Document type	**Safety Data Sheet**

1. Product identification

1.1 Trading Name	**LIQUID METAL COMP C - BRONZE**
1.2 Type of product and use	Decorative coating for architectural surfaces
1.3 Producer	**Stucco Italiano Srl** Via Rovereto 20 – 36030 Costabissara (VI) – Italy Tel.: +39 0444 700 991, Email: info@stuccoitaliano.it web: www.stuccoitaliano.com
1.4 Emergency contact num.	Technical information: Stucco Italiano Srl office +39 0444 700 991 (Monday-Friday 8.00–17.00); Mobile phone +39 340 3058872 (Saturday and Sunday)

2. Identification of hazards

2.1 Classification of the substance or mixture

According to regulation (EC) No 1272/2008 (CLP)

Signal	Hazard class	Hazard category	Hazard statement
Danger	Aquatic Acute	1	H400: Very toxic to aquatic life.
Danger	Aquatic Chronic	1	H410: Very toxic to aquatic life with long lasting effects

2.2 Label Elements

Hazard pictograms

Signal word	Danger
Hazard statements:	H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects
Precaution statements	P273: Avoid spillage in the environment. P391: Collect spilled product. P501: Dispose of product/container in accordance with national regulations.
Supplemental Information	None
Contains	Copper, CAS: 7440-50-8 Zinc, CAS: 7440-66-6
2.3 Other hazards	No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%
Other hazards	No other hazards

3. Composition

3.1 Substances	Copper powder 95% (min w/w) (> 10 µm < 1 mm).

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

Quantity	Name	Identification number	Classification
>= 45% - <55%	Copper	CAS: 7440-50-8	H400: Very toxic to aquatic life. H412: Harmful to aquatic life with long lasting effects
>= 45% - < 55%	Zinc	CAS: 7440-66-6	H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects

4. First-aid measures

4.1 First aid measures:

Contact with skin Wash thoroughly with soap and water. In case of irritation, consult a doctor. In case of contact with molten product, cool quickly with water and immediately consult a doctor. Do not attempt to remove molten product from the skin as the skin can easily tear. Cuts or abrasions should be promptly treated with thorough cleaning of the affected area.

Contact with eyes Apply general measures if eye irritation occurs. Do not rub the eyes. Remove any contact lenses. Rinse the eyes thoroughly with water, being careful to rinse under the eyelids. If irritation persists, continue to rinse for 15 minutes, rinsing under the eyelids from time to time. If discomfort persists, consult a doctor.

Ingestion In case of significant oral intake (several mg of Cu), rinse the mouth and give 200-300 ml of water to drink. Do not induce vomiting. Consult a doctor if the discomfort persists.

Inhalation Move the exposed person immediately to fresh air. Perform artificial respiration if necessary. Consult a doctor as soon as possible.

4.2 Most important symptoms Gastrointestinal symptoms are the first symptoms for high oral intake of soluble copper compounds. Vomiting may occur.

The liver is the most critical organ for delayed effects of "excess copper".

Irritation of the nose and lungs may be symptoms that occur after inhalation of copper-containing fumes/powders/mists.

Exposure to inhalation of fine powders in large doses can produce symptoms called metal fume fever for 24/48 hours.

4.3 Medical attention In case of unwellness, seek medical advice immediately

5. Firefighting measures

5.1 Extinguishing media Suitable media:
Dry sand, powder D fire extinguishers.
Media which must not be used:
Do not use water or halogenated substances as firefighting agents.

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5.2 Special hazards	Do not inhale explosion and combustion gases Burning produces heavy smoke Special attention should be paid to processes and/or facilities that involve the formation of clouds of very fine dust that may be potentially flammable in the presence of ignition sources, which may lead to explosions.
5.3 Advice for firefighters	Use suitable breathing apparatus Collect contaminated fire extinguishing water separately. This must not be discharged into drains. The product is not flammable.

6. Accidental release measures

6.1 Individual precautions	Avoid the formation of dust clouds. Ensure adequate ventilation. Avoid inhalation of dust. Wear suitable protective clothing.
6.2 Environmental precaution	Do not allow to enter 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 Cleaning methods	Do not use compressed air. Collect the product with a scoop into containers for recycling.

7. Handling and storage

7.1 Handling precautions	Never reuse empty containers before they have been subjected to industrial cleaning or reconditioning. Prior to carrying out work with ignition sources, clean pipelines and containers. Before carrying out transfer operations, make sure that there are no residues of incompatible substances inside the tank. As for protective devices, refer to point 8 of this data sheet.
7.2 Incompatible materials	Keep away from food and drink
Storage conditions	Store in a covered, dry, and naturally ventilated area. Avoid depositing the material on the floor. Keep away from food, feed, and drinks. Keep containers separate from strong oxidizers. The storage area must be arranged in a way that prevents accidental leaks from percolating into the soil. Do not stack more than 3 pallets (for products packaged in drums). Do not stack more than 1 pallet (for products packaged in big-bags).

