

## Safety Data Sheet

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**1. Product Name**

CuCr (Copper-Chromium Alloy), CuCrZr (Copper-Chromium-Zirconium Alloy)

**2. GHS Classification**

These alloys are unclassified; GHS classification information for constituent elements is listed below.

**2.1 Copper (Cu)**

Physical Hazards	Not Classified	
Health Hazards	Skin sensitization STOT - single exposure	Category 1A Category 1 (digestive organs) Category 3 (respiratory irritation)
Environmental Hazards	Not Classified	

GHS Label Elements  
 Pictogram



Signal Word	Danger / Warning
Hazard Statements	H317: May cause an allergic skin reaction H335: May cause respiratory irritation H370: Causes damage to organs (digestive organs)

Precautionary Statements Safety Measures	Minimize generation and build-up of dust particles. Do not inhale dust / fumes. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.
Emergency Measures	IF ON SKIN: Wash with plenty of water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Call a doctor. If skin irritation or rash occurs: Get medical advice/attention. If experiencing respiratory symptoms: Call a doctor. Wash contaminated clothes before reusing.
Storage	Store locked up.
Risks not covered by GHS classification	None known

## 2.2 Chromium (Cr)

Physical Hazards	Not Classified	
Health Hazards	Eye irritation Respiratory sensitization Skin sensitization Germ cell mutagenicity STOT – single exposure	Category 2B Category 1 Category 1 Category 2B Category 2 (systemic toxicity) Category 3 (respiratory irritation)
Environmental Hazards	Not Classified	

### GHS Label Elements Pictogram



Signal Word	Danger / Warning
Hazard Statements	H320: Causes eye irritation H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause an allergic skin reaction H341: Suspected of causing genetic defects H335: May cause respiratory irritation H371: May cause damage to organs (systemic toxicity)

Precautionary Statements Safety Measures	Minimize generation and build-up of dust particles. Do not inhale dust / fumes. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection.
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Emergency Measures  
IF ON SKIN: Wash with plenty of water.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF exposed or concerned: Call a doctor.  
If skin irritation or rash occurs: Get medical advice/attention.  
If experiencing respiratory symptoms: Call a doctor.  
Wash contaminated clothes before reusing.

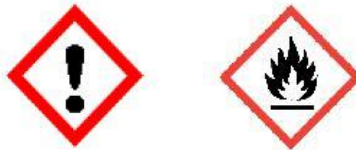
Storage  
Store locked up.

Risks not covered by GHS classification  
None known

### 2.3 Zirconium (Zr)

Physical Hazards	Flammable solid	Category 1
Health Hazards	STOT – single exposure	Category 3 (respiratory irritation)
Environmental Hazards	Not Classified	

GHS Label Elements  
Pictogram



Signal Word  
Warning

Hazard Statements  
H228: Flammable solid  
H335: May cause respiratory irritation

Precautionary Statements  
Safety Measures  
Minimize generation and build-up of dust particles.  
Do not inhale dust / fumes.  
Contaminated work clothing must not be allowed out of the workplace.  
In case of inadequate ventilation wear respiratory protection.

Emergency Measures  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
IF exposed or concerned: Call a doctor.  
If experiencing respiratory symptoms: Call a doctor.  
Wash contaminated clothes before reusing.

Storage  
Store locked up.

Risks not covered by GHS classification  
None known

### 3. Composition / Information on Ingredients

Classification : Mixture

Chemical Name CuCr: Copper-Chromium Alloy

CuCrZr: Copper-Chromium-Zirconium Alloy

Hazardous Ingredients :

Names and composition (mass%) of Class 1 Designated Chemical Substances as per the "Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management" (PRTR Law)

	Cu	Cr	Zr
Item	Copper	Chromium	Zirconium
CuCr composition	bal.	0.7~1.4	—
CuCrZr composition	bal.	0.7~1.4	0.02~0.3
Government No.	N/A	87	N/A
CAS No.	7440-50-8	7440-47-3	7440-67-7

### 4. First-Aid Measures

- Damage from fumes or dust
  - Immediately remove victim to fresh air.
  - If victim has trouble breathing, assist with breathing and seek medical attention.
  
- Eye contact
  - If foreign matter enters the eyes, do not rub. Wash out eyes with plenty of water.
  - If irritation persists, seek medical attention.
  
- Skin contact
  - Brush off foreign matter with hands and wash the affected area well with water.
  - If irritation persists, seek medical attention.

### 5. Fire-Fighting Measures

Not applicable (non-combustible)

### 6. Accidental Release Measures

Product is a solid, so accidental release / spillage is not a concern under normal environmental conditions.

## 7. Handling and Storage

- No special handling needed, though wearing gloves is recommended when handling products with sharp corners and edges.
- In high-humidity locations, store product indoors.

## 8. Exposure Controls / Personal Protection

Melting, casting, cutting, thermal cutting and grinding are classified as "dusty work" according to the "Ordinance on Prevention of Hazards Due to Dust," and must be managed accordingly.

- Keep source of dust sealed, or install local exhaust ventilation system
- Wear respiratory protective equipment
- Periodically clean up accumulated dust
- If dust gets on work clothes, clean clothes by washing
- Wash hands and gargle after working

Permissible Exposure Limit

Material	Form	Permissible Density (mg/m <sup>3</sup> )		
		Japan Society for Occupational Health	ACGIH	
Cu	Fumes	—	0.2	—
	Dust and Mist (as Cu)	—	1	—
Cr	Chromium metal	0.5	0.5	—
	Chromium(III) compound	0.5	0.5	—
Zr	Zirconium and Zr compounds	—	5	10

## 9. Physical and Chemical Properties

	CrCu	CrCuZr
Appearance	: Metallic	Metallic
Color	: Copper	Copper
Relative Density	: 8.9	8.9
Boiling Point	: N/A	N/A
Melting Point	: 1080°C	1080°C
Solubility	: Insoluble in water	Insoluble in water
Odor	: Odorless	Odorless

## 10. Stability and Reactivity

- Stable under normal handling conditions.
- Contact with acid or similar chemical substance may produce hydrogen gas.

## 11. Toxicological Information

- Acute Toxicity
  - Inhaling dust particles from fumes, etc. may induce the following: cough, chest pain, fever.
- Chronic Toxicity
  - Inhaling dust particles from fumes, etc. may induce the following: pneumoconiosis.
- Carcinogenicity
  - Chromium metal and Chromium(III) compound
  - ACGIH : A4
  - Zirconium

## 12. Ecological Information

- No data on the ecological effects of this product is currently available.

## 13. Disposal Considerations

- Dispose of product in an environmentally conscious and appropriate manner. Disposal must be in accordance with all applicable industrial waste regulations, including prefectural and municipal requirements.

## 14. Transport Information

- None in particular. During sea transport, minimizing the product's exposure to sea water is recommended.

## 15. Applicable Regulatory Laws

- Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management
- Industrial Safety and Health Law

## 16. Other Information

The information on this data sheet was compiled based on our current knowledge and available documentation. It may be replaced in the event that new information becomes available. Furthermore, the precautions presented herein apply only to normal handling of the product, and do not constitute a guarantee of safety.

### Cited References

Handbook of Industrial Poisoning (Ishiyaku Publishers Inc.)  
Hazardous Materials Handbook (Maruzen Publishing Co., Ltd.)  
Metals Data Book (Maruzen Publishing Co., Ltd.)  
NITE Chemical Information Risk Platform (CHRIP)