# SAFETY DATA SHEET

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

1.1. Product identifier	
Trade name or designation of the mixture	M-Fil Cuivre
Registration number	-
Synonyms	None.
Issue date	05-March-2019
Version number	01
1.2. Relevant identified uses of t	he 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	e safety data sheet
Supplier	
Company name	eMotion Tech
Address	185 avenue des États-Unis, 31200 Toulouse , France
Telephone	+33 (0)5 82 95 26 62 (Office hours Mo Fr. 9:00 - 12:00, 14:00 - 17:30)
Contact person	Product Compliance
e-mail	contact@emotion-tech.com
1.4. Emergency telephone	+33 (0)1 40 05 48 48
number	National Poison Information Center Paris, France

## **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.

Not classified for health hazards. However, occupational exposure to the mixture or substance(s)

Hazard summary

## 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.

may cause adverse health effects.

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

## **SECTION 3: Composition/information on ingredients**

## 3.2. Mixtures

### **General information**

70 - < 80	7440-50-8 231-159-6	-	029-019-01-X	
Acute 1;H400(M=	=1), Aquatic Chronic 3	3;H412		
10 - < 20	9051-89-2	-	-	
	10 - < 20	10 - < 20 9051-89-2 -		

## Classification:

Chemical name	% CAS-No. / EC No. REACH Registration No. Index No. Notes
barium sulfate	3 - < 5 7727-43-7 231-784-4
Classification: -	
Other components below repo levels	ortable 5 - < 10
List of abbreviations and symbo M: M-factor	Is that may be used above
Composition comments	The full text for all H-statements is displayed in section 16.
SECTION 4: First aid meas	sures
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 meas	sures
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 m	neasures
General fire hazards	No unusual fire or explosion hazards noted.
5.1. Extinguishing media Suitable extinguishing	Powder. Dry sand.
media	
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 rel	lease measures
6.1. Personal precautions, prote	ctive 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. Loca 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**

Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective 7.1. Precautions for safe equipment. Avoid release to the environment. Observe good industrial hygiene practices. Store in tightly closed container. Store away from incompatible materials (see Section 10 of the 7.2. Conditions for safe SDS). storage, including any incompatibilities

7.3. Specific end use(s) Not available.

## **SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters

handling

#### **Occupational exposure limits**

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

Components	Туре	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	МАК	1 mg/m3	Inhalable fraction.
		0,1 mg/m3	Fume and respirable dust.
	STEL	4 mg/m3	Inhalable fraction.
		0,4 mg/m3	Fume and respirable dust.
Belgium. Exposure Limit Values.			
Components	Туре	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.

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

Components	Гуре	Value
barium sulfate (CAS 7727-43-7)	TWA	10 mg/m3
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,1 mg/m3

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

Components	Type	Value		
barium sulfate (CAS 7727-43-7)	MAC	4 mg/m3	Respirable dust.	
		10 mg/m3	Total dust.	
Copper (encapsulated) (CAS 7440-50-8)	MAC	0,21 mg/m3	Dust and fume.	
	STEL	2 mg/m3	Dust and fume.	

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

components	туре	value	1 Onn	
Copper (encapsulated) (CAS 7440-50-8)	TWA	0,2 mg/m3	Fume.	
Czech Republic. OELs. Governm	nent Decree 361			
Components	Туре	Value	Form	
barium sulfate (CAS 7727-43-7)	TWA	5 mg/m3	Dust.	
Copper (encapsulated) (CAS 7440-50-8)	Ceiling	2 mg/m3	Dust.	
		0,2 mg/m3	Fume.	
	TWA	1 mg/m3	Dust.	
		0,1 mg/m3	Fume.	

Denmark. Exposure Limit Values Components	Туре	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	Туре	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 Li	mits		
Components	Туре	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.

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

Components	Туре	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.
Begulatory status	Indicative limit $(1/L)$		

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	Туре	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.
Germany. TRGS 900, Limit Values	s in the Ambient Air at the Workplace		
Components	Туре	Value	Form
barium sulfate (CAS 7727-43-7)	AGW	10 mg/m3	Inhalable fraction.
		1,25 mg/m3	Respirable fraction.
Greece. OELs (Decree No. 90/199	9, as amended)		
Components	Туре	Value	Form
Copper (encapsulated) (CAS 7440-50-8)	STEL	2 mg/m3	Dust.
	TWA	1 mg/m3	Dust.

