Safety Data Sheet

According to EU Directive 1907/2006, as amended

Product name: Real filament PLA Bronze

Date of issue: 23-7-2018

1. Identification of the substance/preparation and of the company

1.1 Trade name: Real filament PLA Bronze

1.2 Use of the product: 3Dprinter Filament

1.3 Supplier:
ReprapWorld B.V.
Wagenmaker 6a
2631 RL Nootdorp, The Netherlands
Phone: +31 (0)85 0091531

2. Hazards identification

2.1 Classification of the substance or mixture
Classification according to regulation (EC) No 1272/2008

Aquatic Acute 1	H400 Very toxic to aquatic life
Aquatic Chronic 3	H412 Harmful to aquatic life with long lasting effects

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

N;	Dangerous for the environment
R50/53:	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
Note that the materials are encapsulated in a polymer matrix.

Hazard pictograms

GHS09
Signal word Warning
Hazard statements
H400 Very toxic to aquatic life.
H412 Harmful to aquatic life with long lasting effects.
Precautionary statements
P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards
Inhalation of dust or fumes leads to irritation of respiratory system.
Results of PBT and vPvB assessment

PBT:	Not applicable.
vPvB:	Not applicable

3. Composition/information on ingredients

3.2 Mixtures

CAS no.	Description
7440-50-8	Copper
9051-89-2	Polylactic acid

With proprietary additivation.

4. First aid measures

4.1 Description of first aid measures

General advice: If you feel unwell, seek medical advice (show the label where possible).
Never give anything by mouth to an unconscious person.

If inhaled: in case of gases evolving from molten filament, move person into fresh air.

skin contact with molten filament: rinse well with water. If skin irritation persists, call a physician.

In case of eye contact with molten filament: If easy to do, remove contact lens, if worn. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed: Rinse mouth with water. Induce vomiting immediately and call a physician. If a person vomits when lying on his back, place him in the recovery position.

4.2 Most important symptoms and effects, both acute and delayed

no data available

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media: Dry chemical agent for metal fires, dry sand
Unsuitable extinguishing media : Do not use water.

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: carbon monoxide and carbon dioxide (CO2).

5.3 Advice for fire fighters

Fire fighting measures
Wear a self-contained breathing apparatus and chemical protective clothing.

Unusual Fire Hazards:
Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. In the event of fire and/or explosion do not breathe fumes.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Stop leak if you can do it without risk. Isolate exposed area. Keep unauthorized personnel away. Use certificated protective equipment. Ventilate the leaked area. Pellets on floor may be slippery and cause falls. Avoid breathing gases from molten filament.

6.2 Environmental precautions
Spilled pellets may cause soil and air pollution. Disposal should be carried in compliance with federal, state and local regulations regarding health, air and water pollution.

6.3 Methods and materials for containment and cleaning up
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Stop the flow of material, if this is without risk.

Large Spills:	Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water. Prevent entry into waterways, sewers, basements or confined areas.
Small Spills:	Sweep up or vacuum up spillage and collect in suitable container for disposal.
Additional information:	Special danger of slipping by leaking/spilling product.

7. Handling and storage

7.1 Handling
Avoid contact with molten material. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures
Prevention of Fire and Explosion: Not available

7.2 Conditions for safe storage, including any incompatibilities
Do not store together with oxidizing or acidic materials
Keep container closed.
Do not expose to temperature exceeding 40°C for a prolonged time.
Protect from direct sunlight and all heat sources in order to avoid sintering.
Store container in a well dry/cool place.
Keep away from waterways and sewers.
Keep away from any source of ignition.
Other precautions:
Avoid contamination of foods.
Avoid inhalation of dust during the processing of the resin

8. Exposure controls/personal protection

8.1 Control parameters

Dnel:	Dnel/Dmel- values are not available.
PNEC:	PNEC- values are not available.

Ingredients with limit values that require monitoring at the workplace:
7440-50-8 copper

WEL Short-term value:	2** mg/m^3
WEL Long-term value:	0.2* 1** mg/m^3

*fume **dusts and mists (as Cu)

8.2 Exposure controls
Engineering measures
Provide adequate ventilation while printing.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Solid Filament
Odour	Neutral,metallic
Colour	Bronze coloured
Odour threshold	No information available
pH	Not applicable
Melting/freezing point	150-170°/ -
Initial boiling point and boiling range	Not applicable
Flash point	No information available
Evaporation rate	Not applicable
Flammability (solid, gas)	No information available
Upper/lower flammability or explosive limits	UEL: No data available LEL: No data available
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	> 3 g/ml (25°C)
Solubility(ies)	Insoluble
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not applicable
Explosive properties	Not available
Oxidizing properties	Not available

10. Stability

10.1 Reactivity:
The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability:
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions:
Reacts with acids, alkalis and oxidizing agents. Risk of dust explosion.

10.4 Conditions to avoid
Keep away from extreme heat, moisture and static discharges

10.5 Incompatible materials:
Materials to avoid: Strong oxidizing solutions, Acidic solutions

10.6 Hazardous decomposition products
Carbon Dioxide, Carbon Monoxide

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity:	Not known.
Skin corrosion/irritation:	Possibly irritating.
Serious eye damage/eye irritation:	No data available.
Respiratory or skin sensitization:	No sensitization.
Reproductive toxicity:	No data available.
Carcinogenicity:	No data available.

Additional toxicological information:
Inhalation of the contained metal particle dust or metal particle fumes may lead to irritation of respiratory system. Inhalation of higher concentrations may cause metal fume fever.

12. Ecological information

12.1 Toxicity
No data available.

12.2 Persistence and degradability
Difficult to degrade.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
No data available.

12.6 Other adverse effects
No data available.

13. Disposal considerations

13.1 Waste treatment methods
Disposal method
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Disposal precaution
Consider the require attentions in accordance with waste treatment management regulation.

14. Transport information

14.1 UN number
Not regulated as a hazardous material.
Contains: UN3077

14.2 UN proper shipping name
Contains:

ADR	UMWELTGEFÄHRDENDER STOFF, FEST, N.A.G. (Kupfer) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper), MARINE POLLUTANT

IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)

14.3 Transport hazard class(es)
Miscellaneous dangerous substances and articles.

14.4 Packing Group
III

14.5 Environmental hazards

·	Marine pollutant:	Yes Symbol (fish and tree)
·	Special marking (ADR):	Symbol (fish and tree)
·	Special marking (IATA):	Symbol (fish and tree)

14.6 Special precautions for user

Warning:	Miscellaneous dangerous substances and articles.
Danger code (Kemler):	90
EMS Number:	F-A,S-F

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable
ADR:
UN "Model Regulation":
UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III

15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Waterhazard class:
Water hazard class 2 (Self-assessment): hazardous for water.

15.2 Chemical Safety Assessment
Chemical safety assessments for substances in this mixture were not carried out.

16. Other information

Information is referenced from other manufacturers.
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 and Regulation (EC) No. 2015/830. Label element according to Regulation (EC) No 1272/2008.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.
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