

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Trade name or designation of the mixture	MetalFil Ancient Bronze
Registration number	-
Synonyms	None.
Issue date	06-March-2019
Version number	01

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

Identified uses	3D printer filament
Uses advised against	None known.

**1.3. Details of the supplier of the safety data sheet****Supplier**

Company name	Formfutura BV
Address	Groenestraat 215, 6531 HH Nijmegen, The Netherlands
Telephone	+31 (0)85 743 4000 (Office hours Mo. - Fr. 09:00 - 17:00 CET)
Contact person	Product Compliance
e-mail	product.compliance@formfutura.com

**1.4. Emergency telephone number** +31 (0)30 274 8888, only for the doctor

National Poison Information Center Utrecht, The Netherlands

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

**Classification according to Regulation (EC) No 1272/2008 as amended****Environmental hazards**

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.

**Hazard summary** Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.

**2.2. Label elements****Label according to Regulation (EC) No. 1272/2008 as amended**

Under CLP Regulation (EC) No 1272/2008 and its amendments, labelling is not required for mixtures containing polymers or elastomers but the information appears in the Safety Data Sheet.

**2.3. Other hazards** Not a PBT or vPvB substance or mixture.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Copper (encapsulated)	50 - < 60	7440-50-8 231-159-6	-	029-019-01-X	
<b>Classification:</b>	Aquatic Acute 1;H400(M=1), Aquatic Chronic 3;H412				
Polylactic acid	10 - < 20	9051-89-2	-	-	
<b>Classification:</b>	-				



Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
tin	10 - < 20	7440-31-5 231-141-8	-	-	#
<b>Classification:</b> -					
barium sulfate	3 - < 5	7727-43-7 231-784-4	-	-	
<b>Classification:</b> -					
Other components below reportable levels	5 - < 10				

#### List of abbreviations and symbols that may be used above

M: M-factor

**Composition comments** The full text for all H-statements is displayed in section 16.

## SECTION 4: First aid measures

**General information** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 4.1. Description of first aid measures

**Inhalation** Not likely, due to the form of the product. If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.

**Skin contact** If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn. Do not peel polymer from the skin.

**Eye contact** Not likely, due to the form of the product. If hot product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.

**Ingestion** Not likely, due to the form of the product.

**4.2. Most important symptoms and effects, both acute and delayed** Exposure may cause temporary irritation, redness, or discomfort.

**4.3. Indication of any immediate medical attention and special treatment needed** Treat symptomatically.

## SECTION 5: Firefighting measures

**General fire hazards** No unusual fire or explosion hazards noted.

### 5.1. Extinguishing media

**Suitable extinguishing media** Powder. Dry sand.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**5.2. Special hazards arising from the substance or mixture** During fire, gases hazardous to health may be formed.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special fire fighting procedures** Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

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

**For non-emergency personnel** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

**For emergency responders** Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

**6.2. Environmental precautions** Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

**6.3. Methods and material for containment and cleaning up** Prevent product from entering drains. Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.



#### 6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

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

Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

#### 7.3. Specific end use(s)

Not available.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Occupational exposure limits

##### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	MAK	1 mg/m <sup>3</sup>	Inhalable fraction.
		0,1 mg/m <sup>3</sup>	Fume and respirable dust.
	STEL	4 mg/m <sup>3</sup>	Inhalable fraction.
		0,4 mg/m <sup>3</sup>	Fume and respirable dust.
tin (CAS 7440-31-5)	MAK	2 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	4 mg/m <sup>3</sup>	Inhalable fraction.

##### Belgium. Exposure Limit Values.

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m <sup>3</sup>	
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m <sup>3</sup>	Dust and mist.
		0,2 mg/m <sup>3</sup>	Fume.
tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>	

##### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m <sup>3</sup>
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,1 mg/m <sup>3</sup>
tin (CAS 7440-31-5)	TWA	0,1 mg/m <sup>3</sup>

##### Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	MAC	4 mg/m <sup>3</sup>	Respirable dust.
		10 mg/m <sup>3</sup>	Total dust.
Copper (encapsulated) (CAS 7440-50-8)	MAC	0,21 mg/m <sup>3</sup>	Dust and fume.
	STEL	2 mg/m <sup>3</sup>	Dust and fume.
tin (CAS 7440-31-5)	MAC	2 mg/m <sup>3</sup>	

##### Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,2 mg/m <sup>3</sup>	Fume.

##### Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	5 mg/m <sup>3</sup>	Dust.



**Czech Republic. OELs. Government Decree 361**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	Ceiling	2 mg/m3	Dust.
		0,2 mg/m3	Fume.
	TWA	1 mg/m3	Dust.
tin (CAS 7440-31-5)		0,1 mg/m3	Fume.
	Ceiling	4 mg/m3	
	TWA	2 mg/m3	

**Denmark. Exposure Limit Values**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	TLV	1 mg/m3	Dust.
		0,1 mg/m3	Fume.

**Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
		1 mg/m3	Dust.
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Total dust.
		0,2 mg/m3	Respirable dust.

