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

### 1.1. Product identifier

Product form : Mixture  
Trade name/designation : COPPER PASTE BG8B  
Product code : 2500, 36, 4000, 5000, 6000, 9000, 13000, FT, 33000, A33000 / BG8B / 80-20, 85-15

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

#### 1.2.1. Relevant identified uses

Main use category : Industrial uses, Professional uses

#### 1.2.2. Uses advised against

No data available

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

AVL METAL POWDERS n.v.  
Elleboogstraat 7  
B-8500 Kortrijk - Belgium, Europe  
T +32 (0)56 22 00 21 - F +32 (0)56 22 64 14  
BE 0405 375 371 - RPR Kortrijk  
[sales@avlmetalpowders.com](mailto:sales@avlmetalpowders.com) - [www.avlmetalpowders.com](http://www.avlmetalpowders.com)

### 1.4. Emergency telephone number

Emergency number : +32 (0)475 38 36 83  
This telephone number is available 24 hours per day, 7 days per week.

Country	Official advisory body	Address	Emergency number
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 1 809 21 66 (public, 8am - 10pm, 7/7) +353 01 809 2566 (Professionals, 24/7)
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours, healthcare professionals only)


## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302  
Skin Irrit. 2 H315  
Eye Irrit. 2 H319  
Aquatic Acute 1 H400  
Aquatic Chronic 2 H411

Full text of hazard classes and H-statements : see section 16

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## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms :



Signal word :

Warning

Hazardous ingredients :

copper; 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

Hazard statements :

H302 - Harmful if swallowed.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H400 - Very toxic to aquatic life.  
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements :

P270 - Do not eat, drink or smoke when using this product.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 - IF ON SKIN: Wash with plenty of water/.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P362 - Take off contaminated clothing.

## 2.3. Other hazards

Other hazards :

Results of PBT and vPvB assessment : Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Not applicable

### 3.2. Mixture

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
copper	(CAS No) 7440-50-8 (EC no) 231-159-6 (REACH-no) 01-2119480154-42-XXXX	80 - 85	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 2, H411
2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve	(CAS No) 111-76-2 (EC no) 203-905-0 (EC Index) 603-014-00-0 (REACH-no) 01-2119475108-36-XXXX	12 - 18	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315
xylene	(CAS No) 1330-20-7 (EC no) 215-535-7 (EC Index) 601-022-00-9	< 0,26	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315


Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Additional advice :

First aider: Pay attention to self-protection. Concerning personal protective equipment to use, see section 8. Never give anything by mouth to an unconscious person or a person with cramps. In case of doubt or persistent symptoms, consult always a physician. Show this safety data sheet to the doctor in attendance. Treat symptomatically.

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Inhalation	: Remove person to fresh air and keep comfortable for breathing. In case of doubt or persistent symptoms, consult always a physician.
Skin contact	: Take off contaminated clothing. Gently wash with plenty of soap and water. In case of doubt or persistent symptoms, consult always a physician.
Eyes contact	: Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. In case of doubt or persistent symptoms, consult always a physician.
In case of ingestion	: If swallowed, rinse mouth with water (only if the person is conscious). Get medical advice/attention.

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

Inhalation	: The following symptoms may occur: High concentration of vapours may induce: headache, dizziness, drowsiness, nausea and vomiting. sore throat. Irritation. Cough.
Skin contact	: Causes skin irritation. The following symptoms may occur: Redness. The liquid defats the skin.
Eyes contact	: Causes serious eye irritation. The following symptoms may occur: Redness, pain.
Ingestion	: Harmful if swallowed. The following symptoms may occur: May cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

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

No data available

### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media	: carbon dioxide (CO <sub>2</sub> ), powder, alcohol-resistant foam, water spray.
Unsuitable extinguishing media	: Strong water jet.

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

Specific hazards	: Not flammable. Heating causes rise in pressure with risk of bursting.
Hazardous decomposition products in case of fire	: Carbon oxides (CO, CO <sub>2</sub> ). Copper oxides.