Hungary. OELs. Joint Decree on Chen Components	Туре	Value	Form
parium sulfate (CAS 727-43-7)	TWA	6 mg/m3	Respirable dust.
,		10 mg/m3	Total inhalable dust
Copper (encapsulated)	STEL	4 mg/m3	
CAS 7440-50-8)		0.4	
	<b>T</b> 14/4	0,4 mg/m3	Smoke.
	TWA	1 mg/m3	
		0,1 mg/m3	Smoke.
celand. OELs. Regulation 154/1999 or Components	n occupational exposure limit Type	s Value	Form
Copper (encapsulated)	TWA	1 mg/m3	Total dust.
CÁS 7440-50-8)		-	
		0,1 mg/m3	Respirable dust.
reland. Occupational Exposure Limits		<b>V</b> -1	Form
Components	Туре	Value	Form
parium sulfate (CAS 7727-43-7)	TWA	2 mg/m3	Respirable dust.
Copper (encapsulated)	STEL	2 mg/m3	Dust and mist.
CÁS 7440-50-8)		-	
	TWA	1 mg/m3	Dust and mist.
		0,2 mg/m3	Fume.
taly. Occupational Exposure Limits	Tumo	Value	Form
Components	Туре	Value	-
parium sulfate (CAS 727-43-7)	TWA	5 mg/m3	Inhalable fraction.
Copper (encapsulated)	TWA	1 mg/m3	Dust and mist.
CAS 7440-50-8)		0,2 mg/m3	Fume.
atvia. OELs. Occupational exposure	limit values of chomical subs		
Components	Type	Value	Form
parium sulfate (CAS	TWA	2 mg/m3	
727-43-7)			Durat
		2 mg/m3	Dust.
Copper (encapsulated) CAS 7440-50-8)	STEL	1 mg/m3	
	TWA	0,5 mg/m3	
_ithuania. OELs. Limit Values for Che	mical Substances, General R	lequirements	
Components	Туре	Value	Form
parium sulfate (CAS	TWA	5 mg/m3	Respirable fraction.
7727-43-7)		10 mg/m3	Inhalable fraction.
121 40 1)		io my/ma	
		$1 \text{ ma/m}^2$	Duet
	τινια	1 mg/m3	Dust.
Copper (encapsulated) CAS 7440-50-8)	TWA	1 mg/m3	Dust. Inhalable fraction.
Copper (encapsulated)	TWA	-	Inhalable fraction.
Copper (encapsulated) CAS 7440-50-8) Netherlands. OELs (binding)		1 mg/m3 0,2 mg/m3	Inhalable fraction. Respirable fraction.
Copper (encapsulated)	TWA <b>Type</b>	1 mg/m3	Inhalable fraction.
Copper (encapsulated) CAS 7440-50-8) Netherlands. OELs (binding)		1 mg/m3 0,2 mg/m3	Inhalable fraction. Respirable fraction.
Copper (encapsulated) CAS 7440-50-8) Netherlands. OELs (binding) Components Copper (encapsulated) CAS 7440-50-8) Norway. Administrative Norms for Con	Type TWA ntaminants in the Workplace	1 mg/m3 0,2 mg/m3 <b>Value</b> 0,1 mg/m3	Inhalable fraction. Respirable fraction. <b>Form</b> Inhalable fraction.
Copper (encapsulated) CAS 7440-50-8) Netherlands. OELs (binding) Components Copper (encapsulated) CAS 7440-50-8)	<b>Type</b> TWA	1 mg/m3 0,2 mg/m3 <b>Value</b>	Inhalable fraction. Respirable fraction. <b>Form</b>

