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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 : Bronze Atomized
Product code : type S, type F (Basic Colour: Rich Gold, Pale Gold, Rich Pale Gold & Deep Gold)

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 use

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 - 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 (REPUBLIC OF)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 18 37 99 64/+353 1 809 21 66
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]

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

Full text of H-statements: see section 16

2.2. Label elements

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

Hazard pictograms :



GHS09

Signal word :


Warning

Hazard statements :

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements :

P273 - Avoid release to the environment.

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P391 - Collect spillage.
P501 - Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards

Other hazards : PBT/vPvB data. 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	> 70	Aquatic Acute 1, H400 (M=10) Aquatic Chronic 3, H412
zinc	(CAS No.) 7440-66-6 (EC No) 231-175-3 (EC Index) 030-001-01-9 (REACH-no) 01-2119467174-37-XXXX	< 30	Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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. See also section 8. Treat symptomatically. Show this safety data sheet to the doctor in attendance. In case of doubt or persistent symptoms, consult always a physician. Never give anything by mouth to an unconscious person or a person with cramps.

Inhalation : Provide fresh air. In case of doubt or persistent symptoms, consult always a physician.

Skin contact : No hazards which require special first aid measures.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In case of doubt or persistent symptoms, consult always a physician.

In case of ingestion : In case of doubt or persistent symptoms, consult always a physician.

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

Inhalation : Repeated or prolonged exposure: (dust) : May cause respiratory impairment and lung damage. Excessive or prolonged inhalation of fumes may cause metal fume fever.

Skin contact : No adverse effects are expected.

Eye contact : Dust contact with the eyes can lead to mechanical irritation.

Ingestion : May be irritating.

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 : Foam, ABC-powder, Carbon dioxide, Dry sand.

Unsuitable extinguishing media : water.

5.2. Special hazards arising from the substance or mixture

Specific hazards : Non flammable.

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Hazardous decomposition products in case of fire : None known.

5.3. Advice for firefighters

Firefighting instructions : Evacuate area. Contain the extinguishing fluids by bunding. Prevent fire-fighting water from entering 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 personnel to a safe area. Prevent unauthorised persons entering the zone. Provide adequate ventilation. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Avoid dust formation.

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.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Stop leak if safe to do so. Dam up. Take up mechanically. Do not rinse down with water. / Water (with cleaning agent). Dispose of contaminated materials in accordance with current regulations.

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. Avoid contact with skin, eyes and clothing. Concerning personal protective equipment to use, see section 8. Avoid dust formation. Take any precaution to avoid mixing with incompatible materials. See also section 10. Do not allow to enter into surface water or drains.

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.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10. Protect against water. / Humidity.

Packaging materials : Keep/Store only in original container.

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters



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copper (7440-50-8)