#### **5.3. Advice for firefighters**

Firefighting instructions	: Evacuate area. Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.
Other information	: Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

### **SECTION 6: Accidental release measures**

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

##### **6.1.1. For non-emergency personnel**


For non-emergency personnel	: Evacuate unnecessary personnel. Keep upwind. Provide adequate ventilation. Wear recommended personal protective equipment. Concerning personal protective equipment to use, see section 8. Avoid contact with skin, eyes and clothing.
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##### **6.1.2. For emergency responders**

For emergency responders	: Ensure procedures and training for emergency decontamination and disposal are in place. Concerning personal protective equipment to use, see section 8.
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#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains. Notify authorities if product enters sewers or public waters.

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

Methods for cleaning up : Stop leak if safe to do so. Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite or powdered limestone. Collect in closed and suitable containers for disposal. Dispose of contaminated materials in accordance with current regulations. Site should have a spill plan to ensure that adequate safeguards are in place to minimize the impact of episodic releases.

### 6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Disposal: see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Avoid contact with skin, eyes and clothing. Take any precaution to avoid mixing with Incompatible materials, Refer to Section 10 on Incompatible Materials. Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time). Avoid release to the environment.

Hygiene measures : Keep good industrial hygiene. When using do not eat, drink or smoke. Wash hands before breaks and immediately after using the product. Take off contaminated clothing. Wash contaminated clothing before reuse. Separate working clothes from town clothes. Launder separately.

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

Storage conditions : Keep container tightly closed in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight. Do not store near or with any of the incompatible materials listed in section 10. Maximum storage period. 6 months.

Packaging materials : Keep only in the original container. Suitable material: stainless steel. polypropylene. Unsuitable material: Copper alloys. Zinc and its alloys. Light metal. Aluminium and its alloys.

### 7.3. Specific end use(s)

No data available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

copper (7440-50-8)		
Austria	MAK (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable fraction) 0,1 mg/m <sup>3</sup> (respirable fraction, smoke)
Austria	MAK Short time value (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> (inhalable fraction) 0,4 mg/m <sup>3</sup> (respirable fraction, smoke)
Belgium	Limit value (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	0,1 mg/m <sup>3</sup> (metal vapor)
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (dust and fume)
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust) 0,1 mg/m <sup>3</sup> (fume)
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	1,0 mg/m <sup>3</sup> (dust and powder) 0,1 mg/m <sup>3</sup> (fume)
Estonia	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (total dust) 0,2 mg/m <sup>3</sup> (respirable dust)



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### copper (7440-50-8)

Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> 0,1 mg/m <sup>3</sup> (respirable dust and fume)
France	VME (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust)
France	VLE (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (dust)
Greece	OEL TWA (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust)
Greece	OEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (dust)
Hungary	AK-érték	1 mg/m <sup>3</sup> 0,1 mg/m <sup>3</sup> (fume)
Hungary	CK-érték	4 mg/m <sup>3</sup> 0,4 mg/m <sup>3</sup> (fume)
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	0,6 mg/m <sup>3</sup> (calculated-fume) 2 mg/m <sup>3</sup> (dust and mist)
Latvia	OEL TWA (mg/m <sup>3</sup> )	0,5 mg/m <sup>3</sup>
Lithuania	IPRV (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable fraction) 0,2 mg/m <sup>3</sup> (respirable fraction)
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	0,1 mg/m <sup>3</sup> (inhalable fraction)
Poland	NDS (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup>
Portugal	OEL TWA (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
Romania	OEL TWA (mg/m <sup>3</sup> )	0,5 mg/m <sup>3</sup> (powder)
Romania	OEL STEL (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1,5 mg/m <sup>3</sup> (dust)
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust) 0,1 mg/m <sup>3</sup> (fume)
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> (dust) 0,2 mg/m <sup>3</sup> (fume)
Slovenia	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (inhalable fraction) 0,1 mg/m <sup>3</sup> (respirable fraction, fume)
Slovenia	OEL STEL (mg/m <sup>3</sup> )	4 mg/m <sup>3</sup> (inhalable fraction) 0,4 mg/m <sup>3</sup> (respirable fraction, fume)
Spain	VLA-ED (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (total dust) 0,2 mg/m <sup>3</sup> (respirable dust)
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mists) 0,2 mg/m <sup>3</sup> (fume)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	0,6 mg/m <sup>3</sup> (calculated-fume) 2 mg/m <sup>3</sup> (dust and mist)
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	0,1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust)
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	0,1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust)
Switzerland	VME (mg/m <sup>3</sup> )	0,1 mg/m <sup>3</sup> (inhalable dust)
Switzerland	VLE (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (inhalable dust)
Australia	TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mist) 0,2 mg/m <sup>3</sup> (fume)



