

# Material Safety Data Sheet of Brass/C2680R

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## 1. PRODUCT IDENTIFICATION

|                        |  |
|------------------------|--|
| Product Name:          | <b>BRASS ALLOY / C2680R</b> (65Brass)  |
| Synonyms:              | Copper Zinc Alloys; UNS/CDA Alloy Nos. C20000 – C29999   |
| Chemical Family:       | Copper-Zinc  |
| Formula:               | Not Applicable/Mixture   |
| Description:           | Metal  |
| Hazard Classification: | Dust or fume is classified as skin and eye irritant, lung toxin.<br>Finished metal alloy is not hazardous. |

## 2. COMPONENT DATA

### *Product Composition*

|                                    |                    |            |                   |            |                   |
|------------------------------------|--------------------|------------|-------------------|------------|-------------------|
| CAS or Chemical Name / CAS Number: | Copper / 7440-50-8 |            |                   |            |                   |
| Percentage Range:                  | 64.0-68.0%         |            |                   |            |                   |
| Exposure Standards:                |                    | OSHA (PEL) |                   | ACGIH(TLV) |                   |
|                                    |                    | ppm        | mg/m <sup>3</sup> | ppm        | mg/m <sup>3</sup> |
|                                    | TWA: (fume)        | n/a        | 0.1               | n/a        | 0.2               |
|                                    | TWA: (dust)        |            | 1                 |            | 1                 |
|                                    | CEILING:           | None       | None              | None       | None              |
| STEL:                              |                    |            |                   |            |                   |

|                                    |                   |            |  |            |                   |
|------------------------------------|-------------------|------------|--|------------|-------------------|
| CAS or Chemical Name / CAS Number: | Zinc / 7440-66-6  |            |  |            |                   |
| Percentage Range:                  | Remainder to 100% |            |  |            |                   |
| Exposure Standards:                |                   | OSHA (PEL) |  | ACGIH(TLV) |                   |
|                                    |                   | ppm        | mg/m <sup>3</sup>                      | ppm        | mg/m <sup>3</sup> |
|                                    | TWA:(fume)        | n/a        | 5                                      | n/a        | 5                 |
|                                    | TWA: (dust)       |            | 5 (respirable dust)<br>15 (total dust) |            | 10                |
|                                    | CEILING:          | None       | None                                   | None       | None              |
| STEL:                              | 10 fume           |            |  |            |                   |

## 3. PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Avoid contact of dust or fume with skin, eyes and clothing. upon contact with skin or eyes, wash off with water.

### **STORAGE CONDITIONS:**

Do not STORE at TEMPERATURES ABOVE: Not Applicable

### **PRODUCT STABILITY AND COMPATIBILITY:**

|  |            |
|--|------------|
| SHELF LIFE LIMITATIONS:                          | None known |
| INCOMPATIBLE MATERIALS FOR PACKAGING:            |            |
| INCOMPATIBLE MATERIALS FOR STORAGE OR TRANSPORT: |            |

## 4. PHYSICAL DATA

|  |  |
|--|--|
| Appearance:                            | Red/gold metallic color  |
| Melting Point:                         | 930L-1065L/905S-1050S Deg. C      1710L-1950L/1650S-1920S Deg. F |
| Boiling Point:                         | Not Applicable   |
| Decomposition Temperature:             | Not Applicable   |
| Specific Gravity:                      | 8.47   |
| Bulk Density:                          | 8.47 (g/cc)  |
| pH @ 25°C:                             | Not Applicable   |
| Vapor Pressure @ 25°C:                 | Not Applicable   |
| Solubility in Water:                   | Not Applicable   |
| Volatiles, Percent by Volume:          | Not Applicable   |
| Evaporation Rate:                      | Not Applicable   |
| Vapor Density:                         | Not Applicable   |
| Molecular Weight:                      | Not Applicable/Mixture   |
| Odor:                                  | None   |
| Coefficient of Oil/Water Distribution: | Not Applicable   |

