

**COBALT**

**SAFETY DATA SHEET**

**DATE OF LAST REVISION: 06/23/15**

**Section 1: Identification**

**Product Name:** Cobalt  
**CAS Number:** 7440-48-4 / **EC Number:** 231-158-0  
**Company:** Angstrom Sciences, Inc.  
40 South Linden Street  
Duquesne, PA 15110  
For more information call: 412-469-8466  
(Monday - Friday 9:00-5:00 EST)

**Section 2: HAZARD IDENTIFICATION**

**Signal Word: Danger**



**Hazard Statements:**

H228 Flammable solid  
P317: May cause an allergic skin reaction  
P334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

**Precautionary Statements:**

P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking  
P261: Avoid breathing dust/fume/vapor  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P284: Wear respiratory protection  
P3742 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
P363: Wash contaminated clothing before reuse  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

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<b>HMIS Health Ratings (0-4):</b>	Powder	Bulk
Health:	1	0
Flammability:	3	0
Physical	1	0

**Section 3: Composition/Information on Ingredients**

**Chemical characterization:** Metal

**Additional Names:** None

**Percentage:** 100 wt%

**CAS# Description:** 7440-48-4

**EC number:** 231-158-0

**Section 4: FIRST AID MEASURES**

**General Treatment:** Seek medical attention if symptoms persist.

**Special Treatment:** None

**Important Symptoms:** None

**Eye Contact:** Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

**Skin Contact:** Wash affected area with mild soap and water. Remove any contaminated clothing.

**Inhalation:** Remove to fresh air. If required, give artificial respiration. Seek medical advice.

**Ingestion:** Seek medical treatment.

**Section 5: FIRE FIGHTING MEASURES**

**Flammability:** Flammable as powder only

**Special Fire Fighting Procedure:** Use full-face, self contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

**Extinguishing Media:** Do not use water for metal fires - use extinguishing powder

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.

**Environmental Precautions:** Isolate runoff to prevent environmental pollution.

**Section 7: HANDLING AND STORAGE**

**Handling Precautions for safe handling:** Wash thoroughly after handling.

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**Conditions for safe storage, including any incompatibilities** Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in Section 10.

**Work/Hygienic Maintenance:** Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

**Ventilation:** Provide sufficient ventilation to maintain concentration at or below threshold limit.

**Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION**

<b>Permissible Exposure Limits:</b>	0.1 mg/m <sup>3</sup> as Co, for metal dust and fume, long-term value
<b>Threshold Limit Value:</b>	0.02 mg/m <sup>3</sup> as Co, long-term value
<b>Special Equipment:</b>	None
<b>Respiratory Protection:</b>	Dust respirator
<b>Protective Gloves:</b>	Rubber Gloves
<b>Eye Protection:</b>	Safety glasses or goggles
<b>Body Protection:</b>	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:**

<b>Form:</b>	Powder, Granules, Pellets, Sputtering target, Custom parts
<b>Color:</b>	Grey/Black Powder
<b>Odor:</b>	Odorless
<b>Water Solubility:</b>	Insoluble
<b>Boiling Point:</b>	2927° C
<b>Melting Point:</b>	1495°C
<b>Flash Point:</b>	N/A
<b>Autoignition Temperature:</b>	N/A
<b>Density:</b>	8.92 g/cc
<b>Molecular Weight:</b>	58.93 g/mol

**Section 10: STABILITY AND REACTIVITY**

<b>Reactivity:</b>	Acids, Oxidizing Agents
<b>Chemical Stability:</b>	Stable under recommended storage conditions
<b>Incompatible Conditions:</b>	Protect against electrostatic charges
<b>Hazardous Decomposition Products:</b>	Metal oxide fume

**Section 11: TOXICOLOGICAL INFORMATION**

**Potential Health Effects:**

**Eyes:** Causes irritating effect

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**Skin:** May cause irritation

**Ingestion:** May cause irritation

**Inhalation:** May cause irritation

**Chronic:** N/A

**Signs & Symptoms:**

N/A

**Aggravated Medical Conditions:**

N/A

**Median Lethal Dose:**

6171 mg/kg for rat by mouth

**Carcinogen:**

IARC-2B: Possibly carcinogenic to humans: limited evidence in human in the absence of sufficient evidence in experimental animals.

ACGIH-A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by routes of administration, at sites, of exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or level of exposure.

**Section 12: ECOLOGICAL INFORMATION**

**Aquatic Toxicity:** Low

**Persistence Bioaccumulation Toxicity:** No

**Very Persistent, Very Bioaccumulative:** No

**Notes:** N/A

**Section 13: DISPOSAL CONSIDERATIONS**

Dispose of in accordance with local, state, national, and international regulations

**Section 14: TRANSPORT INFORMATION**

**Hazardous:** Hazardous as powder only.



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**Hazard Class:** 4.1 Flammable solids, self-reactive substances and solid desensitized explosives.  
**Packing Group:** III  
**UN Number:** UN3089  
**Proper Shipping Name:** Metal powders, flammable, n.o.s. (Cobalt powder)

**Section 15: REGULATORY INFORMATION**

**Sec 302 Extremely Hazardous:** No  
**Sec 304 Reportable Quantities:** N/A  
**Sec 313 Toxic Chemicals:** Yes

**Section 16: OTHER INFORMATION**

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.