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Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)
USA - ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0,2 mg/m <sup>3</sup> (fume)
USA - IDLH	US IDLH (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup> (dust, fume and mist)
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup> (dust and mist) 0,1 mg/m <sup>3</sup> (fume)
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	0,1 mg/m <sup>3</sup> (fume) 1 mg/m <sup>3</sup> (dust and mist)

### xylene (1330-20-7)

EU	IOELV TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
EU	IOELV TWA (ppm)	50 ppm (pure)
EU	IOELV STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
EU	IOELV STEL (ppm)	100 ppm (pure)
Austria	MAK (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (all isomers)
Austria	MAK (ppm)	50 ppm (all isomers)
Austria	MAK Short time value (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (all isomers)
Austria	MAK Short time value (ppm)	100 ppm (all isomers)
Belgium	Limit value (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	50 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Belgium	Short time value	100 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	221,0 mg/m <sup>3</sup> (pure)
Bulgaria	OEL TWA (ppm)	50 ppm (pure)
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Bulgaria	OEL STEL (ppm)	100 ppm (pure)
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	50 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	100 ppm
Cyprus	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Cyprus	OEL TWA (ppm)	50 ppm
Cyprus	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Cyprus	OEL STEL (ppm)	100 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	109 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	25 ppm
Estonia	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	50 ppm
Estonia	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	100 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	220 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	50 ppm
Finland	HTP-arvo (15 min)	440 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	100 ppm
France	VME (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (restrictive limit)



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xylene (1330-20-7)		
France	VME (ppm)	50 ppm (restrictive limit)
France	VLE (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (restrictive limit)
France	VLE (ppm)	100 ppm (restrictive limit)
Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	440 mg/m <sup>3</sup> (all isomers)
Germany	TRGS 900 Occupational exposure limit value (ppm)	100 ppm (all isomers)
Germany	TRGS 903 (BGW)	1,5 mg/l (Medium: whole blood - Time: end of shift - Parameter: Xylene (all isomers) 2000 mg/l (Medium: urine - Time: end of shift - Parameter: Methylhippuric(tolur-)acid (all isomers)
Gibraltar	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
Gibraltar	OEL TWA (ppm)	50 ppm (pure)
Gibraltar	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Gibraltar	OEL STEL (ppm)	100 ppm (pure)
Greece	OEL TWA (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	100 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	650 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	150 ppm
Hungary	AK-érték	221 mg/m <sup>3</sup>
Hungary	CK-érték	442 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	50 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	100 ppm
Italy	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
Italy	OEL TWA (ppm)	50 ppm (pure)
Italy	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Italy	OEL STEL (ppm)	100 ppm (pure)
Latvia	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	50 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	50 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	450 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	100 ppm
Luxembourg	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Luxembourg	OEL TWA (ppm)	50 ppm
Luxembourg	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Luxembourg	OEL STEL (ppm)	100 ppm
Malta	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
Malta	OEL TWA (ppm)	50 ppm (pure)
Malta	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Malta	OEL STEL (ppm)	100 ppm (pure)
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	210 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>



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### xylene (1330-20-7)

Poland	NDS (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Portugal	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (indicative limit value)
Portugal	OEL TWA (ppm)	50 ppm (indicative limit value)
Portugal	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (indicative limit value)
Portugal	OEL STEL (ppm)	100 ppm (indicative limit value)
Romania	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (pure)
Romania	OEL TWA (ppm)	50 ppm (pure)
Romania	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup> (pure)
Romania	OEL STEL (ppm)	100 ppm (pure)
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	50 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Slovenia	OEL TWA (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	50 ppm
Slovenia	OEL STEL (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Slovenia	OEL STEL (ppm)	100 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup> (indicative limit value)
Spain	VLA-ED (ppm)	50 ppm (indicative limit value)
Spain	VLA-EC (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	100 ppm
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	221 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	50 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	442 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	100 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	220 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	441 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	100 ppm
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	108 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	25 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	135 mg/m <sup>3</sup>
Norway	Grenseverdier (Korttidsverdi) (ppm)	37,5 ppm
Switzerland	VME (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
Switzerland	VME (ppm)	100 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	870 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	200 ppm
Australia	TWA (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
Australia	TWA (ppm)	80 ppm
Australia	STEL (mg/m <sup>3</sup> )	655 mg/m <sup>3</sup>
Australia	STEL (ppm)	150 ppm
Canada (Quebec)	VECD (mg/m <sup>3</sup> )	651 mg/m <sup>3</sup>
Canada (Quebec)	VECD (ppm)	150 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	100 ppm
USA - ACGIH	ACGIH TWA (ppm)	100 ppm





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### xylene (1330-20-7)

USA - ACGIH	ACGIH STEL (ppm)	150 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	100 ppm

### 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)

EU	IOELV TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
EU	IOELV STEL (ppm)	50 ppm
Austria	MAK (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Austria	MAK (ppm)	20 ppm
Austria	MAK Short time value (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>
Austria	MAK Short time value (ppm)	40 ppm
Belgium	Limit value (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	20 ppm
Belgium	Short time value (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Belgium	Short time value	50 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup>
Bulgaria	OEL TWA (ppm)	98 ppm
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Bulgaria	OEL STEL (ppm)	50 ppm
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	20 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	50 ppm
Cyprus	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Cyprus	OEL TWA (ppm)	20 ppm
Cyprus	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Cyprus	OEL STEL (ppm)	50 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	20 ppm
Estonia	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	20 ppm
Estonia	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	50 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	20 ppm
Finland	HTP-arvo (15 min)	250 mg/m <sup>3</sup>
Finland	HTP-arvo (15 min) (ppm)	50 ppm
France	VME (mg/m <sup>3</sup> )	49 mg/m <sup>3</sup> (restrictive limit)
France	VME (ppm)	10 ppm (restrictive limit)
France	VLE (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup> (restrictive limit)
France	VLE (ppm)	50 ppm (restrictive limit)



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### 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)

Germany	TRGS 900 Occupational exposure limit value (mg/m <sup>3</sup> )	49 mg/m <sup>3</sup> (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	10 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 903 (BGW)	100 mg/l (Medium: urine - Time: end of several shifts - Parameter: Butoxyacetic acid (for long-term exposures) 200 mg/l (Medium: urine - Time: end of several shifts - Parameter: Butoxyacetic acid (after hydrolysis))
Gibraltar	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Gibraltar	OEL TWA (ppm)	20 ppm
Gibraltar	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Gibraltar	OEL STEL (ppm)	50 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	120 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	25 ppm
Hungary	AK-érték	98 mg/m <sup>3</sup>
Hungary	CK-érték	246 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	20 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	50 ppm
Italy	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Italy	OEL TWA (ppm)	20 ppm
Italy	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Italy	OEL STEL (ppm)	50 ppm
Latvia	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Latvia	OEL TWA (ppm)	20 ppm
Lithuania	IPRV (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	10 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	20 ppm
Luxembourg	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Luxembourg	OEL TWA (ppm)	20 ppm
Luxembourg	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Luxembourg	OEL STEL (ppm)	50 ppm
Malta	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Malta	OEL TWA (ppm)	20 ppm
Malta	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Malta	OEL STEL (ppm)	50 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Netherlands	Grenswaarde TGG 15MIN (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Poland	NDS (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Poland	NDSch (mg/m <sup>3</sup> )	200 mg/m <sup>3</sup>



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### 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)

Portugal	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup> (indicative limit value)
Portugal	OEL TWA (ppm)	20 ppm (indicative limit value)
Portugal	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup> (indicative limit value)
Portugal	OEL STEL (ppm)	50 ppm (indicative limit value)
Romania	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	20 ppm
Romania	OEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Romania	OEL STEL (ppm)	50 ppm
Slovakia	NPHV (priemerná) (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Slovakia	NPHV (priemerná) (ppm)	20 ppm
Slovakia	NPHV (Hraničná) (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
Slovenia	OEL TWA (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Slovenia	OEL TWA (ppm)	20 ppm
Slovenia	OEL STEL (mg/m <sup>3</sup> )	245 mg/m <sup>3</sup>
Slovenia	OEL STEL (ppm)	50 ppm
Spain	VLA-ED (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup> (indicative limit value)
Spain	VLA-ED (ppm)	20 ppm (indicative limit value)
Spain	VLA-EC (mg/m <sup>3</sup> )	245 mg/m <sup>3</sup>
Spain	VLA-EC (ppm)	50 ppm
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Sweden	nivågränsvärde (NVG) (ppm)	10 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	20 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	123 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	25 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	246 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	50 ppm
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	10 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Norway	Grenseverdier (Korttidsverdi) (ppm)	10 ppm
Switzerland	VME (mg/m <sup>3</sup> )	49 mg/m <sup>3</sup>
Switzerland	VME (ppm)	10 ppm
Switzerland	VLE (mg/m <sup>3</sup> )	98 mg/m <sup>3</sup>
Switzerland	VLE (ppm)	20 ppm
Australia	TWA (mg/m <sup>3</sup> )	96,9 mg/m <sup>3</sup>
Australia	TWA (ppm)	20 ppm
Australia	STEL (mg/m <sup>3</sup> )	242 mg/m <sup>3</sup>
Australia	STEL (ppm)	50 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	97 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	20 ppm
USA - ACGIH	ACGIH TWA (ppm)	20 ppm
USA - IDLH	US IDLH (ppm)	700 ppm
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	24 mg/m <sup>3</sup>
USA - NIOSH	NIOSH REL (TWA) (ppm)	5 ppm

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<b>2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)</b>		
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	240 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	50 ppm

Additional information : Personal air monitoring :. Room air monitoring. Recommended monitoring procedures

## **8.2. Exposure controls**

Engineering control measures : Provide adequate ventilation. Organisational measures to prevent /limit releases, dispersion and exposure. Safe handling: see section 7.

Personal protection equipment : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hand protection : Wear chemically resistant gloves (tested to EN374) . Suitable material: Butyl rubber. Thickness 0,4 mm. Breakthrough time : >480 min. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances

Eye protection : Use suitable eye protection. (EN166): Safety glasses. tightly fitting safety goggles. Safety glasses with side-shields

Body protection : Wear suitable protective clothing. Chemical resistant safety shoes. Wear suitable coveralls to prevent exposure to the skin

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Half-face mask (DIN EN 140). Full face mask (EN 136). Filter type: A/P (EN 141). The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used. (EN 137)


Thermal hazard protection : Not required for normal conditions of use. Use dedicated equipment.

Environmental exposure controls : Avoid release to the environment. Comply with applicable Community environmental protection legislation.

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

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

Physical state	: Paste
Appearance	: clear.
Colour	: Copper.
Odour	: Mild.
Odour threshold	: 0,069 mg/m <sup>3</sup> 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
pH	: Neutral (2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Relative evaporation rate (butylacetate=1)	: 0,08 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Relative evaporation rate (ether=1)	: 160 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Melting point/freezing point	: -70 - -75 °C 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Freezing point	: No data available
Initial boiling point and boiling range	: 171 °C 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Flash point	: 67 °C 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Auto-ignition temperature	: 230 °C 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable
Vapour pressure	: (20°C) 0,117 kPa 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Vapour density	: 4,1 (Air = 1.0) 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Relative density	: 1 (Water=1) 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

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Density	: (Cu) 8,78 g/cm <sup>3</sup>
Solubility	: 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve. Soluble in: Acetone. Ethanol. Ether. Water: completely soluble : 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Partition coefficient n-octanol/water	: 0,81 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Kinematic viscosity	: 3,7 mm <sup>2</sup> /s 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Dynamic viscosity	: 3,3 mPa.s 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Explosive properties	: Not applicable. The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	: Not applicable. The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.
Explosive limits	: 1,1 - 10,6 vol % 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

## 9.2. Other information

Specific conductivity	: 4,3*10E7 pS/m
VOC content	: 100 % 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reference to other sections: 10.5.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve. May form explosive peroxides.

### 10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Safe handling: see section 7.

### 10.5. Incompatible materials

Strong oxidizing agents. Strong bases. Handling and storage. See also section 7.

### 10.6. Hazardous decomposition products

Reference to other sections: 5.2.


## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

<b>copper (7440-50-8)</b>	
LD50/oral/rat	> 300 mg/kg
<b>xylene (1330-20-7)</b>	
LD50/oral/rat	3500 mg/kg
<b>2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)</b>	
LD50/oral/rat	> 300 - 2000 mg/kg
LD50/dermal/rabbit	1000 - 2000 mg/kg
LC50/inhalation/4h/rat	> 2 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation. pH: Neutral (2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve)
Serious eye damage/eye irritation	: Causes serious eye irritation. pH: Neutral (2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve)

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Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

<b>COPPER PASTE BG8B</b>	
Kinematic viscosity	3,7 mm <sup>2</sup> /s 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

Other information : Symptoms related to the physical, chemical and toxicological characteristics. For further information see section 4.

## SECTION 12: Ecological information

### 12.1. Toxicity

Environmental properties : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

<b>copper (7440-50-8)</b>	
LC50 fish 1	0,0068 - 0,0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0,03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 other aquatic organisms 1	0,0426 - 0,0535 mg/l (72 h - Pseudokirchneriella subcapitata)
LC50 fish 2	< 0,3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 other aquatic organisms 2	0,031 - 0,054 mg/l (96 h - Pseudokirchneriella subcapitata)

<b>xylene (1330-20-7)</b>	
LC50 fish 1	13,4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	3,82 mg/l (Exposure time: 48 h - Species: water flea)
LC50 fish 2	2,661 - 4,093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 Daphnia 2	0,6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)

<b>2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)</b>	
LC50 fish 1	1474 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 Daphnia 1	1550 mg/l
ErC50 (algae)	(72h) 1840 mg/l Pseudokirchneriella subcapitata
NOEC chronic fish	(21d) > 100 mg/l Brachydanio rerio (zebra-fish)
NOEC chronic crustacea	(21d) 100 mg/l Daphnia magna (Big water flea)

### 12.2. Persistence and degradability

<b>COPPER PASTE BG8B</b>	
Persistence and degradability	No data available.


<b>2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)</b>	
Biochemical oxygen demand (BOD)	(BOD-5) 1,3 g O <sub>2</sub> /g substance (BOD-20) 1,8 (g O <sub>2</sub> /g substance)
Chemical oxygen demand (COD)	2,18 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

<b>COPPER PASTE BG8B</b>	
Partition coefficient n-octanol/water	0,81 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
Bioaccumulative potential	No data available.

<b>copper (7440-50-8)</b>	
Partition coefficient n-octanol/water	Not applicable

<b>xylene (1330-20-7)</b>	
BCF fish 1	0,6 - 15

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<b>xylene (1330-20-7)</b>	
Partition coefficient n-octanol/water	2,77 - 3,15

**12.4. Mobility in soil**

<b>COPPER PASTE BG8B</b>	
Mobility in soil	No data available
Surface tension	27,8 - 65 mN/m 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

**12.5. Results of PBT and vPvB assessment**

<b>COPPER PASTE BG8B</b>	
Results of PBT assessment	No data available
<b>ingredient</b>	
2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve (111-76-2)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

**12.6. Other adverse effects**

Other adverse effects : No data available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**


Waste disposal recommendations : Avoid release to the environment. Dispose of empty containers and wastes safely. Safe handling: see section 7. Refer to manufacturer/supplier for information on recovery/recycling. Recycling is preferred to disposal or incineration. If recycling is not possible, eliminate in accordance with local valid waste disposal regulations. Handle contaminated packages in the same way as the substance itself. Dispose of contaminated materials in accordance with current regulations.

