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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)
Revision date / version: 28.11.2024 / 0032
Replacing version dated / version: 18.04.2024 / 0031
Valid from: 28.11.2024
PDF print date: 29.11.2024
Copper Spray S425
300 ml Art.: 6510 5000, Art.: 6514 5000

Safety data sheet according to Regulation (EC) No 1907/2006, Annex II (last amended by Regulation (EU) 2020/878)

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

1.1 Product identifier

Copper Spray S425
300 ml Art.: 6510 5000, Art.: 6514 5000

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

Grease

Relevant identified uses of the substance or mixture:

Uses advised against:

No information available at present.

1.3 Details of the supplier of the safety data sheet

Theo Förch GmbH & Co. KG
Theo-Förch-Str. 11 – 15
74196 Neuenstadt
Tel.: 07139/95-0
Fax: 07139/95-199
Email: info@foerch.de
Homepage: www.foerch.com

Details of the supplier of the safety data sheet see section 16 of this safety data sheet.

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number

Emergency information services / official advisory body:

IRL

National Poisons Information Centre, Beaumont Hospital, Dublin 9, Ireland, Tel.:
+353 (0)1 809 2166 (Public Poisons Info Line, 8am-10pm, 7 days a week)
+353 (0)1 809 2566 (Info for Healthcare Professionals ONLY, 24 h, 7 days a week)

Telephone number of the company in case of emergencies:

+49 (0) 700 / 24 112 112 (TFC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

Hazard class	Hazard category	Hazard statement
Eye Irrit.	2	H319-Causes serious eye irritation.
Skin Irrit.	2	H315-Causes skin irritation.
Asp. Tox.	1	H304-May be fatal if swallowed and enters airways.
Aquatic Acute	1	H400-Very toxic to aquatic life.
Aquatic Chronic	2	H411-Toxic to aquatic life with long lasting effects.
Aerosol	1	H222-Extremely flammable aerosol.

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Aerosol

1

H229-Pressurised container: May burst if heated.

2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H319-Causes serious eye irritation. H315-Causes skin irritation. H410-Very toxic to aquatic life with long lasting effects. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

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. P273-Avoid release to the environment. P280-Wear protective gloves / eye protection.

P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

Without adequate ventilation, formation of explosive mixtures may be possible.
 Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics
 Hydrocarbons, C6, isoalkanes, <5% n-hexane

2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any substance with endocrine disrupting properties (< 0,1 %).

SECTION 3: Composition/information on ingredients

3.1 Substances

n.a.

3.2 Mixtures

Dimethyl ether	Substance for which an EU exposure limit value applies.
Registration number (REACH)	01-2119472128-37-XXXX
Index	603-019-00-8
EINECS, ELINCS, NLP, REACH-IT List-No.	204-065-8
CAS	115-10-6
content %	50-60
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Gas 1A, H220

Hydrocarbons, C6, isoalkanes, <5% n-hexane	
Registration number (REACH)	01-2119484651-34-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	931-254-9
CAS	(64742-49-0)
content %	15-<20
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411

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Copper	
Registration number (REACH)	01-2119480154-42-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	231-159-6
CAS	7440-50-8
content %	10-<20
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Acute Tox. 4, H302 Eye Irrit. 2, H319 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410 (M=1)
Specific Concentration Limits and ATE	ATE (oral): 300 mg/kg

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics	
Registration number (REACH)	01-2119457273-39-XXXX
Index	---
EINECS, ELINCS, NLP, REACH-IT List-No.	918-481-9
CAS	(64742-48-9)
content %	0,5-<2,5
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	EUH066 Asp. Tox. 1, H304

Zinc powder - zinc dust (stabilized)	
Registration number (REACH)	01-2119467174-37-XXXX
Index	030-001-01-9
EINECS, ELINCS, NLP, REACH-IT List-No.	231-175-3
CAS	7440-66-6
content %	0,1-<1
Classification according to Regulation (EC) 1272/2008 (CLP), M-factors	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
 The substances named in this section are given with their actual, appropriate classification!
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.
 If, for example, the note P is applied for a hydrocarbon then this has already been taken into account for the classification named here.
 Quote: "Note P - The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7)."
 Article 4 of the regulation (EC) no. 1272/2008 (CLP regulation) was also observed and taken into account for the classification named here.
 The addition of the highest concentrations listed here can result in a classification. Only when this classification is listed in Section 2 does it apply. In all other cases the total concentration is below the classification.

SECTION 4: First aid measures

4.1 Description of first aid measures

First-aiders should ensure they are protected!
 Never pour anything into the mouth of an unconscious person!

Inhalation

Remove person from danger area.
 Supply person with fresh air and consult doctor according to symptoms.

Skin contact

Wash thoroughly using copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

Eye contact

Remove contact lenses.
 Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

Ingestion

Rinse the mouth thoroughly with water.
 Do not induce vomiting. Consult doctor immediately.
 In case of vomiting, keep head low so that the stomach content does not reach the lungs.

4.2 Most important symptoms and effects, both acute and delayed

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
 In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.
 eyes, reddened
 watering eyes

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reddening of the skin

Dermatitis (skin inflammation)

Nausea

vomiting

Danger of aspiration.

oedema of the lungs

Chemical pneumonitis (condition similar to pneumonia)

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water jet spray/foam/CO2/dry extinguisher

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

Oxides of carbon

Metal oxides

Toxic gases

Danger of bursting (explosion) when heated

Possible build up of explosive/highly flammable vapour/air mixture.

5.3 Advice for firefighters

For personal protective equipment see Section 8.

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

Full protection, if necessary.

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.

Ensure sufficient ventilation, remove sources of ignition.

Avoid dust formation with solid or powder products.

Leave the danger zone if possible, use existing emergency plans if necessary.

Avoid contact with eyes or skin.

6.1.2 For emergency responders

See section 8 for suitable protective equipment and material specifications.

6.2 Environmental precautions

If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent from entering drainage system.

Prevent surface and ground-water infiltration, as well as ground penetration.

6.3 Methods and material for containment and cleaning up

If spray or gas escapes, ensure ample fresh air is available.

Active substance:

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to Section 13.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

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7.1.1 General recommendations

Ensure good ventilation.

Avoid inhalation of the vapours.

Keep away from sources of ignition - Do not smoke.

Take measures against electrostatic charging, if appropriate.

Do not use on hot surfaces.

Avoid contact with eyes or skin.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Observe special regulations for aerosols!

Observe special storage conditions.

Do not store with flammable or self-igniting materials.

Keep protected from direct sunlight and temperatures over 50°C.

Store in a well ventilated place.

Store cool.

7.3 Specific end use(s)

No information available at present.

Observe the instructions for good working practice and the recommendations for risk assessment.

Consult hazardous substance information systems, e.g. from the professional associations, the chemical industry or different industries, depending on the application (building materials, wood, chemistry, laboratory, leather, metal).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):

800 mg/m³

(GB) Chemical Name	Dimethyl ether		
WEL-TWA: 400 ppm (766 mg/m ³) (WEL-TWA), 1000 ppm (1920 mg/m ³) (EU)	WEL-STEL: 500 ppm (958 mg/m ³) (WEL-STEL)	---	
Monitoring procedures:	- Compur - KITA-123 S (549 129)		
BMGV: ---	Other information: ---		

(IRL) Chemical Name	Dimethyl ether		
OELV-8h: 1000 ppm (1920 mg/m ³) (OELV-8h, EU)	OELV-15min: ---	---	
Monitoring procedures:	- Compur - KITA-123 S (549 129)		
BLV: ---	Other information: IOELV		

(GB) Chemical Name	Hydrocarbons, C6, isoalkanes, <5% n-hexane		
WEL-TWA: 800 mg/m ³	WEL-STEL: ---	---	
Monitoring procedures:	- Draeger - Hydrocarbons 0,1%/c (81 03 571)		
	- Draeger - Hydrocarbons 2/a (81 03 581)		
	- Compur - KITA-187 S (551 174)		
BMGV: ---	Other information: (OEL acc. to RCP-method, paragraphs 84-87, EH40)		