**Finland. Workplace Exposure Limits**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m3	Dust.
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,1 mg/m3	Respirable dust and/or fume.
		0,02 mg/m3	Respirable.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	VME	5 mg/m3	Respirable fraction.
	Regulatory status: Regulatory binding (VRC)	10 mg/m3	Inhalable fraction.
	Regulatory status: Regulatory binding (VRC)		
Copper (encapsulated) (CAS 7440-50-8)	VLE	2 mg/m3	Dust.
	Regulatory status: Indicative limit (VL)		
	VME	1 mg/m3	Dust.
	Regulatory status: Indicative limit (VL)		
		0,2 mg/m3	Fume.
	Regulatory status: Indicative limit (VL)		

**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	4 mg/m3	Inhalable fraction.
		0,3 mg/m3	Respirable fraction.
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,01 mg/m3	Respirable fraction.
tin (CAS 7440-31-5)	TWA	0,02 mg/m3	Vapor and aerosol, inhalable fraction.



**Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)**

Components	Type	Value	Form
		0,004 ppm	Vapor and aerosol, inhalable fraction.

**Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.

**Greece. OELs (Decree No. 90/1999, as amended)**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	STEL	2 mg/m3	Dust.
	TWA	1 mg/m3	Dust.
		0,2 mg/m3	Fume.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Hungary. OELs. Joint Decree on Chemical Safety of Workplaces**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	6 mg/m3	Respirable dust.
		10 mg/m3	Total inhalable dust.
Copper (encapsulated) (CAS 7440-50-8)	STEL	4 mg/m3	
		0,4 mg/m3	Smoke.
	TWA	1 mg/m3	
		0,1 mg/m3	Smoke.
tin (CAS 7440-31-5)	STEL	8 mg/m3	
	TWA	2 mg/m3	

**Iceland. OELs. Regulation 154/1999 on occupational exposure limits**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Total dust.
		0,1 mg/m3	Respirable dust.

**Ireland. Occupational Exposure Limits**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	2 mg/m3	Respirable dust.
Copper (encapsulated) (CAS 7440-50-8)	STEL	2 mg/m3	Dust and mist.
	TWA	1 mg/m3	Dust and mist.
		0,2 mg/m3	Fume.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Italy. Occupational Exposure Limits**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	5 mg/m3	Inhalable fraction.
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
		0,2 mg/m3	Fume.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Latvia. OELs. Occupational exposure limit values of chemical substances in work environment**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	2 mg/m3	



**Latvia. OELs. Occupational exposure limit values of chemical substances in work environment**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)		2 mg/m3	Dust.
	STEL	1 mg/m3	
	TWA	0,5 mg/m3	

**Lithuania. OELs. Limit Values for Chemical Substances, General Requirements**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	5 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.
		1 mg/m3	Dust.
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Inhalable fraction.
		0,2 mg/m3	Respirable fraction.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Netherlands. OELs (binding)**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,1 mg/m3	Inhalable fraction.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Norway. Administrative Norms for Contaminants in the Workplace**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TLV	5 mg/m3	Respirable dust.
		10 mg/m3	Total dust.
Copper (encapsulated) (CAS 7440-50-8)	TLV	1 mg/m3	Dust.
		0,1 mg/m3	Fume.
tin (CAS 7440-31-5)	TLV	2 mg/m3	

**Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Laws 2014, item 817**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,2 mg/m3	
tin (CAS 7440-31-5)	TWA	2 mg/m3	Inhalable fraction.

**Portugal. OELs. Decree-Law n. 290/2001 (Journal of the Republic - 1 Series A, n.266)**

Components	Type	Value	Form
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	5 mg/m3	Inhalable fraction.
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
		0,2 mg/m3	Fume.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Romania. OELs. Protection of workers from exposure to chemical agents at the workplace**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	STEL	1,5 mg/m3	Dust.
		0,2 mg/m3	Fume.
		0,5 mg/m3	Dust.
tin (CAS 7440-31-5)	TWA	2 mg/m3	



**Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	4 mg/m3	Inhalable fraction.
		1,5 mg/m3	Respirable fraction.
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Inhalable fraction.
		0,2 mg/m3	Respirable fume.
tin (CAS 7440-31-5)	STEL	4 mg/m3	
	TWA	2 mg/m3	

**Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)**

Components	Type	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Inhalable fraction.
		0,1 mg/m3	Respirable fume.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Spain. Occupational Exposure Limits**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m3	
Copper (encapsulated) (CAS 7440-50-8)	TWA	1 mg/m3	Dust and mist.
		0,2 mg/m3	Fume.
tin (CAS 7440-31-5)	TWA	2 mg/m3	

**Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	5 mg/m3	Inhalable dust.
		2,5 mg/m3	Respirable dust.
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,01 mg/m3	Respirable dust.
tin (CAS 7440-31-5)	TWA	2 mg/m3	Inhalable dust.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	3 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.
Copper (encapsulated) (CAS 7440-50-8)	STEL	0,2 mg/m3	Inhalable fraction.
	TWA	0,1 mg/m3	Inhalable fraction.
tin (CAS 7440-31-5)	STEL	0,02 mg/m3	Inhalable fraction.
		0,004 ppm	Inhalable fraction.
	TWA	0,02 mg/m3	Inhalable fraction.
		0,004 ppm	Inhalable fraction.

