

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 1 of 13

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

Copper conductive varnish

UFI: 0SAJ-S9MJ-R00E-Q3HX

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

Conductive varnish for electroplating, Paints and varnishes

Uses advised against

No further relevant information available.

1.3. Details of the supplier of the safety data sheet

Company name: MARAWE GmbH & Co. KG
Street: Donaustauer Str. 378 - Gebäude 64
Place: D-93055 Regensburg
Telephone: +49 941 / 29020439 Telefax: +49 941 / 29020593
e-mail: info@marawe.de
Contact person: Product safety department
Internet: www.marawe.de

1.4. Emergency telephone number:

+49 941 / 29020439,
Mo-Do 9:00 - 16:00 Uhr; Fr 9:00 - 14:00 Uhr

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

Flam. Liq. 2; H225
Acute Tox. 4; H302
Acute Tox. 4; H332
Eye Irrit. 2; H319
STOT SE 3; H336
Aquatic Acute 1; H400
Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Hazard components for labelling**

copper powder (coated with aliphatic acid)
n-butyl acetate
acetone; propan-2-one; propanone

Signal word: Danger**Pictograms:****Hazard statements**

H225 Highly flammable liquid and vapour.
H302+H332 Harmful if swallowed or if inhaled.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 2 of 13

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
 P102 Keep out of reach of children.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P370+P378 In case of fire: Use CO2 or powder to extinguish.
 P391 Collect spillage.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.
 P501 Dispose of contents/container to according to local/national waste disposal regulations.

Special labelling of certain mixtures

EUH066 Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
	copper powder (coated with aliphatic acid)			35 - < 40 %
	Acute Tox. 3, Acute Tox. 4, Eye Irrit. 2, Aquatic Acute 1, Aquatic Chronic 1; H331 H302 H319 H400 H410			
123-86-4	n-butyl acetate			20 - < 25 %
	204-658-1	607-025-00-1	01-2119485493-29	
	Flam. Liq. 3, STOT SE 3; H226 H336 EUH066			
67-64-1	acetone; propan-2-one; propanone			20 - < 25 %
	200-662-2	606-001-00-8	01-2119471330-49	
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
		copper powder (coated with aliphatic acid)	35 - < 40 %
		inhalation: LC50 = 0,7 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = 300 - 500 mg/kg M acute; H400: M=100 M chron.; H410: M=10	
123-86-4	204-658-1	n-butyl acetate	20 - < 25 %
		inhalation: LC50 = >21 mg/l (vapours); dermal: LD50 = >14112 mg/kg; oral: LD50 = 10760 mg/kg	
67-64-1	200-662-2	acetone; propan-2-one; propanone	20 - < 25 %
		inhalation: LC50 = 76 mg/l (vapours); dermal: LD50 = 7426-15800 mg/kg; oral: LD50 = 5800 mg/kg	

SECTION 4: First aid measures

4.1. Description of first aid measures

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 3 of 13

After inhalation

Provide fresh air. When in doubt or if symptoms are observed, get medical advice. If unconscious but breathing normally, place in recovery position and seek medical advice.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

After contact with eyes

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Seek medical advice immediately.

After ingestion

Rinse mouth immediately and drink 1 glass of water. Medical treatment necessary.

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

Causes serious eye irritation.

Vapours may cause drowsiness and dizziness.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Water spray jet, Carbon dioxide (CO₂), Foam, Extinguishing powder.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Highly flammable. Vapours can form explosive mixtures with air. In case of fire and/or explosion do not breathe fumes.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. In case of fire with big amounts of this product, remove/evacuate every person from the danger zone.

6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Explosion risk. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

For containment

Make sure spills can be contained, e.g. in sump pallets or kerbed areas.

For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 4 of 13

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Use only in well-ventilated areas. Caution! Transport usually takes place at temperatures above the flash point.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Do not store together with: Oxidizing agent. Pyrophoric or self-heating substances.

7.3. Specific end use(s)

Conductive varnish for electroplating

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
67-64-1	Acetone	500	1210		TWA (8 h)	WEL
		1500	3620		STEL (15 min)	WEL
123-86-4	Butyl acetate	150	724		TWA (8 h)	WEL
		200	966		STEL (15 min)	WEL

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 5 of 13

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
123-86-4	n-butyl acetate			
Consumer DNEL, acute		oral	systemic	2 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	2 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	11 mg/kg bw/day
Worker DNEL, long-term		dermal	systemic	7 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	6 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	3,4 mg/kg bw/day
Worker DNEL, acute		inhalation	systemic	600 mg/m ³
Worker DNEL, acute		inhalation	local	600 mg/m ³
Worker DNEL, long-term		inhalation	systemic	48 mg/m ³
Worker DNEL, long-term		inhalation	local	300 mg/m ³
Consumer DNEL, acute		inhalation	systemic	300 mg/m ³
Consumer DNEL, acute		inhalation	local	300 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	12 mg/m ³
Consumer DMEL, long-term		inhalation	local	35,7 mg/m ³
67-64-1	acetone; propan-2-one; propanone			
Consumer DNEL, long-term		oral	systemic	62 mg/kg bw/day
Worker DNEL, long-term		dermal	systemic	186 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	62 mg/kg bw/day
Worker DNEL, acute		inhalation	local	2420 mg/m ³
Worker DNEL, long-term		inhalation	systemic	1210 mg/m ³
Consumer DNEL, long-term		inhalation	systemic	200 mg/m ³

PNEC values

CAS No	Substance	Value
123-86-4	n-butyl acetate	
Freshwater		0,18 mg/l
Marine water		0,018 mg/l
Freshwater sediment		0,981 mg/kg
Marine sediment		0,0981 mg/kg
Micro-organisms in sewage treatment plants (STP)		35,6 mg/l
Soil		0,0903 mg/kg
67-64-1	acetone; propan-2-one; propanone	
Freshwater		10,6 mg/l
Marine water		1,06 mg/l
Freshwater sediment		30,4 mg/kg
Marine sediment		3,04 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		29,5 mg/kg

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 6 of 13

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Take precautionary measures against static discharges.

Individual protection measures, such as personal protective equipment
Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. 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. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Thermal hazards

Flame-retardant protective clothing. Wear anti-static footwear and clothing Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Copper-coloured
Odour:	characteristic

Changes in the physical state

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	55,8-56,6 °C
Flash point:	> 0 °C

Flammability

Solid/liquid:	not applicable
Gas:	not applicable

Explosive properties

The product is not: Explosive.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Auto-ignition temperature:	415 °C
Decomposition temperature:	not determined
pH-Value:	not determined

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 7 of 13

Water solubility: The study does not need to be conducted because the substance is known to be insoluble in water.

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Vapour pressure:

not determined

Density (at 20 °C):

1,40 g/cm³

Relative vapour density:

not determined

9.2. Other information**Information with regard to physical hazard classes**

Oxidizing properties

The product is not: oxidising.

Other safety characteristics

Solvent content:

46,60 %

Solid content:

53,40 %

Evaporation rate:

not determined

Further Information**SECTION 10: Stability and reactivity****10.1. Reactivity**

Highly flammable.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

10.5. Incompatible materials

Materials to avoid: Acids. Oxidizing agents.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Harmful if swallowed.

Harmful if inhaled.

ATEmix calculated

ATE (oral) 1414,0 mg/kg; ATE (inhalation dust/mist) 1,980 mg/l

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 8 of 13

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
	copper powder (coated with aliphatic acid)				
	oral	LD50 mg/kg	300 - 500	Rat	Manufacturer
	dermal	LD50 mg/kg	> 2000	Rat	Manufacturer
	inhalation (4 h) dust/mist	LC50	0,7 mg/l	rat, male	Manufacturer
123-86-4	n-butyl acetate				
	oral	LD50 mg/kg	10760	Rat	Manufacturer
	dermal	LD50 mg/kg	>14112	Rabbit	Manufacturer
	inhalation (4 h) vapour	LC50	>21 mg/l	Rat	Manufacturer
67-64-1	acetone; propan-2-one; propanone				
	oral	LD50 mg/kg	5800	Rat	Manufacturer
	dermal	LD50 mg/kg	7426- 15800	Rabbit	Manufacturer
	inhalation (4 h) vapour	LC50	76 mg/l	Rat	Manufacturer

Irritation and corrosivity

Causes serious eye irritation.

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

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (n-butyl acetate; acetone; propan-2-one; propanone)

STOT-repeated exposure

Repeated exposure may cause skin dryness or cracking.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information
12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 9 of 13

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
	copper powder (coated with aliphatic acid)					
	Acute fish toxicity	LC50 mg/l	0,02	96 h	Oncorhynchus tshawytscha (Chinook salmon)	Manufacturer
	Acute crustacea toxicity	EC50 mg/l	0,0092	48 h	Bosmina longirostris	Manufacturer
	Fish toxicity	NOEC mg/l	0,00743	4 d	Salmo trutta (Brown trout)	Manufacturer
123-86-4	n-butyl acetate					
	Acute fish toxicity	LC50	18 mg/l	96 h	Pimephales promelas (fathead minnow)	Manufacturer OECD 203
	Acute algae toxicity	ErC50	397 mg/l	72 h	Selenastrum capricornutum (Grünalge)	Manufacturer OECD 201
	Acute crustacea toxicity	EC50	44 mg/l	48 h	Daphnia magna (Big water flea)	Manufacturer OECD 202
67-64-1	acetone; propan-2-one; propanone					
	Acute fish toxicity	LC50 mg/l	5540	96 h	Oncorhynchus mykiss (Rainbow trout)	Manufacturer
	Acute algae toxicity	ErC50 mg/l	7500	96 h	Selenastrum capricornutum (Grünalge)	Manufacturer
	Acute crustacea toxicity	EC50 mg/l	8800	48 h	Daphnia magna (Big water flea)	Manufacturer
	Algae toxicity	NOEC	530 mg/l	8 d	Microcystis aeruginosa	Manufacturer
	Crustacea toxicity	NOEC mg/l	2212	28 d	Daphnia magna (Big water flea)	Manufacturer

12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name				
	Method	Value	d	Source	
	Evaluation				
123-86-4	n-butyl acetate				
	DOC reduction	83%		Manufacturer	
	Das Produkt ist biologisch leicht abbaubar.				
67-64-1	acetone; propan-2-one; propanone				
	OECD 301B	90 ± 2,2%	28	Manufacturer	
	Readily biodegradable (according to OECD criteria).				

12.3. Bioaccumulative potential

The product has not been tested.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
123-86-4	n-butyl acetate	<3
67-64-1	acetone; propan-2-one; propanone	-0,24

12.4. Mobility in soil

The product has not been tested.

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 10 of 13

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.
The product has not been tested.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

List of Wastes Code - residues/unused products

080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other hazardous substances; hazardous waste

List of Wastes Code - used product

080111 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU and removal of paint and varnish; waste paint and varnish containing organic solvents or other hazardous substances; hazardous waste

Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information**Land transport (ADR/RID)**

<u>14.1. UN number or ID number:</u>	UN 1993
<u>14.2. UN proper shipping name:</u>	FLAMMABLE LIQUID, N.O.S.
<u>14.3. Transport hazard class(es):</u>	3
<u>14.4. Packing group:</u>	II
Hazard label:	3



Classification code:	F1
Special Provisions:	274 601 640D
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	33
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

<u>14.1. UN number or ID number:</u>	UN 1993
<u>14.2. UN proper shipping name:</u>	FLAMMABLE LIQUID, N.O.S.

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 11 of 13

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3



Classification code: F1

Special Provisions: 274 601 640D

Limited quantity: 1 L

Excepted quantity: E2

Marine transport (IMDG)

14.1. UN number or ID number: UN 1993

14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S.

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3



Special Provisions: 274

Limited quantity: 1 L

Excepted quantity: E2

EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1993

14.2. UN proper shipping name: FLAMMABLE LIQUID, N.O.S.

14.3. Transport hazard class(es): 3

14.4. Packing group: II

Hazard label: 3



Special Provisions: A3

Limited quantity Passenger: 1 L

Passenger LQ: Y341

Excepted quantity: E2

IATA-packing instructions - Passenger: 353

IATA-max. quantity - Passenger: 5 L

IATA-packing instructions - Cargo: 364

IATA-max. quantity - Cargo: 60 L

14.6. Special precautions for user

Warning: Combustible liquid.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 12 of 13

Information according to 2012/18/EU
(SEVESO III):

E1 Hazardous to the Aquatic Environment

Additional information:

P5c

National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

3 - highly hazardous to water

15.2. Chemical safety assessment

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

SECTION 16: Other information**Abbreviations and acronyms**ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

CLP: Classification, labelling and Packaging

REACH: Registration, Evaluation and Authorization of Chemicals

GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals

UN: United Nations

DNEL: Derived No Effect Level

DMEL: Derived Minimal Effect Level

PNEC: Predicted No Effect Concentration

ATE: Acute toxicity estimate

LL50: Lethal loading, 50%

EL50: Effect loading, 50%

EC50: Effective Concentration 50%

ErC50: Effective Concentration 50%, growth rate

NOEC: No Observed Effect Concentration

BCF: Bio-concentration factor

PBT: persistent, bioaccumulative, toxic

vPvB: very persistent, very bioaccumulative

RID: Regulations concerning the international carriage of dangerous goods by rail

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
(Accord européen relatif au transport international des marchandises dangereuses par voies de navigation
intérieures)

EmS: Emergency Schedules

MFAG: Medical First Aid Guide

ICAO: International Civil Aviation Organization

MARPOL: International Convention for the Prevention of Marine Pollution from Ships

IBC: Intermediate Bulk Container

VOC: Volatile Organic Compounds

SVHC: Substance of Very High Concern

For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety
assessment, chapter R.20 (Table of terms and abbreviations).

Safety Data Sheet

according to UK REACH Regulation

Copper conductive varnish

Revision date: 13.05.2022

Product code: 0107-Dose

Page 13 of 13

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Flam. Liq. 2; H225	On basis of test data
Acute Tox. 4; H302	Calculation method
Acute Tox. 4; H332	Calculation method
Eye Irrit. 2; H319	Calculation method
STOT SE 3; H336	Calculation method
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H302+H332	Harmful if swallowed or if inhaled.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)