



Safety Data Sheet

Material Name: BioBrass™ Rod, Shapes and Wire

Alloy Numbers: C22600, C23000, C26000, C27000, C27450, C33500, C33510, C33520, C46400

Product Use: Raw Material for Machined Products

*** Section 1 - Product and Company Identification ***

Manufacturer Information

Chicago Extruded Metals
1601 S 54th Avenue
Cicero, IL 60804

Phone: 708-656-7900

Emergency # 800-323-8102

*** Section 2 - Hazards Identification ***

GHS Classification:

Combustible Dust
Acute Toxicity - Oral - Category 4
Acute Toxicity - Inhalation - Category 4
Skin Irritation - Category 2
Eye Damage/Irritation - Category 2B
Respiratory Sensitization - Category 1
Skin Sensitization - Category 1
Reproductive Toxicity - Category 1A
Specific Target Organ Toxicity - Repeat Exposure - Category 1 (respiratory system, skin)
Hazardous to the Aquatic Environment - Acute - Category 1
Hazardous to the Aquatic Environment - Chronic - Category 1

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

Danger

Hazard Statements

May form combustible dust concentrations in air.
Harmful if swallowed.
Harmful if inhaled.
Causes skin irritation.
Causes eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure (respiratory system, skin).

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Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Wash thoroughly after handling

Do not eat, drink, or smoke when using this product.

Do not breathe dust/fume/gas/mist/vapors/spray

In case of inadequate ventilation wear respiratory protection.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Response

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. If eye irritation persists get medical advice/attention.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms call a POISON CENTER or doctor/physician.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Collect spillage.

Storage

Store in a well-ventilated place.

Keep container tightly closed.

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7440-50-8	Copper	57-86
7440-66-6	Zinc	14-42
7440-31-5	Tin	0-1

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of substance remains, approximately 15-20 minutes. Get medical attention immediately.

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First Aid: Skin

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First Aid: Ingestion

Get medical attention immediately. If vomiting occurs, keep head lower than hips to prevent aspiration.

First Aid: Inhalation

Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure and administer oxygen if available. Administration of oxygen should be performed by qualified personnel. Get medical attention immediately.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Not flammable under normal conditions. Dust is an explosion hazard.

Hazardous Combustion Products

May release fumes containing metal oxide.

Extinguishing Media

If fire occurs in metal dust, Class D Fire Extinguisher for metal fires should be used.

Unsuitable Extinguishing Media

Do not use water for metal fires.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Solid material should not present a hazard. Molten material or fine dust from product should be contained.

Materials and Methods for Clean-Up

If the material in molten form, stop leak if it can be done without risk. Stay upwind; keep out of low areas. Do not touch or walk through spilled material. Do not allow water to contact material.

If the material is in the form of fine dust, HEPA filter vacuuming is recommended. Do not use compressed air for cleaning. Remove sources of heat or ignition as dust clouds can burn or explode.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Wear appropriate protective clothing and respiratory protection for the situation.

Environmental Precautions

None

Prevention of Secondary Hazards

None

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*** Section 7 - Handling and Storage ***

Handling Procedures

Avoid inhalation or ingestion. Practice good housekeeping and personal hygiene habits. No tobacco or food in work area. Wash thoroughly before eating or smoking. Shower and change clothes at end of work shift. Do not wear contaminated clothing home. Do not blow dust off of clothing with compressed air.

Storage Procedures

General storage procedures acceptable.

Incompatibilities

Acetylene - brass alloys with less than 65% copper are compatible with acetylene; however, brasses with greater than 65% copper may form an explosive compound when in contact with pressurized acetylene in the presence of moisture.

Acetic Acid; Aluminum Chloride; Aluminum Sulfate; Bromine (moist); Calcium Bisulfate; Calcium Hypochlorate; Carboic Acid; Chlorine (moist); Chloroacetic Acid; Chromic Acid; Formic Acid; Hydrobromic Acid; Hydrochloric Acid; Hydrocyanic Acid (moist); Hydrochloric Acid; Hydrofluoric Acid; Hydrofluosilicic Acid; Hydrogen Peroxide (over 10%); Lithium Compounds; Nitric Acid; Oxalic Acid; Phosphoric Acid; Picric Acid; Potassium Dichromate; Sodium Dichromate; Sodium Hypochlorate; Sodium Peroxide; Sulfur (molten); Sulfur Chloride (moist); Sulfur Dioxide (moist); Sulfuric Acid (80-95%); Sulfurous Acid; Trichloroacetic Acid; Zinc Chloride; Zinc Sulfate.

*** Section 8 - Exposure Controls / Personal Protection ***

Component Exposure Limits

Copper (7440-50-8)

ACGIH: 0.2 mg/m3 TWA (fume)

OSHA: 0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)

NIOSH: 1 mg/m3 TWA (dust and mist); 0.1 mg/m3 TWA (fume)

Tin (7440-31-5)

ACGIH: 2 mg/m3 TWA

NIOSH: 2 mg/m3 TWA

Engineering Measures

Recommend using local exhaust during welding, cutting, or melting to avoid exposure to metal oxide fumes or metal dusts.

Personal Protective Equipment: Respiratory

If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

Personal Protective Equipment: Hands

Using gloves is recommended while handling the material to prevent cuts and abrasions.

Personal Protective Equipment: Eyes

Wear safety glasses with side shields and/or goggles as necessary to prevent eye contact.

Personal Protective Equipment: Skin and Body

Use body protection appropriate for task.

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*** Section 9 - Physical & Chemical Properties ***

Appearance:	Metallic, yellow	Odor:	None
Physical State:	Solid	pH:	NA
Vapor Pressure:	ND	Vapor Density:	ND
Boiling Point:	ND	Melting Point:	1600°-1750°F (871°-954°C)
Solubility (H2O):	Insoluble	Specific Gravity:	8.4-8.6
Evaporation Rate:	ND	VOC:	ND
Density:	0.307 lb/in ³ @ 68°F (8.5 g/cm ³ @ 20°C)	Octanol/H2O Coeff.:	ND
Flash Point:	NA	Flash Point Method:	NA
Upper Flammability Limit (UFL):	NA	Lower Flammability Limit (LFL):	NA
Burning Rate:	NA	Auto Ignition:	NA

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

Brass is stable under normal conditions of handling and storage.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid dispersion of dust in air, dust may be flammable or explosive.

Incompatible Products

Acetylene - brass alloys with less than 65% copper are compatible with acetylene; however, brasses with greater than 65% copper may form an explosive compound when in contact with pressurized acetylene in the presence of moisture.

Acetic Acid; Aluminum Chloride; Aluminum Sulfate; Bromine (moist); Calcium Bisulfate; Calcium Hypochlorate; Carboic Acid; Chlorine (moist); Chloroacetic Acid; Chromic Acid; Formic Acid; Hydrobromic Acid; Hydrochloric Acid; Hydrocyanic Acid (moist); Hydrochloric Acid; Hydrofluoric Acid; Hydrofluosilicic Acid; Hydrogen Peroxide (over 10%); Lithium Compounds; Nitric Acid; Oxalic Acid; Phosphoric Acid; Picric Acid; Potassium Dichromate; Sodium Dichromate; Sodium Hypochlorate; Sodium Peroxide; Sulfur (molten); Sulfur Chloride (moist); Sulfur Dioxide (moist); Sulfuric Acid (80-95%); Sulfurous Acid; Trichloroacetic Acid; Zinc Chloride; Zinc Sulfate.

Hazardous Decomposition Products

May release fumes containing metal oxide.

*** Section 11 - Toxicological Information ***

Acute Toxicity

A: General Product Information

Under normal conditions the use of brass should present no health hazards. However, operations such as welding, thermal cutting, melting, dry grinding, or any other process which will generate dust or fume could create health hazards.

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B: Component Analysis - LD50/LC50

No LD50/LC50's are available for this product's components.

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause skin irritation and discoloration of the skin and hair.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

May cause eye irritation.

Potential Health Effects: Ingestion

Harmful if swallowed. May cause gastrointestinal tract irritation producing salivation, nausea, vomiting, gastric pain, hemorrhagic gastritis, and diarrhea.

Potential Health Effects: Inhalation

Inhalation of metal dusts or fumes may cause irritation of the upper respiratory tract; metallic or sweet taste; nausea; metal fume fever; irritation of nasal mucous membranes; ulceration with perforation of the nasal septum; bronchopneumonia; zinc fume fever characterized by metallic taste, dry throat, chest pain, dyspnea, chills, lassitude, malaise, fatigue, perspiration, vomiting, and leukocytosis.

Respiratory Organs Sensitization/Skin Sensitization

May cause nose and throat irritation, metallic taste, difficulty breathing, wheezing, and chest pain. Some individuals may become sensitized from repeated contact with metal dusts.

Generative Cell Mutagenicity

This product is not reported to produce mutagenic effects in humans.

Carcinogenicity

A: General Product Information

Under normal conditions the use of the product should present no health hazards. However, operations such as welding, thermal cutting, melting, dry grinding, or any other process which will generate dust or fume may increase the potential for carcinogenic effects.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Reproductive Toxicity

May damage fertility or the unborn child.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any single exposure specific target organ toxicity effects.

Specified Target Organ General Toxicity: Repeated Exposure

May cause damage to organs through prolonged or repeated exposure (respiratory system, skin).

Aspiration Respiratory Organs Hazard

This product is not reported to have any aspiration hazard effects.

*** Section 12 - Ecological Information ***
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Ecotoxicity

A: General Product Information

Data not available for metal and metal dusts.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Copper (7440-50-8)

Test & Species

Conditions

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96 Hr LC50 Pimephales promelas	0.0068 - 0.0156 mg/L
96 Hr LC50 Pimephales promelas	<0.3 mg/L [static]
96 Hr LC50 Pimephales promelas	0.2 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	0.052 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	1.25 mg/L [static]
96 Hr LC50 Cyprinus carpio	0.3 mg/L [semi-static]
96 Hr LC50 Cyprinus carpio	0.8 mg/L [static]
96 Hr LC50 Poecilia reticulata	0.112 mg/L [flow-through]
72 Hr EC50 Pseudokirchneriella subcapitata	0.0426 - 0.0535 mg/L [static]
96 Hr EC50 Pseudokirchneriella subcapitata	0.031 - 0.054 mg/L [static]
48 Hr EC50 Daphnia magna	0.03 mg/L [Static]

Zinc (7440-66-6)

Test & Species

Conditions

96 Hr LC50 Pimephales promelas	2.16-3.05 mg/L [flow-through]
96 Hr LC50 Pimephales promelas	0.211-0.269 mg/L [semi-static]
96 Hr LC50 Pimephales promelas	2.66 mg/L [static]
96 Hr LC50 Cyprinus carpio	30 mg/L
96 Hr LC50 Cyprinus carpio	0.45 mg/L [semi-static]
96 Hr LC50 Cyprinus carpio	7.8 mg/L [static]
96 Hr LC50 Lepomis macrochirus	3.5 mg/L [static]
96 Hr LC50 Oncorhynchus mykiss	0.24 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	0.59 mg/L [semi-static]
96 Hr LC50 Oncorhynchus mykiss	0.41 mg/L [static]
96 Hr EC50 Pseudokirchneriella subcapitata	0.11 - 0.271 mg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	0.09 - 0.125 mg/L [static]
48 Hr EC50 Daphnia magna	0.139 - 0.908 mg/L [Static]

Persistence/Degradability

Metal dusts may cause ecological damage through silting or sedimentation effect in water depriving organisms of habitat and mobility, and/or fouling of gills, lungs and skin thus limiting oxygen uptake.

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Bioaccumulation

Metal dusts in water or soil may form metal oxides or other metal compounds that could become bioavailable and harm aquatic or terrestrial organisms.

Mobility in Soil

Metal dusts would be relatively immobile in soils but some metal compounds may be transported with ground water.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT Information

Shipping Name: Not Regulated

* * * Section 15 - Regulatory Information * * *

Regulatory Information

US Federal Regulations

A: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Copper (7440-50-8)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)

Zinc (7440-66-6)

SARA 313: 1.0 % de minimis concentration (dust or fume only)

CERCLA: 454 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm); 1000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is >100 µm)

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B: Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Copper	7440-50-8	DOT regulated severe marine pollutant (powder)

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Copper	7440-50-8	Yes	Yes	Yes	Yes	Yes	No
Zinc	7440-66-6	Yes	Yes	No	Yes	Yes	No
Tin	7440-31-5	Yes	Yes	Yes	Yes	Yes	No

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Copper	7440-50-8	1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Copper	7440-50-8	Yes	DSL	EINECS
Zinc	7440-66-6	Yes	DSL	EINECS
Tin	7440-31-5	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

This Safety Data Sheet is offered solely for your information, consideration, and investigation. Chicago Extruded Metals Company provides no warranties, either expressed or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein.