibly carcinogenic to humans, cobalt
ACGIH A3: Animal carcinogen, cobalt
11.7 Reproductive toxicity cobalt
11.8 Summary of evaluation of the CMR properties No data available
11.9 STOT-single exposure No data available
11.10 STOT-repeated exposure Causes damage to the lungs through prolonged or repeated exposure by inhalation
11.11 Aspiration hazard No data available

SECTION 12: Ecological information

12.1 Toxicity No data available
12.2 Persistence and degradability No data available
12.3 Bioaccumulative potential No data available
12.4 Mobility in soil No data available
12.5 Results of PBT and vPvB assessment No data available
12.6 Other adverse effects Do not allow material to be released to the environment. No further relevant information available.

SECTION 13: Disposal considerations

13.1 Disposal of the product

Reuse or recycle material whenever possible. Dispose of in accordance with Federal, State and Local regulations.

13.2 Disposal of contaminated packaging

Dispose of in accordance with Federal, State and Local regulations.

SECTION 14: Transport information

DOT (US)
UN Number: -
Class: -
Packing Group: -
Proper Shipping Name: -

IMDG
UN Number: -
Class: -
Packing Group: -
Proper Shipping Name: -
IATA
UN Number: -
Class: -
Packing Group: -
Proper Shipping Name: -

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

State Issue	CAS no.	Chemical Name
California Prop 65	7440-02-0	Nickel 10/01/1989-cancer
	7440-48-4	Cobalt - cancer
Massachusetts Right to Know	7429-90-5	Cobalt
	7440-02-0	Nickel
	7440-47-3	Chromium
	7439-96-5	Manganese
New Jersey Right To Know	7440-48-4	Cobalt
	7440-02-0	Nickel
	7440-47-3	Chromium
	7439-96-5	Manganese
	7440-21-3	Silicon
Pennsylvania Right To Know	7440-48-4	Cobalt
	7440-02-0	Nickel
	7440-47-3	Chromium
	7439-96-5	Manganese
	7440-21-3	Silicon

SECTION 16: Other information

16.1 Further information/disclaimer The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product regarding appropriate safety precautions. It does not represent any guarantee of the properties of the product. Continuum and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

16.2 Preparation information

Author: Jessica Enos, Iris Esserman
Revision Date: 12/12/2025 v3
Supersedes: 10/31/2025 v2
Date of Issue: 5/5/2023