Components         Type         Value         Form           Copper (encapsulated) (CAS 7440-50-8)         TLV         1 mg/m3         Dust.           Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of narmful health factors in the work environment, Journal of Laws 2014, item 817         Fume.           Ordinance of the Minister of Labour and Social Policy on 6 June 2014 on the maximum permissible concentrations and intensities of narmful health factors in the work environment, Journal of Laws 2014, item 817         Fume.           Components         Type         Value         Form           Copper (encapsulated) (CAS 7440-50-8)         TWA         4 mg/m3         Inhalable fraction.           Copper (encapsulated) (CAS 7440-50-8)	Norway. Administrative Norms for Conta	aminants in the Workplace		
Copper (encapsulated) (CAS 7440-66-8)     TLV     1 mg/m3     Dust.       Ordinance of the Minister of Labour and Social Policy on B June 2014 on the maximum permissible concentrations and intensities of harmulu health factors in the work environment, Journal of Laws 2014 (Lem 817 Components     TVMA     0.2 mg/m3       Copper (encapsulated) (CAS 7440-65-8)     TWA     0.2 mg/m3     Form       Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1798)- Components     TVMA     5 mg/m3     Inhalable fraction.       Copper (encapsulated)     TWA     5 mg/m3     Inhalable fraction.       Copper (encapsulated)     TWA     5 mg/m3     Dust and mist.       Copper (encapsulated)     TWA     1 mg/m3     Dust.       Copper (encapsulated)     TWA     5 mg/m3     Dust.       Copper (encapsulated)     STEL     1.5 mg/m3     Dust.       Copper (encapsulated)     STEL     1.5 mg/m3     Dust.       Copper (encapsulated)     TWA     4 mg/m3     Inhalable fraction.       Copper (encapsulated)     TWA     1.5 mg/m3     Respirable fume.       Copper (encapsulated)     <	Components		Value	Form
(CAS 7440-50.8)       0,1 mg/m3       Fume.         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         Components       Type       Value       Form         Components       Type       Value       Form         Portugal, VLEs. Norm on occupational exposure to chemical agents (NP 1796)       Gongor (encapsulated)       TWA       5 mg/m3       Inhalable fraction.         Copper (encapsulated)       TWA       5 mg/m3       Inhalable fraction.       Copper (encapsulated)       Furme.         CAS 7440-50-8)       TWA       1 mg/m3       Dust and mist.       C.2 mg/m3       Furme.         Romania. OELs. Protection of workers from exposure to chemical agents at the workplace       Form       Copper (encapsulated)       STEL       1.5 mg/m3       Dust.         CAS 7440-50-8)       TWA       0.2 mg/m3       Furme.       TWA       0.5 mg/m3       Dust.         Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents       Components       Form         Copper (encapsulated)       TWA       1 mg/m3       Inhalable fraction.       Traction.         CAS 7440-50-8)       O.2 mg/m3			10 mg/m3	Total dust.
0.1 mg/m3     Fume:       Ordinance of the Minister of Labour and Social Policy on 5 June 2014 on the maximum permissible concentrations and intensities of harmful health factors in the work environment, Journal of Law 2014, item 817     Components     Type     Value     Form       Copper (encapsulated)     STEL     1.5 mg/m3     Dust.       CAS 7440-50-8)     TVA     0.5 mg/m3     Dust.       Copper (encapsulated)     TWA     1.5 mg/m3     Inslable fraction.       CAS 7440-50-8)     TVA     0.5 mg/m3     Inslable fraction.       Copper (encapsulated)     TWA     1 mg/m3     Inslabl		TLV	1 mg/m3	Dust.
Intensities of harmful health factors in the work environment, Journal of Laws 2014, tem 817 Components Type Value Components Type Value Form CAS 7440-50-8) TWA 0,2 mg/m3 Inhalable fraction, TZ7274-37, TWA 5 mg/m3 Ust and mist. (CAS 7440-50-8) Components Type Value Form Components Type Valu	( )		0,1 mg/m3	Fume.
Copper (encapsulated)     TWA     0.2 mg/m3       CAS 7440-50-8)     Porm       Portugal. VELS. Norm on occupational exposure to chemical agents (NP 1796)     Form       Components     Type     Value     Form       barium sulfate (CAS     TWA     5 mg/m3     Inhalable fraction.       CAS 7440-50-8)     UVA     1 mg/m3     Dust and mist.       (CAS 7440-50-8)     0.2 mg/m3     Fume.       Romania. OELs. Protection of workers from exposure to chemical agents at the workplace     Components     Type       Comporents     Type     Value     Form       Comporents     Type     Value     Form       Copper (encapsulated)     STEL     1.5 mg/m3     Dust.       Copper (encapsulated)     STEL     1.5 mg/m3     Dust.       Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents components     Type       TV/A     0.8 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TWA     4 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TVA     4 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TVA     4 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fract	intensities of harmful health factors in t	he work environment, Journal o	of Laws 2014, item 817	
CAS 7440-50-5)       Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)       Components       Form         Components       TWA       5 mg/m3       Inhalable fraction.         CAS 7440-50-5)       UWA       1 mg/m3       Dust and mist.         (CAS 7440-50-5)       0,2 mg/m3       Fume.         Romania. OELs. Protection of workers from exposure to chemical agents at the workplace       Form         Copper (encapsulated)       STEL       1,5 mg/m3       Dust.         Copper (ancapsulated)       STEL       1,6 mg/m3       Fume.         Copper (ancapsulated)       STEL       0,2 mg/m3       Fume.         (CAS 7440-50-8)       TWA       0,2 mg/m3       Fume.         Copper (encapsulated)       STEL       1,6 mg/m3       Dust.         Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents       Form         Components       TWA       4 mg/m3       Inhalable fraction.         7727-43-7)       1,5 mg/m3       Respirable fraction.       Form         Copper (encapsulated)       TWA       1 mg/m3       Inhalable fraction.         CAS 7440-50-8)       TWA       1 mg/m3       Inhalable fraction.         Copper (encapsulated)       TWA       1 mg/m3       Respi	-			
Components         Type         Value         Form           barium sulfate (CAS         TWA         5 mg/m3         Inhalable fraction.           Copper (encapsulated)         TWA         1 mg/m3         Dust and mist.           (CAS 7440-50-8)         TWA         1 mg/m3         Dust and mist.           Components         Type         Value         Form           Components         Type         Value         Form           Copper (encapsulated)         STEL         1.5 mg/m3         Dust.           Copper (encapsulated)         TWA         0.5 mg/m3         Dust.           Stovakia. OELs. Protection of workers from exposure to chemical agents are the work with chemical agents agents form components         Type         Value         Form           Stovakia. OELs. Regulation No. 300/2007         concerning protection of health in work with chemical agents agents form sagares         Form           Stovakia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (GAS 7440-50-6)         1.5 mg/m3         Inhalable fraction.           Copper (encapsulated)         TWA         1 mg/m3         Inhalable fraction.           CAS 7440-50-8)         UP         Quart mg/m3         Respirable function.           CAS 7440-50-8)         TWA         1 mg/m3 <td< td=""><td></td><td>TWA</td><td>0,2 mg/m3</td><td></td></td<>		TWA	0,2 mg/m3	
