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## Material Safety Data Sheet

### 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifiers

Product name Cobalt(IV) sulfide  
Product number A63464  
Brand 3ASenrise  
CAS number 12013-10-4

#### 1.2 Details of the supplier of the safety data sheet

Company: Anhui Senrise Technology Co., Ltd.  
Address: No.88 Weisan Road, High-Tech Industrial Development Zone, Anqing, Anhui  
Post code: 246003  
Tel: 400-005-6266  
Fax: 0556-5555368  
Email: service@3asenrise.com

#### 1.3 Emergency telephone

Emergency telephone: 0556-5500208

#### 1.4 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: For R&D use only. Not for pharmaceutical, household or other uses.

### 2 HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Skin sensitization (Category 1), H317  
Short-term (acute) aquatic hazard (Category 1), H400

#### 2.2 GHS label elements, including precautionary statements

##### Pictogram



**Signal word: Warning**

##### Hazard statement(s)

H317 May cause an allergic skin reaction.  
H400 Very toxic to aquatic life.

##### Precautionary statement(s)

##### Prevention

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

## Response

P302+P352 IF ON SKIN: wash with plenty of soap and water.

P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.

P391 Collect spillage. Hazardous to the aquatic environment

P362+P364 Take off contaminated clothing and wash it before reuse.

## Storage

No data available

## Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Physical and chemical hazards

No data available

## 2.4 Health hazards

H317 May cause an allergic skin reaction.

## 2.5 Environmental hazards Code

H400 Very toxic to aquatic life.

## 2.6 Other hazards

No data available

# 3 COMPOSITION/INFORMATION ON INGREDIENTS

## Substance / Mixture: Substance

### 3.1 Substance

|                  |                      |
|------------------|----------------------|
| Name             | Cobalt(IV) sulfide   |
| Formula          | CoS <sub>2</sub>     |
| Molecular Weight | 123.06               |
| CAS              | 12013-10-4           |
| Concentration    | 99.99%(metals basis) |

# 4 FIRST AID MEASURES

## 4.1 Description of first aid measures

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with

water. Consult a physician.

## 4.2 Most important symptoms and effects, both acute and delayed

No data available.

# 5 FIREFIGHTING MEASURES

## 5.1 Extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## 5.2 Special hazards arising from the substance or mixture

Sulfur oxides Cobalt/cobalt oxides Not combustible. Ambient fire may liberate hazardous vapours.

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

## **6 ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

### **6.4 Reference to other section**

For disposal see section 13.

## **7 HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

#### **Advice on safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

#### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### **Hygiene measures**

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Long term storage: RT

## **8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

No data available.

### **8.2 Personal protective equipment**

#### **Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.

#### **Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

#### **Body protection**

Flame retardant antistatic protective clothing.

#### **Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### **Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

## **9 PHYSICAL AND CHEMICAL PROPERTIES**

## 9.1 Information on basic physical and chemical properties

|                                                 |                                                  |
|-------------------------------------------------|--------------------------------------------------|
| a) Appearance                                   | Dark grey to black crystals/(crystalline) powder |
| b) Odor                                         | No data available                                |
| c) pH                                           | No data available                                |
| d) Melting point/freezing point                 | > 400 ° C                                        |
| e) Initial boiling point and boiling range      | No data available                                |
| f) Upper/lower flammability or explosive limits | No data available                                |
| g) Flash point                                  | No data available                                |
| h) Evaporation rate                             | No data available                                |
| i) Vapor pressure                               | No data available                                |
| j) Vapor density                                | No data available                                |
| k) Density                                      | 4.23 g/cm <sup>3</sup> at 20 ° C                 |
| l) Water solubility                             | No data available                                |
| m) Partition coefficient: n-octanol/water       | No data available                                |
| n) Autoignition temperature                     | No data available                                |
| o) Decomposition temperature                    | No data available                                |
| p) Flammability                                 | No data available                                |

## 10 STABILITY AND REACTIVITY

### 10.1 Chemical stability

No data available.

### 10.2 Conditions to avoid

No data available.

### 10.3 Incompatible materials

Strong oxidizing agents

### 10.4 Hazardous decomposition products

In the event of fire: see section 5.

## 11 TOXICOLOGICAL INFORMATION

### 11.1 Acute toxicity

LD50 Oral

No data available

LC50 Inhalation

No data available

LD50 Dermal

No data available

### 11.2 Skin corrosion/irritation

No data available

### 11.3 Serious eye damage/eye irritation

No data available

### 11.4 Respiratory or skin sensitization

No data available

### 11.5 Germ cell mutagenicity

No data available

### 11.6 Carcinogenicity

No data available

### 11.7 Reproductive toxicity

No data available

### **11.8 Specific target organ toxicity - single exposure**

No data available

### **11.9 Specific target organ toxicity - repeated exposure**

No data available

### **11.10 Aspiration hazard**

no data available.

### **11.11 Additional Information**

RTECS: GG3310000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **12 ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish:

No data available

Toxicity to daphnia and other aquatic:

No data available

Toxicity to algae:

No data available

Toxicity to bacteria:

No data available

### **12.2 Persistence and degradability**

No data available

### **12.3 Bioaccumulative potential**

No data available

### **12.4 Mobility in soil**

No data available

### **12.5 Other adverse effects**

No data available

## **13 DISPOSAL CONSIDERATIONS**

### **13.1 Waste treatment methods**

#### **Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Observe all federal, state and local regulations when disposing of the substance.

#### **Contaminated packaging**

Disposal must be made according to official regulations.

## **14 TRANSPORT INFORMATION**

### **14.1 UN number**

ADR/RID: 3077 IMDG: 3077 IATA: 3077

### **14.2 UN proper shipping name**

ADR/RID: COBALT(IV) SULFIDE

IMDG: COBALT(IV) SULFIDE

IATA-DGR: Cobalt(IV) sulfide

### **14.3 Transport hazard class(es)**

ADR/RID: 9 IMDG: 9 IATA: 9

### **14.4 Packaging group**

ADR/RID: III IMDG: III IATA: III

## **14.5 Environmental hazards**

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

## **14.6 Special precautions for user**

No data available

## **15. REGULATORY INFORMATION**

### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Applicable regulations

Please pay attention to waste disposal and meet the requirements of local regulations.

## **16. OTHER INFORMATION**

### **Abbreviations and acronyms**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Dangerous Goods

IATA: International Air Transport Association

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

CAS: Chemical Abstracts Service (division of the American Chemical Society)

### **Further information**

The above safety technical information is for reference only, because many physical and chemical properties are not entirely clear. Please consult information carefully before use and use after confirmation.

Anhui Senrise Technology Co., Ltd. shall not be held liable for any damage resulting from handling or from contact with the above product. More terms of use, see invoice information for details.

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