(IRL) Chemical Name	Hydrocarbons, C6, isoalkanes, <5% n-hexane		
OELV-8h: 100 ppm (573 mg/m ³) ("Stoddard solvent", [White spirit])	OELV-15min: ---	---	
Monitoring procedures:	- Draeger - Hydrocarbons 0,1%/c (81 03 571)		
	- Draeger - Hydrocarbons 2/a (81 03 581)		
	- Compur - KITA-187 S (551 174)		
BLV: ---	Other information: ---		

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Chemical Name		Copper
WEL-TWA: 1 mg/m3 (dusts and mists, as Cu)	WEL-STEL: 2 mg/m3 (dusts and mists, as Cu)	---
Monitoring procedures:		
<ul style="list-style-type: none"> ISO 15202 (Workplace air - Determination of metals and metalloids in airborne particulate matter by Inductively Coupled Plasma Atomic Emission Spectrometry), Part 1-3 - 2012(Part 1), 2012(Part 2), 2004 (Part 3) - EU project BC/CEN/ENTR/000/2002-16 card 84-1 (2004) MDHS 91/2 (Metals and metalloids in workplace air by X-ray fluorescence spectrometry) - 2015 - EU project BC/CEN/ENTR/000/2002-16 card 84-2 (2004) NIOSH 7029 (Copper (dust and fume)) - 1994 NIOSH 7300 (ELEMENTS by ICP (Nitric/Perchloric Acid Ashing)) - 2003 NIOSH 7301 (Elements by ICP (aqua regia ashing)) - 2003 NIOSH 7303 (Elements by ICP (Hot block HCl/HNO3 digestion)) - 2003 OSHA ID-121 (Metal and metalloid particulates in workplace atmospheres (Atomic absorption)) - 2002 - EU project BC/CEN/ENTR/000/2002-16 card 84-10 (2004) OSHA ID-125G (Metal and metalloid particulates in workplace atmospheres (ICP)) - 2002 OSHA ID-206 (ICP analysis of metal/metalloid particulates from solder operations) - 1991 		
BMGV: ---	Other information: ---	

Chemical Name		Copper
OELV-8h: 1 mg/m3 (dusts and mists, as Cu)	OELV-15min: ---	---
Monitoring procedures:		
<ul style="list-style-type: none"> ISO 15202 (Workplace air - Determination of metals and metalloids in airborne particulate matter by Inductively Coupled Plasma Atomic Emission Spectrometry), Part 1-3 - 2012(Part 1), 2012(Part 2), 2004 (Part 3) - EU project BC/CEN/ENTR/000/2002-16 card 84-1 (2004) MDHS 91/2 (Metals and metalloids in workplace air by X-ray fluorescence spectrometry) - 2015 - EU project BC/CEN/ENTR/000/2002-16 card 84-2 (2004) NIOSH 7029 (Copper (dust and fume)) - 1994 NIOSH 7300 (ELEMENTS by ICP (Nitric/Perchloric Acid Ashing)) - 2003 NIOSH 7301 (Elements by ICP (aqua regia ashing)) - 2003 NIOSH 7303 (Elements by ICP (Hot block HCl/HNO3 digestion)) - 2003 OSHA ID-121 (Metal and metalloid particulates in workplace atmospheres (Atomic absorption)) - 2002 - EU project BC/CEN/ENTR/000/2002-16 card 84-10 (2004) OSHA ID-125G (Metal and metalloid particulates in workplace atmospheres (ICP)) - 2002 OSHA ID-206 (ICP analysis of metal/metalloid particulates from solder operations) - 1991 		
BLV: ---	Other information: ---	

Chemical Name		Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics
WEL-TWA: 800 mg/m3	WEL-STEL: ---	---
Monitoring procedures:		
<ul style="list-style-type: none"> - Draeger - Hydrocarbons 0,1%/c (81 03 571) - Draeger - Hydrocarbons 2/a (81 03 581) - Compur - KITA-187 S (551 174) 		
BMGV: ---	Other information: (OEL acc. to RCP-method, paragraphs 84-87, EH40)	