barium sulfate (CAS TWA 5 mg/m3 Inhalable fraction. T727-43-7) Copper (encapsulated) CAS 7440-50-8) Romania. OELs. Protection of workers from exposure to chemical agents at the workplace Type Value Form Copper (encapsulated) CAS 7440-50-8) STEL 1.5 mg/m3 Dust. CAS 7440-50-8) STEL 1.5 mg/m3 Dust. CAS 7440-50-8) STEL 1.5 mg/m3 Dust. CAS 7440-50-8) STEL 0.2 mg/m3 Fume. 0.2 mg/m3 Dust. Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents Components Type Value Form 1.5 mg/m3 Respirable fraction. 727-43-7) 1.5 mg/m3 Respirable fraction. CAS 7440-50-8) Stovenia. 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) CMS 7440-50-8) TWA 1 mg/m3 Inhalable fraction. 0,2 mg/m3 Respirable fume. Stovenia. 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) TWA 1 mg/m3 Inhalable fraction. 0,2 mg/m3 Respirable fume. Stovenia. 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) TWA 1 mg/m3 Inhalable fraction. 0,1 mg/m3 Respirable fume. Spain. Occupational Exposure Limits Spain Subter (CAS 7440-50-8) Respirable fume. Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015: 7) Value Form Darium sulfate (CAS TVVA 5 mg/m3 Respirable dust. CAS 7440-50-8) Switzerland. SUVA Genzwerte am Arbeitsplatz Components Type Value Form Switzerland. SUVA Genzwerte am Arbeitsplatz Components Type Value Form			-	Form
T727-43-7)     0.2 mg/m3     Fume.       (CAS 7440-50-8)     0.2 mg/m3     Fume.       Romania. OELs. Protection of workers rom exposure to chemical agents at the workplace     Form       Coppor (encapsulated)     STEL     1.5 mg/m3     Dust.       (CAS 7440-50-8)     0.2 mg/m3     Fume.       Coppor (encapsulated)     STEL     1.5 mg/m3     Dust.       Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents components     TWA     0.5 mg/m3     Dust.       Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents components     TWA     4 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TYPe     Value     Form       Copper (encapsulated)     TWA     1 mg/m3     Inhalable fraction.       CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       <	•		5 mg/m3	Inhalable fraction.
(CÁŠ 7440-50-8)       0.2 mg/m3       Fume.         Romania. OELs. Protection of workers from exposure to chemical agents at the workplace       Form         Copper (encapsulated)       STEL       1,5 mg/m3       Dust.         (CAŠ 7440-50-8)       0.2 mg/m3       Fume.       0.2 mg/m3       Dust.         Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents       Components       Type       Value       Form         Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents       Components       Type       Value       Form         Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents       Components       Type       Value       Form         Stovakia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)       0.2 mg/m3       Respirable fume.         Components       Type       Value       Form         Copper (encapsulated)       TWA       1 mg/m	7727-43-7)		-	
Romania. OELs. Protection of workers from exposure to chemical agents at the workplace Components         Form           Copper (encapsulated) (CAS 7440-50-8)         STEL         1,5 mg/m3         Dust.           0.2 mg/m3         Fume.         -         -           TWA         0.5 mg/m3         Dust.           Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents         -           Components         Type         Value         Form           barium sulfate (CAS         TWA         4 mg/m3         Inhalable fraction.           7727-43-7)         1.5 mg/m3         Respirable fraction.           CAS 7440-50-8)         TWA         1 mg/m3         Inhalable fraction.           Copper (encapsulated)         TWA         1 mg/m3         Respirable fume.           Stovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazetto of the Republic of Stovenia)         -         -           Components         Type         Value         Form         -           Copper (encapsulated)         TWA         1 mg/m3         Inhalable fraction.           (CAS 7440-50-8)         0,1 mg/m3         Respirable fume.           Strain Occupational Exposure Limits         -         -         - <td></td> <td>IWA</td> <td>1 mg/m3</td> <td>Dust and mist.</td>		IWA	1 mg/m3	Dust and mist.
Components         Type         Value         Form           Copper (encapsulated) (CAS 7440-50-8)         STEL         1,5 mg/m3         Dust.           TWA         0,2 mg/m3         Fume.           Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents Components         Type         Value         Form           Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents Components         Type         Value         Form           Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents Components         Inhalable fraction.         1,5 mg/m3         Respirable fraction.           7727-43-7)         TWA         4 mg/m3         Inhalable fraction.         1,6 mg/m3         Respirable fraction.           Copper (encapsulated) (CAS 7440-50-8)         TWA         1 mg/m3         Respirable fraction.         1,0 mg/m3         Respirable fraction.           Copper (encapsulated) (CAS 7440-50-8)         Type         Value         Form           Copper (encapsulated) (CAS 7440-50-8)         TWA         1 mg/m3         Inhalable fraction.           Copper (encapsulated) (CAS 7440-50-8)         TWA         1 mg/m3         Respirable fume.           Spain. Occupational Exposure Limits Components         Type         Value         Form				Fume.
(CAS 7440-50-8)       0,2 mg/m3       Fume.         TWA       0,5 mg/m3       Dust.         Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents       Form         barium sulfate (CAS       TWA       4 mg/m3       Inhalable fraction.         7727-43-7)       1,5 mg/m3       Respirable fraction.         Copper (encapsulated)       TWA       1 mg/m3       Inhalable fraction.         (CAS 7440-50-8)       0,2 mg/m3       Respirable fraction.         Copper (encapsulated)       TWA       1 mg/m3       Inhalable fraction.         (CAS 7440-50-8)       0,2 mg/m3       Respirable fume.         Stovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)       0,2 mg/m3       Inhalable fraction.         Copper (encapsulated)       TWA       1 mg/m3       Inhalable fraction.         (CAS 7440-50-8)       0,1 mg/m3       Respirable fume.         Spain. Occupational Exposure Limits       TWA       1 mg/m3       Inhalable fraction.         (CAS 7440-50-8)       TWA       1 mg/m3       Dust and mist.         (CAS 7440-50-8)       0,2 mg/m3       Fume.         Spain. Occupational Exposure Limits       Qorg mg/m3       Fume. <td></td> <td></td> <td></td> <td>Form</td>				Form
TWA     0,5 mg/m3     Dust.       Stovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents Components     Type     Value     Form       barium sulfate (CAS     TWA     4 mg/m3     Inhalable fraction.       7727-43-7)     1,5 mg/m3     Respirable fraction.       Copper (encapsulated) (CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to themicals while working (Official Gazette of the Republic of Slovenia)     Form       Copper (encapsulated) (CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       Copper (encapsulated) (CAS 7440-50-8)     TWA     10 mg/m3     Respirable fume.       Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limity Copper (encapsulated)     TVA     1 mg/m3     Inhalable dust.       7727-43-7)     2,5 mg/m3     Respirable dust.     2,5 mg/m3     Respirable dust.       Copper (encapsulated) (CAS 7440-50-8) </td <td></td> <td>STEL</td> <td>1,5 mg/m3</td> <td>Dust.</td>		STEL	1,5 mg/m3	Dust.
Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents Components Type Value Form barium sulfate (CAS TWA 4 mg/m3 Inhalable fraction. T727-43-7) Copper (encapsulated) TWA 1 mg/m3 Inhalable fraction. (CAS 7440-50-8) Copper (encapsulated) CMF Republic of Slovenia) Components Type Value Form Copper (encapsulated) TWA 1 mg/m3 Inhalable fraction. CAS 7440-50-8) Copper (encapsulated) TWA 1 mg/m3 Inhalable fraction. CAS 7440-50-8) Components Type Value Form Components Type Value Form Copper (encapsulated) TWA 1 mg/m3 Respirable fume. Spain. Occupational Exposure Limits Components Type Value Form Copper (encapsulated) TWA 1 mg/m3 Respirable fume. Spain. Occupational Exposure Limits Components Type Value Form Copper (encapsulated) TWA 10 mg/m3 Respirable fume. Spain. Occupational Exposure Limits Components Type Value Form Copper (encapsulated) TWA 10 mg/m3 Ty2T-43-7) Copper (encapsulated) TWA 2 mg/m3 Dust and mist. C(AS 7440-50-8) Copper (encapsulated) TWA 5 mg/m3 Inhalable dust. Components Type Value Form Switzer(CAS TWA 5 mg/m3 Respirable dust. Copper (encapsulated) TWA 0,01 mg/m3 Respirable dust. Components Type Value Form Switzer(and. SUVA Grenzwerte am Arbeitsplatz Components Type Value Form Suitzer(CAS TWA 3 mg/m3 Respirable dust.			0,2 mg/m3	Fume.
ComponentsTypeValueFormbarium sulfate (CAS T727-43-7)TWA4 mg/m3Inhalable fraction.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)O.2 mg/m3Respirable fume.ComponentsTypeValueFormCopper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Inhalable dust.Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limity Values (AFS 2015:7) ValueComponentsFormbarium sulfate (CAS (CAS 7740-50-8)TWA5 mg/m3Inhalable dust.Copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Sweden. OELs. Work Environment Authority (AV), Occ		TWA	0,5 mg/m3	Dust.
Detrim sulfate (CAS 7727-43-7)     TWA     4 mg/m3     Inhalable fraction.       7727-43-7)     1,5 mg/m3     Respirable fraction.       Copper (encapsulated) (CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       0,2 mg/m3     Respirable fraction.     0,2 mg/m3     Respirable fraction.       Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)     0,2 mg/m3     Respirable fume.       Components     Type     Value     Form       Copper (encapsulated) (CAS 7440-50-8)     TWA     1 mg/m3     Inhalable fraction.       Copper (encapsulated) (CAS 7440-50-8)     TWA     1 mg/m3     Respirable fume.       Spain. Occupational Exposure Limits Components     Type     Value     Form       barium sulfate (CAS 7727-43-7)     TWA     10 mg/m3     Dust and mist.       (CAS 7440-50-8)     UWA     0 mg/m3     Fume.       Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)     Components     0,2 mg/m3     Respirable dust.       Copper (encapsulated)     TWA     5 mg/m3     Inhalable dust.     7727-43-7)       Components     Type     Value     Form       Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)     Components				-
Copper (encapsulated) (CAS 7440-50-8)TWA1,5 mg/m3Respirable fraction.0,2 mg/m3Respirable fume.Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia) ComponentsTypeValueFormCopper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Spain. Occupational Exposure Limits ComponentsTypeValueFormCopper (encapsulated) (CAS 7440-50-8)TWA10 mg/m3Respirable fume.Spain. Occupational Exposure Limits ComponentsTypeValueFormSolution Sulfate (CAS (CAS 7440-50-8)TWA10 mg/m3Ust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable dust.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Bust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Respirable dust.Copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Inhalable dust.Copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTWA0,01 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTypeValueFormSwitzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTypeValueFormSwitzerland. SUVA Grenzwerte am	•		4 mg/m3	Inhalable fraction.
Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia) ComponentsTypeValueFormComponentsTypeValueFormCopper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Spain. Occupational Exposure Limits ComponentsTypeValueFormSpain. Occupational Exposure Limits ComponentsTWA1 mg/m3Inhalable fraction.Charlen (CAS (CAS 7440-50-8)TWA1 0 mg/m3Respirable fume.Spain. Occupational Exposure Limits ComponentsTWA1 mg/m3Dust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) ComponentsTypeValueFormbarium sulfate (CAS 7727-43-7)TWA5 mg/m3Inhalable dust.Copper (encapsulated) (CAS 7440-50-8)TWA0,01 mg/m3Respirable dust.Sweden. OELs. Work Environment Authority (CAS 7440-50-8)TWA5 mg/m3Inhalable dust.Copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Sweden. OELs. Work Environment Authority (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Copper (encapsulated) (CAS 7440-50-8)TWA<	7727-43-7)		4 5	Descriptula fraction
(CAS 7440-50-8)     0,2 mg/m3     Respirable fume.       Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)     Type     Value     Form       Components     Type     Value     Form       Copper (encapsulated)     TWA     1 mg/m3     Inhalable fraction.       (CAS 7440-50-8)     0,1 mg/m3     Respirable fume.       Spain. Occupational Exposure Limits     0,1 mg/m3     Respirable fume.       Spain. Occupational Exposure Limits     Type     Value     Form       Components     Type     Value     Form       barium sulfate (CAS     TWA     10 mg/m3     Dust and mist.       (CAS 7440-50-8)     0,2 mg/m3     Fume.       Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)     Form       components     Type     Value     Form       barium sulfate (CAS     TWA     5 mg/m3     Inhalable dust.       7727-43-7)     Z,5 mg/m3     Respirable dust.     Copper (encapsulated)       Corporents     Type     Value     Form       barium sulfate (CAS     TWA     5 mg/m3     Respirable dust.       C(CAS 7440-50-8)     TWA     0,01 mg/m3     Respirable dust.       Copper (encapsulated)     TWA		<b>T</b> 10/0		·
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.         Spain. Occupational Exposure Limits Components       Type       Value       Form         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       10 mg/m3         Copper (encapsulated) (CAS 7440-50-8)       TWA       1 mg/m3       Dust and mist.         Qopper (encapsulated) (CAS 7440-50-8)       TWA       1 mg/m3       Dust and mist.         Qopper (encapsulated) (CAS 7440-50-8)       TWA       1 mg/m3       Respirable dust.         Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)       Domponents       727-43-7)         Sweitzerland. SUVA Grenzwerte am Arbeitsplatz       2,5 mg/m3       Respirable dust.         Copper (encapsulated) (CAS 7440-50-8)       TWA       0,01 mg/m3       Respirable dust.         Copper (encapsulated) (CAS 7440-50-8)       TWA       0,01 mg/m3       Respirable dust.         Copper (enca		IWA	i mg/m3	Innalable fraction.