**5. PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS*****Personal Protection for Routine Use of Product:***

|                          |  |
|--------------------------|--|
| Respiratory Protection:  | Respiratory protection not normally needed.<br>If significant dusting occurs or fumes are generated, wear a NIOSH approved respirator.           |
| Ventilation:             | Local exhaust ventilation is recommended if significant<br>Dusting occurs or fumes are generated.<br>Otherwise, use general exhaust ventilation. |
| Skin and Eye Protection: | Use safety glasses and cut resistant gloves when machining or handling sharp edges.  |

***Equipment Specifications (When Applicable):***

|   |   |
|---|---|
| Respirator Type:  | Wear NIOSH approved respirator with HEPA filters.   |
| Protective Clothing Type:<br>(This includes: gloves, boots,<br>apron, protective suit.) | GLOVE TYPE: Use cut resistant gloves when machining or handling sharp edges.<br>BOOT TYPE: None needed<br>APRON TYPE: None needed<br>PROTECTIVE SUIT: None needed |

**6. FIRE AND EXPLOSION HAZARD INFORMATION*****Flammability Data:***

|   |                           |                |
|---|---------------------------|----------------|
|   | Flammable:                | No             |
|   | Combustible:              | No             |
|   | Pyrophoric:               | No             |
|   | Flash Point:              | Not Applicable |
|   | Autoignition Temperature: | Not Applicable |
| Flammable limits at normal atmospheric temperature and pressure (Percent volume in air) | LEL:                      | Not Applicable |
|   | UEL:                      | Not Applicable |

***NFPA Ratings:*** Not Established***HMIS Ratings:***

|               |                       |
|---------------|-----------------------|
| Health:       | 2 (dust or fume only) |
| Flammability: | 0                     |
| Reactivity:   | 0                     |

***Extinguishing Media:***

Use extinguishing media for surrounding products.

***Fire Fighting Techniques and Comments:***

See Section XI for protective equipment for fire fighting.

**7. REACTIVITY INFORMATION*****Conditions Under Which This Product May Be Unstable:***

|                                |  |
|--------------------------------|--|
| Temperatures Above:            | Stable at normal temperatures                    |
| Mechanical Shock or Impact:    | No   |
| Electrical (Static) Discharge: | No   |
| Hazardous Polymerization:      | Will not occur                                   |
| Incompatible Materials:        | Dust and fume - acetylene, chlorine              |
| Hazardous Decomposition:       | Dust or fume of the metals listed in Section II. |

***Summary of Reactivity:***

|                   |    |
|-------------------|----|
| Oxidizer:         | No |
| Pyrophoric:       | No |
| Organic Peroxide: | No |
| Water Reactive:   | No |

**8. FIRST AID*****Eyes***

Immediately flush out fume and dust particles with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If eye irritation develops, call a physician.

***Skin***

Immediately flush with water for 15 minutes. Wash the contaminated skin with soap and water.

If irritation develops, call a physician. If clothing comes in contact with the product, the clothing should be laundered before re-use.

***Ingestion***

Not a likely route of exposure for finished metal alloy.

**Inhalation**

Remove to fresh air. If respiratory irritation develops treat symptomatically.

**9. TOXICOLOGY AND HEALTH INFORMATION****Routes of Absorption**

For dust: Ingestion, dermal contact, inhalation, and eye contact

For fume: Inhalation, eye contact, and dermal contact

The finished metal alloy is not hazardous.

**Warning Statements and Warning Properties**

May be harmful IF metal dust or fume is inhaled, ingested or exposed to skin or eyes. metal dust and/or fume may cause skin, eye, mucous membrane or respiratory irritation.

The finished alloy metal is not hazardous.

**Human Threshold Response Data**

|  |   |
|--|---|
| Odor Threshold:                          | No Data   |
| Irritation Threshold:                    | No Data   |
| Immediately Dangerous to Life or Health: | The IDLH concentration has not been established for this product. |

**Signs, Symptoms and Effects of Exposure****Inhalation**

|          |  |
|----------|--|
| Acute:   | If the metal fume is inhaled, mild irritation may result to the throat, upper respiratory tract, and lungs. The metal fume may also produce influenza-like symptoms, known as metal fume fever. Symptoms of this reaction may include metallic taste, runny nose, nausea, fever and chills. These effects usually disappear within 24 hours. |
| Chronic: | Inhalation of large amounts of the dust and/or fume of this product may cause lung inflammation, which may progress to bronchitis and permanent lung damage.   |

**Eye**

The dust or fume can irritate the eyes with effects consisting of reversible redness, swelling, and mucous discharge to the conjunctiva. No corneal involvement or visual impairment would be expected. Copper metal foreign body from the dust may cause similar irritation, but may also cause an inflammatory reaction around the foreign body, which may lead to extrusion of the particle. If the copper foreign body reaches the posterior (back) portion of the eyes, the consequences are severe, with widespread degenerative changes, discoloration of the eye and possible loss of sight.

**Skin**

Skin contact with the dust or fume may cause irritation consisting of transient redness. This irritant effect would not result in permanent damage.

**Ingestion**

|          |  |
|----------|--|
| Acute:   | Ingestion of the dust may cause gastroenteritis with any or all of the following symptoms: nausea, vomiting, lethargy, or diarrhea. Excessive oral exposures to copper (> 75 grams) have caused hemolysis of red blood cells, and liver and kidney damage. |
| Chronic: | There is no data available on the chronic ingestion of the alloy.  |

**Medical Conditions Aggravated by Exposure**

Asthma and emphysema may be aggravated by exposure to the dust or fume.

**Interactions With Other Chemicals Which Enhance Toxicity**

There are no chemicals known to enhance the toxicity of the product.

**Animal Toxicology****Acute Toxicity**

|                   |  |
|-------------------|--|
| Inhalation LC 50: | No Data  |
| Dermal LD 50:     | No Data  |
| Oral LD 50:       | No Data  |
| Irritation:       | Metal dust or fume may cause skin, eye, mucous membrane or respiratory irritation. The finished metal alloy is not a skin or eye irritant. |

**Acute Target Organ Toxicity**

No organs known to be damaged from exposure to this alloy. However, lung damage may occur from inhalation of large amounts of dust or fume.

**Chronic Target Organ Toxicity:**

There are no known or reported effects from repeated exposure to this product.

#### Reproductive and Developmental Toxicity

There are no known or reported effects on reproductive function or fetal development from exposure to this product.

#### Carcinogenicity

This product is not known or reported to be carcinogenic by any reference source including IARC, OSHA, NTP, or EPA.

#### Mutagenicity

This product is not known or reported to be mutagenic.

#### Aquatic Toxicity

The toxicity of copper to aquatic organisms varies significantly not only with the species, but also with the physical and chemical characteristics of the water, such as its temperature, hardness, turbidity and carbon dioxide content.

Copper concentration varying from 0.1 to 1.0 mg/l have been found by various investigators to be not toxic for most fish. However, concentrations of 0.015 to 3.0 mg/l have been reported as toxic, particularly in soft water to many kinds of fish, crustacea, mollusks, insects, and plankton.

## 10. TRANSPORTATION INFORMATION

This material as a product is not regulated as a dot hazardous material.

## 11. SPILL AND LEAKAGE PROCEDURES

### *Spill Mitigation Procedures:*

|  |   |
|--|---|
| This product may represent an explosion hazard if in the form of dust or powder. Remove all sources of ignition. |   |
| Air Release:   | Not Applicable  |
| Water Release:   | Not Applicable  |
| Land Spill:  | Response to a spill of this material is not normally required unless it is in the form of dust or powder. Clean up with the use of a vacuum system and/or other method capable of reducing the airborne concentrations. |

### *Spill Residues:*

Dispose of per guidelines under Section 12, WASTE DISPOSAL.

### *Personal Protection for Emergency Spill and Firefighting Situations:*

No extra protection required beyond that listed in Section V. (In case of fire, use normal fire fighting equipment.)

## 12. WASTE DISPOSAL

If this material becomes a waste, it should be sent to metal reclaimer.

Care must be taken to prevent environmental contamination from the use of this material. The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for Hazardous and nonhazardous wastes.

The information in this MSDS should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. We believe this information to be reliable and up to date as of the date of publication, but makes no warranty that it is.

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