Chemical Name		Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics
OELV-8h: 100 ppm (573 mg/m3) ("Stoddard solvent", [White spirit])	OELV-15min: ---	---
Monitoring procedures:		
<ul style="list-style-type: none"> - Draeger - Hydrocarbons 0,1%/c (81 03 571) - Draeger - Hydrocarbons 2/a (81 03 581) - Compur - KITA-187 S (551 174) 		
BLV: ---	Other information: ---	

Dimethyl ether						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	0,155	mg/l	
	Environment - sediment, freshwater		PNEC	0,681	mg/kg	
	Environment - soil		PNEC	0,045	mg/kg	
	Environment - sewage treatment plant		PNEC	160	mg/l	

	Environment - marine		PNEC	0,016	mg/l	
	Environment - water, sporadic (intermittent) release		PNEC	1,549	mg/l	
	Environment - sediment, marine		PNEC	0,069	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	471	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	1894	mg/m3	

Hydrocarbons, C6, isoalkanes, <5% n-hexane						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - oral	Long term, systemic effects	DNEL	1301	mg/kg bw/day	
Consumer	Human - dermal	Long term, systemic effects	DNEL	1377	mg/kg bw/day	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	1131	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	13964	mg/kg bw/day	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	5306	mg/m3	

Copper						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	6,3	µg/l	
	Environment - marine		PNEC	5,2	µg/l	
	Environment - sediment, freshwater		PNEC	87	mg/kg dry weight	
	Environment - sediment, marine		PNEC	676	mg/kg dry weight	
	Environment - soil		PNEC	65,5	mg/kg dry weight	
	Environment - sewage treatment plant		PNEC	230	µg/l	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,041	mg/kg bw/day	
Consumer	Human - inhalation	Short term, systemic effects	DNEL	20	mg/m3	
Consumer	Human - dermal	Short term, systemic effects	DNEL	273	mg/kg bw/d	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	137	mg/kg bw/d	
Workers / employees	Human - dermal	Short term, systemic effects	DNEL	273	mg/kg bw/d	
Workers / employees	Human - inhalation	Short term, systemic effects	DNEL	20	mg/m3	

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
Consumer	Human - oral	Long term, systemic effects	DNEL	125	mg/kg	
Consumer	Human - dermal	Long term, systemic effects	DNEL	125	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	185	mg/m3	

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Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	871	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	208	mg/kg body weight/day	

Zinc powder - zinc dust (stabilized)						
Area of application	Exposure route / Environmental compartment	Effect on health	Descriptor	Value	Unit	Note
	Environment - freshwater		PNEC	20,6	µg/l	
	Environment - marine		PNEC	6,1	µg/l	
	Environment - sewage treatment plant		PNEC	52	µg/l	
	Environment - sediment, freshwater		PNEC	117,8	mg/kg dw	
	Environment - sediment, marine		PNEC	56,5	mg/kg	
	Environment - soil		PNEC	35,6	mg/kg	
Consumer	Human - oral	Long term, systemic effects	DNEL	0,83	mg/kg bw/d	
Consumer	Human - dermal	Long term, systemic effects	DNEL	83	mg/kg	
Consumer	Human - inhalation	Long term, systemic effects	DNEL	2,5	mg/m3	
Workers / employees	Human - inhalation	Long term, systemic effects	DNEL	5	mg/m3	
Workers / employees	Human - dermal	Long term, systemic effects	DNEL	83	mg/kg	

GB - United Kingdom | WEL-TWA = Workplace Exposure Limit - Long-term exposure limit - 8-hour TWA (= time weighted average) reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
 (8) = Inhalable fraction (2004/37/CE, 2017/164/EU). (9) = Respirable fraction (2004/37/CE, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |
 | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit - 15-minute reference period (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
 (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
 | BMGV = Biological monitoring guidance value (EH40/2005 Workplace exposure limits (Fourth Edition 2020)).
 (EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |
 | Other information (EH40/2005 Workplace exposure limits (Fourth Edition 2020)): Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
 (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU:
 (13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

IRL - Ireland/Éire | OELV-8h = