

## Safety Data Sheet

### BR10S - BRONZE FOR CASTING

Safety Data Sheet dated 6/24/2022 version 3

Compliant with regulation (CE) n. 1907/2006 REACH, Annex II, and subsequent amendments introduced by Commission Regulation (EU) no. 2015/830

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Mixture identification:

Trade name: BR10S - BRONZE FOR CASTING

Trade code: BR10S

Product type and use: SL

Registration Number N/A

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

Recommended use: Non ferrous alloy for jewellery manufacturing industry

Uses advised against: N.A.

### 1.3. Details of the supplier of the safety data sheet

Company: LEGOR GROUP S.p.A.

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Italy

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Competent person responsible for the safety data sheet: info@legor.com

### 1.4. Emergency telephone number

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

0 The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

The product is not classified as dangerous according to Regulation EC 1272/2008 (CLP).

#### Special provisions according to Annex XVII of REACH and subsequent amendments:

None.

### 2.3. Other hazards

No PBT Ingredients are present

Other Hazards: No other hazards

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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: BR10S - BRONZE FOR CASTING

#### Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥ 75%	Copper	CAS:7440-50-8 EC:231-159-6 Index:029-024-00-X	Substance with a Union workplace exposure limit.	
10-15 %	Tin	CAS:7440-31-5 EC:231-141-8	Substance with a Union workplace exposure limit.	

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

In case of eyes contact:

Wash immediately with water.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

N.A.

### 4.3. Indication of any immediate medical attention and special treatment needed

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

### 5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

### 5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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## SECTION 6: Accidental release measures

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

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

#### For emergency responders:

Wear personal protection equipment.

### 6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

### 6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

### 6.4. Reference to other sections

See also section 8 and 13

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

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

keep in a dry and cool place

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

### 7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

	OEL Type	Long Term mg/m <sup>3</sup>	Long Term ppm	Short Term mg/m <sup>3</sup>	Short Term ppm	Notes
Copper CAS: 7440-50-8	ACGIH	0.2				Fume, as Cu. Irr, GI, metal fume fever

	ACGIH	1			Dusts and mists, as Cu. Irr, GI, metal fume fever
Tin CAS: 7440-31-5	EU	2			
	ACGIH	2			(I). Tin and inorganic compounds. - Pneumoconiosis
	ACGIH	0.1		0.2	Organic compounds. Skin, A4 - Eye and URT irr, headache, nausea, CNS and immune eff

#### Predicted No Effect Concentration (PNEC) values

	PNEC Limit	Exposure Route	Exposure Frequency	Remark
Copper CAS: 7440-50-8	0.0078 mg/l	Fresh Water	Environmentally not effective limit	
	0.0052 mg/l	Marine water	Environmentally not effective limit	
	87 mg/kg	Freshwater sediments	Environmentally not effective limit	
	65.5 mg/kg	Soil	Environmentally not effective limit	

#### Derived No Effect Level (DNEL) values

	Worker Industrial	Worker Professional	Consumer	Exposure Route	Exposure Frequency	Remark
Copper CAS: 7440-50-8	0.041 mg/kg		137 mg/kg	Human Dermal	Long Term, systemic effects	
	0.041 mg/kg			Human Inhalation	Long Term, systemic effects	
	0.082 mg/kg			Human Dermal	Short Term, systemic effects	
	0.082 mg/kg			Human Inhalation	Short Term, systemic effects	
			0.16 mg/kg	Human Oral	Long Term, systemic effects	

#### 8.2. Exposure controls

Eye protection:

Not needed for normal use. Anyway, operate according good working practices.

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

Not needed for normal use.