Austria	MAK (mg/m ³)	1 mg/m ³ (inhalable fraction) 0,1 mg/m ³ (respirable fraction, smoke)
Austria	MAK Short time value (mg/m ³)	4 mg/m ³ (inhalable fraction) 0,4 mg/m ³ (respirable fraction, smoke)
Belgium	Limit value (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Bulgaria	OEL TWA (mg/m ³)	0,1 mg/m ³ (metal vapor)
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	2 mg/m ³ (dust and fumes)
Czech Republic	Expoziční limity (PEL) (mg/m ³)	1 mg/m ³ (dust) 0,1 mg/m ³ (fume)
Denmark	Grænseværdie (langvarig) (mg/m ³)	1,0 mg/m ³ (dust and powder) 0,1 mg/m ³ (fume)
Estonia	OEL TWA (mg/m ³)	1 mg/m ³ (total dust) 0,2 mg/m ³ (respirable dust)
Finland	HTP-arvo (8h) (mg/m ³)	1 mg/m ³ 0,1 mg/m ³ (respirable dust and fume)
France	VME (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust)
France	VLE (mg/m ³)	2 mg/m ³ (dust)
Greece	OEL TWA (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust)
Greece	OEL STEL (mg/m ³)	2 mg/m ³ (dust)
Hungary	AK-érték	1 mg/m ³ 0,1 mg/m ³ (fume)
Hungary	CK-érték	4 mg/m ³ 0,4 mg/m ³ (fume)
Ireland	OEL (8 hours ref) (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Ireland	OEL (15 min ref) (mg/m ³)	0,6 mg/m ³ (calculated-fume) 2 mg/m ³ (dust and mist)
Latvia	OEL TWA (mg/m ³)	0,5 mg/m ³
Lithuania	IPRV (mg/m ³)	1 mg/m ³ (inhalable fraction) 0,2 mg/m ³ (respirable fraction)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	0,1 mg/m ³ (inhalable fraction)
Poland	NDS (mg/m ³)	0,2 mg/m ³
Portugal	OEL TWA (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Romania	OEL TWA (mg/m ³)	0,50 mg/m ³ (powder)
Romania	OEL STEL (mg/m ³)	0,20 mg/m ³ (fume) 1,50 mg/m ³ (dust)
Slovakia	NPHV (priemerná) (mg/m ³)	1 mg/m ³ (dust) 0,1 mg/m ³ (fume)
Slovakia	NPHV (Hraničná) (mg/m ³)	2 mg/m ³ (dust) 0,2 mg/m ³ (fume)
Slovenia	OEL TWA (mg/m ³)	1 mg/m ³ (inhalable fraction) 0,1 mg/m ³ (respirable fraction, fume)


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copper (7440-50-8)		
Slovenia	OEL STEL (mg/m ³)	4 mg/m ³ (inhalable fraction) 0,4 mg/m ³ (respirable fraction, fume)
Spain	VLA-ED (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³ (total dust) 0,2 mg/m ³ (respirable dust)
United Kingdom	WEL TWA (mg/m ³)	1 mg/m ³ (dust and mists) 0,2 mg/m ³ (fume)
United Kingdom	WEL STEL (mg/m ³)	0,6 mg/m ³ (calculated-fume) 2 mg/m ³ (dust and mist)
Norway	Grenseverdier (AN) (mg/m ³)	0,1 mg/m ³ (fume) 1 mg/m ³ (dust)
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	0,1 mg/m ³ (fume) 1 mg/m ³ (dust)
Switzerland	VME (mg/m ³)	0,1 mg/m ³ (inhalable dust)
Switzerland	VLE (mg/m ³)	0,2 mg/m ³ (inhalable dust)
Australia	TWA (mg/m ³)	1 mg/m ³ (dust and mist) 0,2 mg/m ³ (fume)
Canada (Quebec)	VEMP (mg/m ³)	0,2 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
USA - ACGIH	ACGIH TWA (mg/m ³)	0,2 mg/m ³ (fume)
USA - IDLH	US IDLH (mg/m ³)	100 mg/m ³ (dust, fume and mist)
USA - NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³ (dust and mist) 0,1 mg/m ³ (fume)
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	0,1 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
zinc (7440-66-6)		
Switzerland	VME (mg/m ³)	0,1 mg/m ³ (respirable dust) 2 mg/m ³ (inhalable dust)
Switzerland	VLE (mg/m ³)	0,4 mg/m ³ (respirable dust)

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

8.2. Exposure controls

- Engineering control measures : Use only in area provided with appropriate exhaust ventilation. Organisational measures to prevent /limit releases, dispersion and exposure. See also 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. : Dust.
- Hand protection : Recommended preventive skin protection : Wear chemically resistant gloves (tested to EN374) . The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.
- Eye protection : Not required for normal conditions of use. Casting operations : Safety glasses (NE 166)
- Body protection : Wear suitable protective clothing.
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Half-face mask (DIN EN 140). Full face mask (EN 136). Filter type: P (EN 143)
- Thermal hazard protection : Not required for normal conditions of use.

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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	: Solid
Appearance	: Powder.
Colour	: Gold. (Brass).
Odour	: odourless.
Odour threshold	: No data available
pH	: Not applicable
Relative evaporation rate (butylacetate=1)	: Not applicable
Melting point/freezing point	: 800 - 1080 °C
Freezing point	: No data available
Initial boiling point and boiling range	: Not determined
Flash point	: Not applicable
Auto-ignition temperature	: not auto-flammable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non-flammable.
Vapour pressure	: Not applicable
Vapour density	: No data available
Relative density	: No data available
Density	: 8 - 8,9 g/cm ³ (20 °C)
Solubility	: Water: Insoluble
Partition coefficient n-octanol/water	: Not applicable
Kinematic viscosity	: Not applicable
Dynamic viscosity	: No data available
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	: Not determined

9.2. Other information

Additional information : Density : 2,5 - 5,5 g/cm³ . (Bulk density)

SECTION 10: Stability and reactivity

10.1. Reactivity

None under normal processing. Reference to other sections: 10.5.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions


Reference to other sections: 10.4/10.5.

10.4. Conditions to avoid

Remove all sources of ignition. Safe handling: see section 7.

10.5. Incompatible materials

acids and bases . Oxidising substances . Safe handling: see section 7.

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10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met.)

copper (7440-50-8)	
LD50/oral/rat	> 2000 mg/l
LC50/inhalation/4h/rat	> 5,11 mg/l (OECD 403)
zinc (7440-66-6)	
LD50/oral/rat	> 2000 mg/kg (OECD 401)
LC50/inhalation/4h/rat	> 5,41 mg/m ³ (OECD 403)

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met.)

pH: Not applicable

Serious eye damage/eye irritation : Not classified (Based on available data, the classification criteria are not met.)

pH: Not applicable

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.)

Other adverse effects : None.

Other information : Symptoms related to the physical, chemical and toxicological characteristics.
Reference to other sections: 4.2.

SECTION 12: Ecological information

12.1. Toxicity

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

copper (7440-50-8)	
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])
LC50 fish 2	< 0,3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
ErC50 (algae)	0,0426 - 0,0535 mg/l (Species: Pseudokirchneriella subcapitata [static]) 0,031 - 0,054 mg/l (Species: Pseudokirchneriella subcapitata [static])
zinc (7440-66-6)	
LC50 fish 1	439 µg/l Cottus bairdii (pH 6-6.5) 780 µg/l Pimephales promelas (fathead minnow) (pH 7-7.5) 330 µg/l Pimephales promelas (fathead minnow) (pH 8- 8.5) 500 µg/l Pimephales promelas (fathead minnow)
EC50 Daphnia 1	2909 - 2140 µg/l (OECD 202)
EC50 other aquatic organisms 1	(OECD 202) 0,937 mg/l Poecilia reticulata (Guppy) (OECD 202) 0,416 mg/l (Ceriodaphnia Dubia (water flea)
LC50 fish 2	0,211 - 0,269 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])
ErC50 (algae)	0,09 - 0,125 mg/l (Species: Pseudokirchneriella subcapitata [static]) 0,11 - 0,271 mg/l (Species: Pseudokirchneriella subcapitata [static])
LOEC (chronic)	240 µg/L Pimephales promelas (fathead minnow)



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zinc (7440-66-6)

NOEC chronic fish	(30d) 169 µg/L Cottus bairdii
NOEC, aquatic invertebrates, long term, Ceriodaphnia Dubia (water flea)	25 µg/L (7 days, Freshwater)
NOEC, aquatic invertebrates, long term, Daphnia magna (Big water flea)	100 µg/L (3 weeks, Freshwater)
NOEC, aquatic invertebrates, long term, Mytilus edulis	75 µg/L (3 days, Freshwater)
NOEC, aquatic algae, Pseudokirchneriella subcapitata	24 µg/L (72 hours, OECD 201)
LOAEC, aquatic algae, Nitzschia closterium	20 µg/L (4 days)