**UK. EH40 Workplace Exposure Limits (WELs)**

Components	Type	Value	Form
barium sulfate (CAS 7727-43-7)	TWA	4 mg/m3	Respirable dust.
		10 mg/m3	Inhalable dust.
Copper (encapsulated) (CAS 7440-50-8)	STEL	2 mg/m3	Inhalable dusts and mists.
	TWA	1 mg/m3	Inhalable dusts and mists.
		0,2 mg/m3	Fume.



Components	Type	Value
tin (CAS 7440-31-5)	TWA	2 mg/m <sup>3</sup>
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).	
<b>Recommended monitoring procedures</b>	Follow standard monitoring procedures.	
<b>Derived no effect levels (DNELs)</b>	Not available.	
<b>Predicted no effect concentrations (PNECs)</b>	Not available.	
<b>8.2. Exposure controls</b>		
<b>Appropriate engineering controls</b>	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.	
<b>Individual protection measures, such as personal protective equipment</b>		
<b>General information</b>	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).	
<b>Skin protection</b>		
- Hand protection	Wear appropriate chemical resistant gloves.	
- Other	Wear suitable protective clothing.	
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.	
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.	
<b>Hygiene measures</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.	
<b>Environmental exposure controls</b>	Inform appropriate managerial or supervisory personnel of all environmental releases. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.	

## SECTION 9: Physical and chemical properties

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

#### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	filament
<b>Colour</b>	Bronze.
<b>Odour</b>	Metallic.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	150 - 170 °C (302 - 338 °F)
<b>Initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapour pressure</b>	Not available.
<b>Vapour density</b>	Not available.
<b>Relative density</b>	> 3 mg/l





<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Insoluble
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not explosive.
<b>Oxidising properties</b>	Not oxidising.
<b>9.2. Other information</b>	No relevant additional information available.

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>10.2. Chemical stability</b>	Material is stable under normal conditions.
<b>10.3. Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>10.4. Conditions to avoid</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Strong oxidising agents. Acids.
<b>10.6. Hazardous decomposition products</b>	No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	Based on available data, the classification criteria are not met.
<b>Eye contact</b>	Based on available data, the classification criteria are not met.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

**Symptoms** Exposure may cause temporary irritation, redness, or discomfort.

### 11.1. Information on toxicological effects

<b>Acute toxicity</b>	Not known.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.
<b>Respiratory sensitisation</b>	Based on available data, the classification criteria are not met.
<b>Skin sensitisation</b>	Based on available data, the classification criteria are not met.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.

#### Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** Components of this product are hazardous to aquatic life.



Components	Species	Test Results
Copper (encapsulated) (CAS 7440-50-8)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) 0,0318 mg/l, 48 hours
Fish	LC50	Chinook salmon (Oncorhynchus tshawytscha) 0,02 mg/l, 96 hours
<b>12.2. Persistence and degradability</b>	No data is available on the degradability of any ingredients in the mixture.	
<b>12.3. Bioaccumulative potential</b>	No data available.	
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not available.	
<b>Bioconcentration factor (BCF)</b>	Not available.	
<b>12.4. Mobility in soil</b>	No data available.	
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.	
<b>12.6. Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

#### 12.7. Additional information

##### Estonia Dangerous substances in groundwater Data

Copper (encapsulated) (CAS 7440-50-8)	Copper (Cu) 1000 ug/l
	Copper (Cu) 15 ug/l
tin (CAS 7440-31-5)	Tin (Sn) 150 ug/l
	Tin (Sn) 3 ug/l

##### Estonia Dangerous substances in soil Data

Copper (encapsulated) (CAS 7440-50-8)	Copper (Cu) 100 mg/kg
	Copper (Cu) 150 mg/kg
	Copper (Cu) 500 mg/kg
tin (CAS 7440-31-5)	Tin (Sn) 10 mg/kg
	Tin (Sn) 300 mg/kg
	Tin (Sn) 50 mg/kg

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

## SECTION 15: Regulatory information

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



## EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

## Authorisations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

## Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

## Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

## Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

## National regulations

Follow national regulation for work with chemical agents in accordance with Directive 98/24/EC, as amended.

## 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

## SECTION 16: Other information

### List of abbreviations

Not available.

### References

Not available.

### Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

### Full text of any H-statements not written out in full under Sections 2 to 15

H400 Very toxic to aquatic life.  
H412 Harmful to aquatic life with long lasting effects.

### Revision information

None.

### Training information

Follow training instructions when handling this material.

### Disclaimer

This safety data sheet (SDS) is issued based on the latest reference, data etc currently available. The information in this SDS has been carefully assessed, but no guarantee is given for its accuracy. We cannot anticipate all conditions under which this product may be used. It is the user's responsibility to take appropriate safety measures for handling.