Respiratory protection:

N.A.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Solid

**Appearance and colour:** Yellow grained alloy

**Odour:** Odourless  
**Odour threshold:** N.A.  
**pH:** N.A.  
**Melting point / freezing point:** 935 °C (1715 °F)  
**Initial boiling point and boiling range:** N.A.  
**Flash point:** > 93°C  
**Evaporation rate:** N.A.  
**Upper/lower flammability or explosive limits:** N.A.  
**Vapour density:** N.A.  
**Vapour pressure:** N.A.  
**Relative density:** 8,70 g/cm<sup>3</sup>  
**Solubility in water:** Insoluble in water  
**Solubility in oil:** Insoluble in organic solvents  
**Partition coefficient (n-octanol/water):** N.A.  
**Auto-ignition temperature:** N.A.  
**Decomposition temperature:** N.A.  
**Viscosity:** N.A.  
**Explosive properties:** N.A.  
**Oxidizing properties:** N.A.  
**Solid/gas flammability:** N.A.

## 9.2. Other information

**VOC** N.A.  
**Substance Groups relevant properties** N.A.  
**Miscibility:** N.A.  
**Conductivity:** N.A.

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Stable under normal conditions.

### 10.5. Incompatible materials

None in particular.

### 10.6. Hazardous decomposition products

None.

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## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
c) serious eye damage/irritation	Not classified Based on available data, the classification criteria are not met
d) respiratory or skin sensitisation	Not classified Based on available data, the classification criteria are not met
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified

i) STOT-repeated exposure	Based on available data, the classification criteria are not met Not classified
j) aspiration hazard	Based on available data, the classification criteria are not met Not classified Based on available data, the classification criteria are not met

## SECTION 12: Ecological information

### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

#### List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

#### List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Copper	CAS: 7440-50-8 - EINECS: 231-159-6 - INDEX: 029-024-00-X	a) Aquatic acute toxicity : LC50 Oncorhynchus mykiss = 0.02 mg/l 48h - No data available for the product  a) Aquatic acute toxicity : LC50 Daphnia magna = 0.052 mg/l 48h - No data available for the product

### 12.2. Persistence and degradability

N.A.

### 12.3. Bioaccumulative potential

N.A.

### 12.4. Mobility in soil

N.A.

### 12.5. Results of PBT and vPvB assessment

No PBT Ingredients are present

### 12.6. Other adverse effects

N.A.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

## SECTION 14: Transport information

### 14.1. UN number

N/A

### 14.2. UN proper shipping name

ADR-Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

### 14.3. Transport hazard class(es)

ADR-Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

### 14.4. Packing group

ADR-Packing Group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

### 14.5. Environmental hazards

Toxic ingredients quantity: 0,00

Very toxic ingredients quantity: 0,00

No

Environmental Pollutant: No

#### **14.6. Special precautions for user**

Road and Rail (ADR-RID):

ADR-Label: N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

ADR-Transport category (Tunnel restriction code): N/A

Air (IATA):

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subsidiary hazards: N/A

IATA-Erg: N/A

IATA-Special Provisions: N/A

Sea (IMDG):

IMDG-Stowage Code: N/A

IMDG-Stowage Note: N/A

IMDG-Subsidiary hazards: N/A

IMDG-Special Provisions: N/A

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: N/A

IMDG-MFAG: N/A

#### **14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code**

N.A.

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### **SECTION 15: Regulatory information**

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) 2015/830

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: None.

Restrictions related to the substances contained: None.

Provisions related to directive EU 2012/18 (Seveso III):

N.A.

#### **Regulation (EU) No 649/2012 (PIC regulation)**

No substances listed

German Water Hazard Class.

Class 3: extremely hazardous.

SVHC Substances:

No data available

## 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

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## SECTION 16: Other information

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

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

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: KAFH

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available

NA: Not available

NIOSH: National Institute for Occupational Safety and Health



NOAEL: No Observed Adverse Effect Level

OSHA: Occupational Safety and Health Administration.

PBT: Persistent, Bioaccumulative and Toxic

PGK: Packaging Instruction

PNEC: Predicted No Effect Concentration.

PSG: Passengers

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

vPvB: Very Persistent, Very Bioaccumulative.

WGK: German Water Hazard Class.

**Paragraphs modified from the previous revision:**

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 12. ECOLOGICAL INFORMATION
- 14. TRANSPORT INFORMATION
- 15. REGULATORY INFORMATION