



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

1. Product and Company Identification

Trade Name: Cobalt Phosphide
Chemical Formula: Co₂P

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

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H301: Toxic if swallowed
H317: May cause an allergic skin reaction
H341: Suspected of causing genetic defects
H351: Suspected of causing cancer

Precautionary Statements: P202: Do not handle until all safety precautions have been read and understood.
P261: Avoid breathing dust/fume/vapor
P264: Wash skin thoroughly after handling
P270: Do not eat, drink or smoke when using this product, P272 Contaminated clothing should not be allowed out of the workplace
P280: Wear protective gloves/protective clothing/eye protection/face protection
P281: Use personal protective equipment as required
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):
Health: 2
Flammability: 1
Physical: 1

3. Composition

Chemical Family:	Ceramic
Additional Names:	Dicobalt phosphide; cobaltous phosphide
Cobalt Phosphide (Co ₂ P):	
Percentage:	100 wt%
CAS #:	12134-02-0
EC #:	235-212-4

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. Seek immediate medical attention.
Ingestion:	Seek medical treatment
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

5. Firefighting Measures

Flammability:	Flammable
Extinguishing Media:	Do not use water for metal fires – use CO ₂ , 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. 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.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	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.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.1 mg/m ³ as Co (dust and fume), long-term value
Threshold Limit Value:	0.02 mg/m ³ as Co, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
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	Gray
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	1386 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	6.4 g/cc (at 20°C)
Molecular weight:	148.84 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents
Incompatible Conditions:	Oxidizing agents
Hazardous Decomposition Products:	Metal oxide fume, Hydrogen phosphide (Phosphine)

11. Toxicological Information

Potential Health Effects:

Eyes:	Irritating effect
Skin:	Irritant to skin and mucous membranes
Ingestion:	Harmful if swallowed
Inhalation:	May cause irritation
Chronic:	As cobalt: Cobalt is an experimental neoplastigen and tumorigen. It is an experimental carcinogen of the connective tissue and lungs. Cobalt metal and inorganic compounds are classified as an animal carcinogen by the ACGIH. Ingestion may cause burning in the mouth, esophagus, and stomach. Inhalation of dusts and fumes may cause irritation of the respiratory tract and labored breathing and coughing. Sensitization, nausea, flushing of the face and ringing in the ears is also possible. Chronic ingestion may result in pericardial effusion, polycythemia, cardiac failure, vomiting, convulsions and thyroid enlargement. Inorganic phosphorus compounds may cause irritation and hemorrhages in the stomach as well as liver and kidney damage. Bone structure may be attacked, especially the jaw and teeth.

Signs & Symptoms: N/A

Aggravated Medical Conditions: N/A

Median Lethal Dose: N/A

Carcinogen: ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker 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 levels of exposure.
IARC-2A: Probably carcinogenic to humans: limited human evidence; sufficient evidence in experimental animals

12. Ecological Information

Aquatic Toxicity: N/A

Persistent Bioaccumulation Toxicity: N/A

Very Persistent, Very Bioaccumulative: N/A

Notes: N/A

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Not hazardous for transportation.

Hazard Class: N/A

Packing Group: N/A

UN Number: N/A

Proper Shipping Name: N/A

15. Regulatory Information

Sec 302 Extremely Hazardous:	N/A
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: 03/19/2019

FUNCMATER