



XI'AN FUNCTION MATERIAL GROUP CO., LTD
Material Safety Data Sheet
Cobalt Chromium Alloy

1. Product and Company Identification

Trade Name: Cobalt Chromium Alloy
Chemical Formula: CoCr
Recommended Use: Scientific research and development

Manufacturer/Supplier: XI'AN FUNCTION MATERIAL GROUP CO., LTD
Street: No. 69, Gazelle Valley, High-Tech Zone
City: XI'AN
State: Shannxi
Zip Code: 710077
Country: China
Tel #: +86-29-88993870/+86-13519132051

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H228: Flammable solid
H317: May cause an allergic skin reaction.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H413: May cause long lasting harmful effects to aquatic life.

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P261: Avoid breathing dust/fume/vapor
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection
P285: In case of inadequate ventilation wear respiratory protection.
P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P333+ P313 If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P405: Store locked up
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):
Health: 1
Flammability: 3
Physical: 3

3. Composition

Chemical Family: Alloy
Additional Names: Chromium Cobalt Alloy

Cobalt (Co):
Percentage: 0-100 wt%
CAS #: 7440-48-4
EC #: 231-158-0

Chromium (Cr):
Percentage: 0-100 wt%
CAS #: 7440-47-3
EC #: 231-157-5

4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult. Keep patient warm. Seek immediate medical attention.

Ingestion: Seek immediate medical attention.

Skin: Immediately wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical attention.

Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

5. Firefighting Measures

Flammability: Non-flammable, except as powder

Extinguishing Media: Do not use water for metal fires – use CO₂, sand, extinguishing powder.
Spec. 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.

6. Accidental Release Measures

If Material Is Released/Spilled: Wear appropriate respiratory and protective equipment specified in special protection information. Keep unprotected persons away. Isolate spill area and provide ventilation. Keep away from ignition sources. 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.

7. Handling and Storage

Handling Conditions: Handle under dry protective gas. Avoid contact with skin and eyes. Wash thoroughly after handling.

Storage Conditions: Store in a cool dry place in a tightly sealed container. Store under dry inert gas. Protect against electrostatic charges. Store away from oxidizing agents, acids. Product is air sensitive. 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

Ventilation:	eating and smoking. Do not blow dust off clothing or skin with compressed air. Provide sufficient ventilation to maintain concentration at or below threshold limit.
--------------	---

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	N/A
Threshold Limit Value:	N/A
Special Equipment:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile rubber gloves with minimum thickness of 0.11 mm
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, acids, mineral acids, acetylene, hydrazinium nitrate. Material readily reacts with acids generating flammable and/or explosive hydrogen gas.
Incompatible Conditions:	Air
Hazardous Decomposition Products:	Metal oxide fume, cobalt oxides, chromium oxides

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause irritation
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:	7,510 mg/kg for rat by mouth as Co
Carcinogen:	IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt) 2A - Group 2A: Probably carcinogenic to humans (Cobalt) OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

Aquatic Toxicity:	Toxicity to fish LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96.0 h Toxicity to fish LC50 - Cyprinus carpio (Carp) - 14.3 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 0.07 mg/l - 48 h
Persistent Bioaccumulation Toxicity:	Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 30 d - 50 µg/l Bioconcentration factor (BCF): 1.03 - 1.22
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow material to be released to the environment without proper governmental permits. Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. May cause long lasting harmful effects to aquatic life.

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Hazardous as powder only.



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

15. Regulatory Information

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

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.

Document Last Revised: 09/12/2019