8. Individual control

8.1 Control parameters

TLV - TWA (ACGIH, 2009): Cu 0.2 mg/m3 (fumes); Denmark: OEL Cu 0.1 mg/m3

TLV - TWA (ACGIH, 2009): Cu 1 mg/m3 (dust and mist); Denmark: OEL Cu 1 mg/m3

Exposure samples	Penetration pathways	Descriptor	DNEL
Long-term systemic effects on humans.	Oral, cutaneous, or inhalation route.	Internal DNEL (Derived No Effect Level) dose. Using absorption factors of 25% for oral exposure, 100% for	0.041 mg Cu/kg B wt/d

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		inhalation (respirable), and 0.03% for dermal exposure.	
Short-term systemic effects on humans.	As above	As above	0.082 mg Cu/kg B wt/d
Effects water on human beings in the short term.	Oral	The NOAEL for drinking water"	4 mg Cu/l

8.2 Exposure controls

Precautionary measures	Do not eat, drink, or smoke in areas where handling and processing occur.
Breathing protection	FFP2 (S) mask filter for dust and FFP3 for fumes (support: half-mask) Local exhaust of fumes (high efficiency: 90-95%) Cyclones/Filters (to minimize the emission of dust into the atmosphere)
Hands protection	No safety measures for normal use.
Eyes protection	Use close fitting safety glasses with side shields, don't use eye lenses
Skin protection	No safety measures for normal use.
Exposure limits	No safety measures for normal use.
Thermal hazards	None
Environmental exposure	Prevent the release or abandonment into the surrounding environment. Take precautions against discharge into public sewers or receiving water bodies. Dispose of the material and its containers at a hazardous waste collection point.
Engineering controls	None

9. Chemical / Physical characteristics

Physical state	Solid, powder
Colour	Golden yellow
Odour	None
pH value	N.A.
Melting point:	860 - 1050
Boiling point	N.A.
boiling range	N.A.
Water solubility	N.A.
Specific weight	N.A.
Flammability	Non flammable
Vapour density	N.A.
Flash point:	N.A.
Vapour pressure	N.A.
Evaporation rate	N.A.
Relative density	0.65 –5.5 g/cm3

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Solubility in oil	N.A.
Partition coefficient	N.A.
Auti-ignition temperature	N.A.
Decomposition temperature	N.A.
Viscosity	N.A.
Explosive properties	The substance is non-explosive. It does not contain groups associated with explosive properties.
Oxidising properties	N.A.
9.2 Other information	N.A.
Miscibility	N.A.
Fat Solublity	N.A.
Conductivity	N.A.
Substange groups	N.A.

10. Stability and reactivity

10.1 Reactivity	Stable under normal conditions
10.2 Chemical stability	Stable under normal conditions
10.3 Hazardous reactions	It releases soluble copper compounds in reaction with H-equivalents.
10.4 Conditions to avoid	Avoid the formation of dust and contact with acids.
10.5 Incompatible materials	Strong concentrated acids.
10.6 Decomposition hazards	None

11. Toxicological information

11.1 Toxicological effect

Acute toxicity	Not classified. No data available for the product
Skin irritation	Not classified. No data available for the product
Serious eye damage	Not classified. No data available for the product
Respiratory sensitisation	Not classified. No data available for the product
Skin sensitiation	Not classified. No data available for the product
Germ cell mutagenicity	Not classified. No data available for the product
Carcinogenicity	Not classified. No data available for the product
Reproductive toxicity	Not classified. No data available for the product
STOT-single exposure	Not classified. No data available for the product
STOT-repeated exposure	Not classified. No data available for the product
Aspiration hazards	Not classified. No data available for the product
Toxicological information of the main substances found in the product	Copper, Zinc

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11.2 Other hazards	Endocrine disrupting properties: No endocrine disruptor substances present in concentration >= 0.1%

