



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

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1. Product and Company Identification

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Trade Name:	Cobalt Chloride
Chemical Formula:	CoCl <sub>2</sub>
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:	Shaanxi
Zip Code:	710077
Country:	China
Tel #:	+86-29-88993870/+86-13519132051

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2. Hazards Identification

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Signal Word: Danger



Hazard Statements:

- H302: Harmful if swallowed
- H317: May cause allergic skin reaction
- H318: Causes serious eye damage
- H341: Suspected of causing genetic defects
- H332: Harmful if inhaled
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H341: Suspected of causing genetic defects.
- H350: May cause cancer
- H360: May damage fertility or the unborn child
- H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:

- P201: Obtain special instructions before use
- P202: Do not handle until all safety precautions have been read and understood
- P271: Use only outdoors or in a well-ventilated area
- P261: Avoid breathing dust/fume/vapor/spray
- P264: Wash skin thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product
- P280: Wear protective gloves/clothing/eyewear
- 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
- P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P501: Dispose of contents/container in according with local/regional/national/international regulations  
 P284: in case of inadequate ventilation wear respiratory protection  
 P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention  
 P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention  
 P363: Wash contaminated clothing before reuse  
 P391: Collect spillage  
 P405: Store locked up  
 P501: Dispose of contents/container to an approved waste disposal plant.

HMIS Health Ratings (0-4):

Health:	2
Flammability:	0
Physical:	1

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3. Composition

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Chemical Family:	Salt
Additional Names:	Cobalt(II) Chloride, Cobalt dichloride, Cobaltous Chloride

Cobalt Chloride (CoCl <sub>2</sub> ):	
Percentage:	100 wt.%
CAS #:	7646-79-9
EC #:	231-589-4

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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.
Ingestion:	Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.
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

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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.

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## 6. Accidental Release Measures

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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.

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## 7. Handling and Storage

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Handling Conditions:	Handle under dry protective gas. 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.

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## 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	0.1 mg/m <sup>3</sup> as Co metal dust and fume, long-term value
Threshold Limit Value:	0.02 mg/m <sup>3</sup> as Co, inhalable fraction/vapors
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.

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## 9. Physical and Chemical Characteristics

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Color	Pale blue
Form:	Powder, Beads, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Soluble
Boiling Point:	1049 °C
Melting Point:	724 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	3.367 g/cc
Molecular weight:	1g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts with:	Strong Oxidizing agents, Metals
Incompatible Conditions:	Moisture, Alkali metals, Oxidizing agents
Hazardous Decomposition Products:	Hydrogen Chloride, Metal oxide fumes, Cobalt oxides

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## 11. Toxicological Information

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### Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause irritation, may cause allergic reaction
Ingestion:	Harmful if swallowed
Inhalation:	May cause irritation
Chronic:	N/A
Germ cell mutagenicity:	Suspected of causing genetic defects

Signs & Symptoms: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Aggravated Medical Conditions: N/A

Median Lethal Dose: 418 mg/kg (rat) by Oral Route  
LD<sub>50</sub> > 2 g/kg (rat) by Dermal Route

Carcinogen: IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt dichloride)  
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.  
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 types(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. The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

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## 12. Ecological Information

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Aquatic Toxicity: Toxicity to fish LC50 -  
-Cyprinus carpio (Carp) - 0.33 mg/l - 96 h  
Toxicity to daphnia and other aquatic invertebrates-  
-mortality NOEC - Daphnia (water flea) - < 0.05 mg/l - 7 d  
EC50-  
- Daphnia magna (Water flea) - 1.1 - 1.6 mg/l - 48 h  
Toxicity to algae EC50-  
- Chlorella vulgaris (Fresh water algae) - 0.52 mg/l - 96 h  
Very toxic to aquatic organisms

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

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### 13. Disposal Considerations

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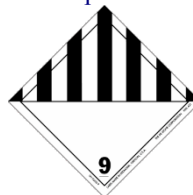
Dispose of in accordance with local, state, national, and international regulations.

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### 14. Transportation Data

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Hazardous: Hazardous for transportation



Hazard Class: 9 Miscellaneous  
Packing Group: PG III  
UN Number: UN3077  
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s (Cobalt (II) Chloride, anhydrous)

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### 15. Regulatory Information

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

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### 16. Other Information

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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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