



XI'AN FUNCTION MATERIAL GROUP CO., LTD
Material Safety Data Sheet
Cobalt (IV) sulfide

1. Product and Company Identification

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|------------------------|--|
| Trade Name: | Cobalt (IV) sulfide |
| Chemical Formula: | CoS ₂ |
| 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: Warning



Hazard Statements: H317: May cause an allergic skin reaction.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements: 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
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
P501 Dispose of contents/ container to an approved waste disposal plant.

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

3. Composition

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| Chemical Family: | Nonmetal |
| Additional Names: | Cobalt disulfide |
| Cobalt (IV) sulfide (CoS ₂): | |
| Percentage: | 100 wt% |
| CAS #: | 12013-10-4 |
| EC #: | 215-273-3 |

4. First Aid Procedures

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| 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

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| Flammability: | Non-flammable |
| Extinguishing Media: | No special restrictions – use suitable extinguishing agent for surrounding material and type of fire. |
| 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

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| 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. 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

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| Handling Conditions: | Wash thoroughly after handling. |
| Storage Conditions: | Store in a cool dry place in a tightly sealed container. Store away from oxidizing agents. 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

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| Permissible Exposure Limits: | 0.1 mg/m ³ as Co, long-term value |
| Threshold Limit Value: | 0.02 mg/m ³ as Co, long-term value |
| Special Equipment: | Properly operating chemical fume hood designed for hazardous chemicals and having an average efface velocity of at least 100 feet per minute. |
| 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

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|---------------------------|--|
| Color | Black |
| Form: | Powder, Granules, Pellets, Sputtering target, Custom parts |
| Odor: | Odorless |
| Water Solubility: | Insoluble |
| Boiling Point: | N/A |
| Melting Point: | 400 °C |
| Flash Point: | N/A |
| Autoignition Temperature: | N/A |
| Density: | 4.23 g/cc |
| Molecular weight: | 123.06 g/mol |

10. Reactivity

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|-----------------------------------|---|
| Stability: | Stable under recommended storage conditions |
| Reacts With: | Oxidizing agents |
| Incompatible Conditions: | None |
| Hazardous Decomposition Products: | Metal oxide fume, sulfur oxides, cobalt/cobalt oxides |

11. Toxicological Information

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| 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: | N/A |
| Carcinogen: | IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt (IV) sulfide, ≥99.5% trace metals basis) NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. 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

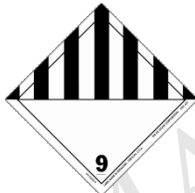
Aquatic Toxicity: N/A
Persistent Bioaccumulation Toxicity: N/A
Very Persistent, Very Bioaccumulative: N/A
Notes: Very toxic to aquatic life.
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effect to aquatic life.
Avoid transfer into the environment.

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Hazardous as powder only.



Hazard Class: 9 Miscellaneous dangerous substances and articles
Packing Group: III
UN Number: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Cobalt (IV) sulfide)

15. Regulatory Information

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

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.

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