

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 1 of 14

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

Conductive copper varnish spray

UFI: 6CMJ-D9N8-C00W-V7TD

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

Conductive varnish for electroplating

Uses advised against

Use restriction according to REACH annex XVII, no.: 40

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**

Aerosol 1; H222-H229
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**

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

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

H222	Extremely flammable aerosol.
H229	Pressurised container: May burst if heated.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 2 of 14

H336 May cause drowsiness or dizziness.
 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.
 P211 Do not spray on an open flame or other ignition source.
 P251 Do not pierce or burn, even after use.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P391 Collect spillage.
 P405 Store locked up.
 P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
 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)			
67-64-1	acetone; propan-2-one; propanone			20 - < 25 %
	200-662-2	606-001-00-8		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
115-10-6	dimethyl ether			20 - < 25 %
	204-065-8	603-019-00-8		
	Flam. Gas 1; H220			
141-78-6	ethyl acetate			20 - < 25 %
	205-500-4	607-022-00-5		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336 EUH066			
	copper powder (coated with aliphatic acid)			10 - < 15 %
	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			5 - < 10 %
	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			5 - < 10 %
	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.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 3 of 14

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
67-64-1	200-662-2	acetone; propan-2-one; propanone	20 - < 25 %
		inhalation: LC50 = 76 mg/l (vapours); dermal: LD50 = 20000 mg/kg; oral: LD50 = 5800 mg/kg	
		copper powder (coated with aliphatic acid)	10 - < 15 %
		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	5 - < 10 %
		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	5 - < 10 %
		inhalation: LC50 = 76 mg/l (vapours); dermal: LD50 = >15800 mg/kg; oral: LD50 = 5800 mg/kg	

SECTION 4: First aid measures**4.1. Description of first aid measures****After inhalation**

Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). If unconscious but breathing normally, place in recovery position and seek medical advice.

After contact with skin

Gently wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If irritation symptoms persist, consult a doctor.

After contact with eyes

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

After ingestion

Rinse mouth immediately and drink 1 glass of water. Seek medical advice immediately.

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**

Carbon dioxide (CO₂), Foam, Extinguishing powder.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Extremely flammable aerosol. Pressurized container: May burst if heated. Vapours can form explosive mixtures with air.

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.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 4 of 14

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Remove all sources of ignition. 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. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Explosion risk.

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

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**

Do not pierce or burn, even after use. If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Advice on protection against fire and explosion

Do not spray on naked flames or any incandescent material. Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F. 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**

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 5 of 14

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
115-10-6	Dimethyl ether	400	766		TWA (8 h)	WEL
		500	958		STEL (15 min)	WEL
141-78-6	Ethyl acetate	200	734		TWA (8 h)	WEL
		400	1468		STEL (15 min)	WEL

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

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 6 of 14

PNEC values

CAS No	Substance	Value
Environmental compartment		
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

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.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing protective goggles (DIN EN 166).

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: Aerosol
 Colour: Copper-coloured

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 7 of 14

Odour: characteristic

Changes in the physical state

Melting point/freezing point: not determined

Boiling point or initial boiling point and boiling range: not determined

Flash point: -42 °C

Flammability

Solid/liquid: not applicable

Gas: not applicable

Explosive properties

Heating may cause an explosion.

Lower explosion limits: 2,1 g/m³Upper explosion limits: 18,6 g/m³

Auto-ignition temperature: 235 °C

Self-ignition temperature

Gas: not determined

Decomposition temperature: not determined

pH-Value: not applicable

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:
(at 20 °C) 5100 hPa

Density: not determined

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: 58 %

Solid content: 20,70 %

Evaporation rate: not determined

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

Extremely flammable aerosol. Pressurized container: May burst if heated.

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.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 8 of 14

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 inhaled.

ATEmix calculated

ATE (inhalation dust/mist) 4,072 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
67-64-1	acetone; propan-2-one; propanone				
	oral	LD50 mg/kg	5800	Rat	RTECS
	dermal	LD50 mg/kg	20000	Rabbit	IUCLID
	inhalation (4 h) vapour	LC50	76 mg/l	Rat	
	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	GESTIS
	dermal	LD50 mg/kg	>15800	Rabbit	GESTIS
	inhalation (4 h) vapour	LC50	76 mg/l	Rat	GESTIS

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.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 9 of 14

STOT-single exposure

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

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

Toxic to aquatic life with long lasting effects.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
67-64-1	acetone; propan-2-one; propanone					
	Acute fish toxicity	LC50 mg/l	5540	96 h	Onchorhynchus mykiss	
	Acute crustacea toxicity	EC50 mg/l	6100	48 h	Daphnia magna	
	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	8300	96 h		GESTIS
	Acute algae toxicity	ErC50 mg/l	7200	96 h		GESTIS
	Acute crustacea toxicity	EC50 mg/l	8450	48 h	Daphnia magna (Big water flea)	GESTIS
	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.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 10 of 14

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
67-64-1	acetone; propan-2-one; propanone	-0,24
115-10-6	dimethyl ether	0,1
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.

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.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 11 of 14

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Excepted quantity: E0
 Transport category: 2
 Tunnel restriction code: D

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2
14.4. Packing group: -
 Hazard label: 2.1



Classification code: 5F
 Special Provisions: 190 327 344 625
 Limited quantity: 1 L
 Excepted quantity: E0

Marine transport (IMDG)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1



Special Provisions: 63, 190, 277, 327, 344, 381, 959
 Limited quantity: 1000 mL
 Excepted quantity: E0
 EmS: F-D, S-U

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1950
14.2. UN proper shipping name: AEROSOLS, FLAMMABLE
14.3. Transport hazard class(es): 2.1
14.4. Packing group: -
 Hazard label: 2.1

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 12 of 14



Special Provisions:	A145 A167 A802
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y203
Excepted quantity:	E0
IATA-packing instructions - Passenger:	203
IATA-max. quantity - Passenger:	75 kg
IATA-packing instructions - Cargo:	203
IATA-max. quantity - Cargo:	150 kg

14.6. Special precautions for user

Warning: Flammable gases.

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

Information according to 2012/18/EU (SEVESO III): E1 Hazardous to the Aquatic Environment

Additional information: P3a

Additional information

Aerosol Directive (75/324/).

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): 2 - obviously 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

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 13 of 14

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).

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

Classification	Classification procedure
Aerosol 1; H222-H229	On basis of test data
Acute Tox. 4; H332	Bridging principle "Aerosols"
Eye Irrit. 2; H319	Bridging principle "Aerosols"
STOT SE 3; H336	Bridging principle "Aerosols"
Aquatic Acute 1; H400	Calculation method
Aquatic Chronic 1; H410	Calculation method

Relevant H and EUH statements (number and full text)

H220	Extremely flammable gas.
H222	Extremely flammable aerosol.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H229	Pressurised container: May burst if heated.
H302	Harmful if swallowed.
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.

Safety Data Sheet

according to UK REACH Regulation

Conductive copper varnish spray

Revision date: 26.10.2022

Product code: 0107-Spray

Page 14 of 14

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