List of proposed waste codes/waste designations in accordance with EWC (2001/573/EC, 75/442/EEC, 91/689/EEC) : This material and its container must be disposed of as hazardous waste  
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities

**SECTION 14: Transport information**

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number</b>				
3077	3077	3077	3077	3077
<b>14.2. UN proper shipping name</b>				
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)	Environmentally hazardous substance, solid, n.o.s. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper)
<b>Transport document description</b>				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper), 9, III, (E)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper), 9, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 3077 Environmentally hazardous substance, solid, n.o.s. (copper), 9, III, ENVIRONMENTALLY HAZARDOUS	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper), 9, III, ENVIRONMENTALLY HAZARDOUS	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper), 9, III, ENVIRONMENTALLY HAZARDOUS
<b>14.3. Transport hazard class(es)</b>				
9	9	9	9	9


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ADR	IMDG	IATA	ADN	RID
<b>14.4. Packing group</b>				
III	III	III	III	III
<b>14.5. Environmental hazards</b>				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes	Dangerous for the environment : Yes
No supplementary information available				

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

Special precautions for user : No data available

#### **- Overland transport**


Classification code (ADR) : M7  
 Special Provisions : 274, 335, 601, 375  
 Limited quantities (ADR) : 5kg  
 Excepted quantities (ADR) : E1  
 Packing instructions (ADR) : P002, IBC08, LP02, R001  
 Special packing provisions (ADR) : PP12, B3  
 Mixed packing provisions (ADR) : MP10  
 Portable tank and bulk container instructions (ADR) : T1, BK1, BK2  
 Portable tank and bulk container special provisions (ADR) : TP33  
 Tank code (ADR) : SGAV, LGBV  
 Vehicle for tank carriage : AT  
 Transport category (ADR) : 3  
 Special provisions for carriage - Packages (ADR) : V13  
 Special provisions for carriage - Bulk (ADR) : VC1, VC2  
 Special provisions for carriage - Loading, unloading and handling (ADR) : CV13  
 Hazard identification number (Kemler No.) : 90  
 Orange plates : 

tunnel restriction code : E  
 EAC code : 2Z

#### **- Transport by sea**

Special provisions (IMDG) : 274, 335, 966, 967, 969  
 Limited quantities (IMDG) : 5 kg  
 Excepted quantities (IMDG) : E1  
 Packing instructions (IMDG) : P002, LP02  
 Special packing provisions (IMDG) : PP12  
 IBC packing instructions (IMDG) : IBC08



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IBC special provisions (IMDG) : B3  
 Tank instructions (IMDG) : T1, BK1, BK2, BK3  
 Tank special provisions (IMDG) : TP33  
 EmS-No. (Fire) : F-A  
 EmS-No. (Spillage) : S-F  
 Stowage category (IMDG) : A  
 Stowage and handling (IMDG) : SW23

**- Air transport**


PCA Excepted quantities (IATA) : E1  
 PCA Limited quantities (IATA) : Y956  
 PCA limited quantity max net quantity (IATA) : 30kgG  
 PCA packing instructions (IATA) : 956  
 PCA max net quantity (IATA) : 400kg  
 CAO packing instructions (IATA) : 956  
 CAO max net quantity (IATA) : 400kg  
 Special provisions (IATA) : A97, A158, A179, A197  
 ERG code (IATA) : 9L

**- Inland waterway transport**

Classification code (ADN) : M7  
 Special provisions (ADN) : 274, 335, 375, 601  
 Limited quantities (ADN) : 5 kg  
 Excepted quantities (ADN) : E1  
 Carriage permitted (ADN) : T\* B\*\*  
 Equipment required (ADN) : PP, A  
 Number of blue cones/lights (ADN) : 0

**- Rail transport**

Classification code (RID) : M7  
 Special provisions (RID) : 274, 335, 375, 601  
 Limited quantities (RID) : 5kg  
 Excepted quantities (RID) : E1  
 Packing instructions (RID) : P002, IBC08, LP02, R001  
 Special packing provisions (RID) : PP12, B3  
 Mixed packing provisions (RID) : MP10  
 Portable tank and bulk container instructions (RID) : T1, BK1, BK2  
 Portable tank and bulk container special provisions (RID) : TP33  
 Tank codes for RID tanks (RID) : SGAV, LGBV  
 Transport category (RID) : 3  
 Special provisions for carriage – Packages (RID) : W13  
 Special provisions for carriage – Bulk (RID) : VC1, VC2  
 Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31  
 Colis express (express parcels) (RID) : CE11  
 Hazard identification number (RID) : 90

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

Code: IBC : No data available.

### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	xylene - 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
3.a. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	xylene
3.b. Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10	xylene - 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	copper - xylene

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances


VOC content : 100 % 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

##### 15.1.2. National regulations

###### France

No ICPE	Installations classées Désignation de la rubrique	Code Régime	Rayon
4510.text	Dangereux pour l'environnement aquatique de catégorie aiguë 1 ou chronique 1.		
4510.1	La quantité totale susceptible d'être présente dans l'installation étant : 1. Supérieure ou égale à 100 t Quantité seuil bas au sens de l'article R. 511-10 : 100 t. Quantité seuil haut au sens de l'article R. 511-10 : 200 t.	A	1
4510.2	La quantité totale susceptible d'être présente dans l'installation étant : 2. Supérieure ou égale à 20 t mais inférieure à 100 t Quantité seuil bas au sens de l'article R. 511-10 : 100 t. Quantité seuil haut au sens de l'article R. 511-10 : 200 t.	DC	
4511.text	Dangereux pour l'environnement aquatique de catégorie chronique 2.		
4511.1	La quantité totale susceptible d'être présente dans l'installation étant : 1. Supérieure ou égale à 200 t Quantité seuil bas au sens de l'article R. 511-10 : 200 t. Quantité seuil haut au sens de l'article R. 511-10 : 500 t.	A	1
4511.2	La quantité totale susceptible d'être présente dans l'installation étant : 2. Supérieure ou égale à 100 t mais inférieure à 200 t Quantité seuil bas au sens de l'article R. 511-10 : 200 t. Quantité seuil haut au sens de l'article R. 511-10 : 500 t.	DC	

###### Germany

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VwVwS Annex reference : Water hazard class (WGK) 3, severe hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

TA Luft : Not determined

#### Netherlands

Waterbezwaarlijkheid : 1 - Black list substance

Saneringsinspanningen : A - In principe niet lozen; zo ja, dan toepassen van beste bestaande technieken

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : xylene is listed


#### 15.2. Chemical safety assessment

<b>For the following substances of this mixture a chemical safety assessment has been carried out</b>
copper 2-butoxyethanol, ethylene glycol monobutyl ether, butyl cellosolve

#### SECTION 16: Other information

Abbreviations and acronyms:

	ABM = Algemene beoordelingsmethodiek
	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods Code LEL = Lower Explosive Limit/Lower Explosion Limit UEL = Upper Explosion Limit/Upper Explosive Limit REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
	BTT = Breakthrough time (maximum wearing time)
	DMEL = Derived Minimal Effect level
	DNEL = Derived No Effect Level
	EC50 = Median Effective Concentration
	EL50 = Median effective level
	ErC50 = EC50 in terms of reduction of growth rate
	ErL50 = EL50 in terms of reduction of growth rate
	EWC = European waste catalogue
	LC50 = Median lethal concentration
	LD50 = Median lethal dose
	LL50 = Median lethal level
	NA = Not applicable

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	NOEC = No observed effect concentration
	NOEL: no-observed-effect level
	NOELR = No observed effect loading rate
	NOAEC = No observed adverse effect concentration
	NOAEL = No observed adverse effect level
	N.O.S. = Not Otherwise Specified
	OEL = Occupational Exposure Limits - Short Term Exposure Limits (STELs)
	PNEC = Predicted No Effect Concentration
	Quantitative structure-activity relationship (QSAR)
	STOT = Specific Target Organ Toxicity
	TWA = time weighted average
	VOC = Volatile organic compounds
	WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)

Sources of key data used to compile the datasheet : European Metal Particulate Association (EMPA) Supplier SDS.

Training advice : Training staff on good practice.

Other information : Assessment/classification CLP. Article 9. Calculation method.

Full text of H- and EUH-statements:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Aquatic Acute 1
Aquatic Chronic 2	Hazardous to the aquatic environment - chronic hazard category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Flam. Sol. 1	Flammable solids, Hazard Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H226	Flammable liquid and vapour.
H228	Flammable solid.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

The contents and format of this SDS are in accordance with EEC Commission Directive 2015/830/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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