12.2. Persistence and degradability

Bronze Atomized

Persistence and degradability	No data available.
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12.3. Bioaccumulative potential

Bronze Atomized

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

Partition coefficient n-octanol/water	Not applicable
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12.4. Mobility in soil

Bronze Atomized

Ecology - soil	No data available.
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12.5. Results of PBT and vPvB assessment

No data available

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations


13.1. Waste treatment methods

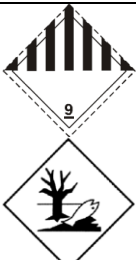



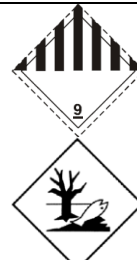
Waste disposal recommendations	: Handle with care. Safe handling: see section 7. Handling and storage. Collect and dispose of waste product at an authorised disposal facility. Refer to manufacturer/supplier for information on recovery/recycling. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of contaminated materials in accordance with current regulations.
Additional information	: If recycling is not practicable, dispose of in compliance with local regulations. Empty containers should be taken to local recyclers for disposal.
Further ecological information	: Do not allow to enter into surface water or drains.
List of proposed waste codes/waste designations in accordance with EWC (2001/573/EC, 75/442/EEC, 91/689/EEC)	: Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. The following Waste Codes are only suggestions: 16 03 04

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3077	3077	3077	3077	3077
14.2. UN proper shipping name				
ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS SUBSTANCE,	Environmentally hazardous substance,	ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS

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ADR	IMDG	IATA	ADN	RID
SUBSTANCE, SOLID, N.O.S.	SOLID, N.O.S.(copper,zinc)	solid, n.o.s. (copper, zinc)	SUBSTANCE, SOLID, N.O.S.(copper,zinc)	SUBSTANCE, SOLID, N.O.S.((copper,zinc)
Transport document description				
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper ; zinc), 9, III, (E)	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(copper,zinc), 9, III, MARINE POLLUTANT/ENVIRONMENT ALLY HAZARDOUS			
14.3. Transport hazard class(es)				
9	9	9	9	9
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
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
Not applicable				

14.6. Special precautions for user

Special precautions for user : Not applicable

- Overland transport

Classification code (ADR) : M7
 Special Provisions : 274, 335, 601
 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) : VV1

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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
Limited quantities (IMDG) : 5 kg
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P002, LP02
Special packing provisions (IMDG) : PP12
IBC packing instructions (IMDG) : IBC08
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 segregation (IMDG) : When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

- 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, 61
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
Additional requirements/Remarks (ADN) : * Only in the molten state. ** For carriage in bulk see also 7.1.4.1. *** Only in the case of transport in bulk.
Carriage prohibited (ADN) : No
Not subject to ADN : No

- Rail transport

Classification code (RID) : M7

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Special provisions (RID) : 274, 335, 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) : VW1
 Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW31
 Colis express (express parcels) (RID) : CE11
 Hazard identification number (RID) : 90
 Carriage prohibited (RID) : No

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

Code: IBC : Not applicable.

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.c. 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 class 4.1	Bronze Atomized - copper - zinc
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

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 2, 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 : Total dust

Netherlands

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

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

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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 : None of the components are listed

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

For the following substances of this mixture a chemical safety assessment has been carried out
copper zinc


SECTION 16: Other information

Indication of changes:

Safety datasheet sections which have been updated 2:3:4:5:8:9:12:13:14:15:16.

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
	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
	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)
	Quantitative structure-activity relationship (QSAR)
	STOT = Specific Target Organ Toxicity
	TWA = time weighted average

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	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).

Full text of H- and EUH-statements:

Aquatic Acute 1	Hazardous to the aquatic environment - Aquatic Acute 1
Aquatic Chronic 1	Hazardous to the aquatic environment - chronic hazard category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - chronic hazard category 3
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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