Components       Type       Value       Form         Coopper (encapsulated) (CAS 7440-50-8)       TWA       1 mg/m3       Inhalable fraction.         Spain. Occupational Exposure Limits Components       Type       Value       Form         Spain. Occupational Exposure Limits Components       Type       Value       Form         barium sulfate (CAS 7727-43-7)       TWA       10 mg/m3       Respirable fume.         Copper (encapsulated) (CAS 7440-50-8)       TWA       10 mg/m3       Dust and mist.         Copper (encapsulated) (CAS 7440-50-8)       TWA       1 mg/m3       Dust and mist.         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.         value       Form       2,5 mg/m3       Respirable dust.         Copper (encapsulated) (CAS 7440-50-8)       TWA       0,01 mg/m3       Respirable dust.         Sweitzerland. SUVA Grenzwerte am Arbeitsplatz Components       Type       Value       Form         Switzerland. SUVA Grenzwerte am Arbeitsplatz Components       Type       Value       Form         barium sulfate (CAS       TWA       3 mg/m3       Respirable dust.			-	·
ComponentsTypeValueFormCopper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Inhalable fraction.Spain. Occupational Exposure Limits Components0,1 mg/m3Respirable fume.Spain. Occupational Exposure Limits ComponentsTypeValueFormbarium sulfate (CAS (CAS 7440-50-8)TWA10 mg/m3Ust and mist.barium sulfate (CAS (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Fume.Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) TypeValueFormbarium sulfate (CAS 7727-43-7)TWA5 mg/m3Inhalable dust.barium sulfate (CAS (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTypeValueFormbarium sulfate (CAS (CAS 7440-50-8)TWA3 mg/m3Respirable dust.			risks due to exposure	e to chemicals while working
(CÁS 7440-50-8)       0,1 mg/m3     Respirable fume.       Spain. Occupational Exposure Limits       Components     Type     Value     Form       barium sulfate (CAS     TWA     10 mg/m3     7727-43-7)       Copper (encapsulated) (CAS 7440-50-8)     TWA     1 mg/m3     Dust and mist.       (CAS 7440-50-8)     TWA     1 mg/m3     Fume.       Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)     Form       Components     Type     Value     Form       barium sulfate (CAS     TWA     5 mg/m3     Inhalable dust.       7727-43-7)     Z,5 mg/m3     Respirable dust.       Copper (encapsulated) (CAS 7440-50-8)     TWA     0,01 mg/m3     Respirable dust.       Switzerland. SUVA Grenzwerte am Arbeitsplatz Components     Type     Value     Form       barium sulfate (CAS     TWA     3 mg/m3     Respirable dust.	• •	•	Value	Form
Spain. Occupational Exposure Limits Components     Type     Value     Form       barium sulfate (CAS 7727-43-7)     TWA     10 mg/m3     Form       Copper (encapsulated) (CAS 7440-50-8)     TWA     1 mg/m3     Dust and mist.       Sweden. OELs. Work Environment Author/ty (AV), Occupational Exposure Limit Values (AFS 2015:7)     Form       Components     TWA     5 mg/m3     Inhalable dust.       barium sulfate (CAS 7727-43-7)     TWA     5 mg/m3     Respirable dust.       barium sulfate (CAS 7727-43-7)     TWA     5 mg/m3     Respirable dust.       barium sulfate (CAS 7727-43-7)     TWA     5 mg/m3     Respirable dust.       Copper (encapsulated) (CAS 7440-50-8)     TWA     5 mg/m3     Respirable dust.       Switzerland. SUVA Grenzwerte am Arbeitsplatz Components     TWA     3 mg/m3     Respirable dust.		TWA	1 mg/m3	Inhalable fraction.
ComponentsTypeValueFormbarium sulfate (CAS 7727-43-7)TWA10 mg/m3Dust and mist.Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) TypeFormSweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) ValueFormbarium sulfate (CAS 7727-43-7)TWA5 mg/m3Inhalable dust.barium sulfate (CAS 7727-43-7)TWA5 mg/m3Respirable dust.Copper (encapsulated) (CAS 7440-50-8)TWA0,01 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTypeValueFormbarium sulfate (CAS 7440-50-8)TWA3 mg/m3Respirable dust.	(CAS 7440-50-6)		0,1 mg/m3	Respirable fume.
barium sulfate (CAS 7727-43-7)TWA10 mg/m3Copper (encapsulated) (CAS 7440-50-8)TWA1 mg/m3Dust and mist.Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) TypeValueFormSweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) TypeValueFormbarium sulfate (CAS 7727-43-7)TWA5 mg/m3Inhalable dust.copper (encapsulated) (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTWA3 mg/m3Respirable dust.		_		F
7727-43-7)       TWA       1 mg/m3       Dust and mist.         (CAS 7440-50-8)       0,2 mg/m3       Fume.         Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)       Value       Form         Components       Type       Value       Form         barium sulfate (CAS       TWA       5 mg/m3       Inhalable dust.         7727-43-7)       2,5 mg/m3       Respirable dust.         Copper (encapsulated) (CAS 7440-50-8)       TWA       0,01 mg/m3       Respirable dust.         Switzerland. SUVA Grenzwerte am Arbeitsplatz Components       Type       Value       Form         barium sulfate (CAS       TWA       3 mg/m3       Respirable dust.	•			FOIII
(CAS 7440-50-8)       0,2 mg/m3       Fume.         Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)       Value       Form         Components       Type       Value       Form         barium sulfate (CAS       TWA       5 mg/m3       Inhalable dust.         7727-43-7)       2,5 mg/m3       Respirable dust.         Copper (encapsulated) (CAS 7440-50-8)       TWA       0,01 mg/m3       Respirable dust.         Switzerland. SUVA Grenzwerte am Arbeitsplatz Components       Type       Value       Form         barium sulfate (CAS       TWA       3 mg/m3       Respirable dust.		TWA	10 mg/m3	
0,2 mg/m3Fume.Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) TypeFormSweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7) ValueFormbarium sulfate (CAS 7727-43-7)TWA5 mg/m3Inhalable dust.barium sulfate (CAS (CAS 7440-50-8)TWA5 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTWA0,01 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTypeValueFormbarium sulfate (CASTWA3 mg/m3Respirable dust.		TWA	1 mg/m3	Dust and mist.
ComponentsTypeValueFormbarium sulfate (CAS 7727-43-7)TWA5 mg/m3Inhalable dust.7727-43-7)2,5 mg/m3Respirable dust.Copper (encapsulated) (CAS 7440-50-8)TWA0,01 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTypeValueFormbarium sulfate (CASTWA3 mg/m3Respirable dust.			0,2 mg/m3	Fume.
7727-43-7)       2,5 mg/m3       Respirable dust.         Copper (encapsulated)       TWA       0,01 mg/m3       Respirable dust.         (CAS 7440-50-8)       Switzerland. SUVA Grenzwerte am Arbeitsplatz       Value       Form         Switzerland. SUVA Grenzwerte am Arbeitsplatz       Type       Value       Form         barium sulfate (CAS       TWA       3 mg/m3       Respirable dust.				
Copper (encapsulated) (CAS 7440-50-8)TWA2,5 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsTypeValueFormbarium sulfate (CASTWA3 mg/m3Respirable dust.		TWA	5 mg/m3	Inhalable dust.
Copper (encapsulated) (CAS 7440-50-8)TWA0,01 mg/m3Respirable dust.Switzerland. SUVA Grenzwerte am Arbeitsplatz ComponentsValueFormbarium sulfate (CASTWA3 mg/m3Respirable dust.			2,5 mg/m3	Respirable dust.
Switzerland. SUVA Grenzwerte am Arbeitsplatz     Value     Form       Components     Type     Value     Form       barium sulfate (CAS     TWA     3 mg/m3     Respirable dust.		TWA	-	
ComponentsTypeValueFormbarium sulfate (CASTWA3 mg/m3Respirable dust.		itsplatz		
v i		-	Value	Form
	barium sulfate (CAS 7727-43-7)	TWA	3 mg/m3	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeits	splatz
Components	Туре

Switzerland. SUVA Grenzy Components	Type	Value	Form
		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.
UK. EH40 Workplace Expo		Value	Form
Components	Туре		
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.
Biological limit values	No biological exposure limits noted for th	ne ingredient(s).	
Recommended monitoring procedures	Follow standard monitoring procedures.		
Derived no effect levels (DNELs)	Not available.		
Predicted no effect concentrations (PNECs)	Not available.		
8.2. Exposure controls			
Appropriate engineering controls	Good general ventilation should be used applicable, use process enclosures, loca maintain airborne levels below recomme established, maintain airborne levels to a	al exhaust ventilation, or othe ended exposure limits. If exp	er engineering controls to
Individual protection measure	s, such as personal protective equipment	t	
General information	Personal protection equipment should be discussion with the supplier of the person		EN standards and in
Eye/face protection	Wear safety glasses with side shields (or	r goggles).	
Skin protection			
- Hand protection	Wear appropriate chemical resistant glov	ves.	
- Other	Wear suitable protective clothing.		
<b>Respiratory protection</b>	In case of insufficient ventilation, wear su	uitable respiratory equipmen	t.
Thermal hazards	Wear appropriate thermal protective clot	hing, when necessary.	
Hygiene measures	Always observe good personal hygiene i and before eating, drinking, and/or smok equipment to remove contaminants.		
Environmental exposure controls	Inform appropriate managerial or superv general ventilation should be used. Vent applicable, use process enclosures, loca maintain airborne levels below recomme established, maintain airborne levels to a	ilation rates should be match al exhaust ventilation, or othe ended exposure limits. If exp	ned to conditions. If er engineering controls to

# **SECTION 9: Physical and chemical properties**

## 9.1. Information on basic physical and chemical properties

Appearance	
Physical state	Solid.
Form	filament
Colour	Copper
Odour	Metallic.
Odour threshold	Not available.
рН	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	150 - 170 °C (302 - 338 °F)

Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or exp	losive limits
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	> 1 mg/l (25°C)
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
9.2. Other information	No relevant additional information available.

# **SECTION 10: Stability and reactivity**

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

# **SECTION 11: Toxicological information**

0	
General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of e	exposure
Inhalation	Prolonged inhalation may be harmful.
Skin contact	Based on available data, the classification criteria are not met.
Eye contact	Based on available data, the classification criteria are not met.
Ingestion	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 toxicologic	al effects
Acute toxicity	Not known.
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met.
Respiratory sensitisation	Based on available data, the classification criteria are not met.
Skin sensitisation	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Hungary. 26/2000 EüM Ordi (as amended)	nance on protection against and preventing risk relating to exposure to carcinogens at work
Not listed.	
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
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Specific target organ toxicity - repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Mixture versus substance information	No information available.
Other information	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 744	0-50-8)			
Aquatic				
Crustacea	EC50	Water flea (Da	aphnia magna)	0,0318 mg/l, 48 hours
Fish	LC50	Chinook salmo tshawytscha)	on (Oncorhynchus	0,02 mg/l, 96 hours
12.2. Persistence and degradability	No data is	No data is available on the degradability of any ingredients in the mixture.		
12.3. Bioaccumulative potential	No data av	ailable.		
Partition coefficient n-octanol/water (log Kow)	Not availab	Not available.		
Bioconcentration factor (BCF)	Not availab	Not available.		
12.4. Mobility in soil	No data av	No data available.		
12.5. Results of PBT and vPvB assessment	Not a PBT	or vPvB substance	e or mixture.	
12.6. Other adverse effects		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 substa	nces in grour	dwater Data		
Copper (encapsulated) (CAS 7440-50-8)		Copper (Cu) 1000 ug/l Copper (Cu) 15 ug/l		
Estonia Dangerous substa	nces in soil D	ata	· · · · •	
Copper (encapsulated) (	CAS 7440-50	8)	Copper (Cu) 100 mg/ Copper (Cu) 150 mg/ Copper (Cu) 500 mg/	/kg

## **SECTION 13: Disposal considerations**

13.1. Waste treatment methods	
Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	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.
Special precautions	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.

# ΙΑΤΑ

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

# IMDG

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

# **SECTION 15: Regulatory information**

15.1. Safety, health and environm	ental regulations/legislation specific for the substance or mixture
EU regulations	
Regulation (EC) No. 1005/200	9 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.	
• • •	concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed. Regulation (EII) No. 649/2012	concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.	concerning the export and import of dangerous chemicals, Annex 1, 1 art 2 as amended
	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.	
• • • •	6, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.	
Authorisations	
• • •	6, REACH Annex XIV Substances subject to authorization, as amended
Not listed.	
Restrictions on use	
Regulation (EC) No. 1907/200	6, REACH Annex XVII Substances subject to restriction on marketing and use as amended
Not listed. Directive 2004/37/EC: on the work, as amended. Not listed.	protection of workers from the risks related to exposure to carcinogens and mutagens at
Other EU regulations	
•	or accident hazards involving dangerous substances, as amended
Not listed.	accident nazards involving dangerous substances, as amended
	The product is classified and labelled in accordance with Population (EC) 1272/2008 (CLP
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	ation
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.

Material name: M-Fil Cuivre