12. Ecological information

12.1 Toxicity	Do not disperse the product in the environment. Waste waters and residues do not have to be poured into drains, into the ground or in watercourses. The product is classified: H400: Very toxic to aquatic life; H412: Harmful to aquatic life with long lasting effects
Acute aquatic toxicity	Cu: Toxicity at pH = 5.5-6.5: L(E)C50 of 25.0 µg Cu/L (Van Sprang et al., 2010, in Chemical Safety Report(CSR) copper, 2010). M-factor: 1 Zn: Toxicity at pH < 7: EC50 = 0.9 mg Zn/L for 48 hours (Dubia Ceriodaphnia) Toxicity at pH > 7-8.5: EC50 = 0.3 mg Zn/L for 72 hours (Selenastrum capricornutum). M-factor: 1
Chronic toxicity in freshwater	Cu: Unclassified (however, the Predicted No Effect Concentration (PNEC): 7.8 µg/L of dissolved copper can be used to perform an environmental risk analysis) Zn: PNEC: 20.6 µg Zn/L.
Chronic toxicity in marine water	Cu: Unclassified (however, the PNEC: 5.2 µg/L of dissolved copper can be used to perform an environmental risk analysis) Zn: PNEC: 6.1 µg Zn/L
Sediment toxicity in freshwater	PNEC in sediment is 87 mg Cu/kg dry weight. It can be used for environmental risk assessment. PNEC in soil: 65.5 mg Cu/kg dry weight. It can be used for environmental risk assessment.
Sediment toxicity in marine water	Zn: The Predicted No Effect Concentration (PNEC) in marine sediment is: 113 mg Zn/kg sediment dry weight.
Soil toxicity	Cu: The soil PNEC: 65.5 mg Cu/kg dry weight can be used to perform an environmental risk analysis. Zn: The Predicted No Effect Concentration (PNEC) in soil is: 106.8 mg/kg dry weight.
Toxicity for microorganisms in wastewater treatment plants	Zn: The Predicted No Effect Concentration (PNEC) for microorganisms in wastewater treatment plants is: 52 µg Zn/l.
Persistence and degradability	N/A
Bioaccumulation potential	N/A
Soil mobility	Cu: Copper ions strongly bind to soil matrices. The binding depends on the soil properties. The average value of the water-soil partition coefficient (Kp) obtained is: 2120 L/kg. Zn: For Zinc, a partition coefficient of 158.5 L/kg has been calculated.
PBT and vPvB assessment results	The criteria of Annex XIII of the REACH Regulation on PBT and vPvB properties do not apply to inorganic substances such as copper and its inorganic compounds.

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Other harmful effects	Copper and zinc do not contribute to ozone depletion, ozone formation, global warming, and acidification.

13. Information on disposal

Waste treatment methods	The disposal of the product should be carried out as hazardous waste, according to current regulations. Depending on the waste origin and its current state, different European codes (CER) may apply. Disposal of the containers should also be carried out according to current regulations. Depending on the waste origin and its current state, different European codes (CER) may apply.

14. Information on transport

		Road/rail/inland waterway transport (ADR/RID/ADN)	Maritime transport (IMDG Code)	Air transport (ICAO T.I./IATA)
14.1	UN number	3077	3077	3077
14.2	Proper shipping name UN	Environmentally hazardous substance (Powdered brass), solid, N.O.S.	Environmentally hazardous substance (Powdered brass), solid, N.O.S.	Environmentally hazardous substance (Powdered brass), solid, N.O.S.
14.3	Danger class	9	9	9
14.4	Packaging group	III	III	III
14.5	Environmental hazards	Classified as dangerous	Classified as dangerous	Classified as dangerous
14.6	Special precautions for users	(*)	EmS: F-A, S-F (*)	(*)
14.7	Bulk transport according to Annex II of MARPOL 73/78 and IBC code	N.A.	N.A.	N.A.
14.8	Labelling			

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(*) Transport, including loading and unloading, must be carried out by people who have received the necessary training provided by the modal regulations concerning the transport of dangerous goods

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) 2015/830 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) 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: Restriction 3 Restrictions related to the substances contained: No restriction. Where applicable, refer to the following regulatory provisions : Directive 2012/18/EU (Seveso III) Regulation (EC) nr 648/2004 (detergents). Dir. 2004/42/EC (VOC directive) Provisions related to directive EU 2012/18 (Seveso III): Seveso III category according to Annex 1, part 1 : None
15.2 Chemical safety	No Chemical Safety Assessment has been carried out for the mixture.

16. Other information

ADR	European Agreement concerning International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
ATEMix	Acute toxicity Estimate (Mixtures)
CAS	Chemical Abstracts Service (division of the American Chemical Society).
CLP	Classification, Labeling, Packaging.
DNEL	Derived No Effect Level.
EINECS	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO	Ordinance on Hazardous Substances, Germany.
GHS	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA	International Air Transport Association.

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IATA-DGR	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
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.
KSt	Explosion coefficient.
LC50	Lethal concentration, for 50 percent of test population.
LD50	Lethal dose, for 50 percent of test population
PNEC	Predicted No Effect Concentration.
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.
TWA	Time-weighted average
WGK	German Water Hazard Class.

The information contained herein is based on our knowledge at the date given below, refers only to the product indicated and does not represent a guarantee of particular qualities.

The user has to make sure of the suitability and completeness of such information in relation with the specific use and always under his responsibility act in accordance with the regulation on health, safety and environmental protection, provided by current laws.

The manufacturer declines all liability for improper use.

This SDS cancels and replaces any preceding release.

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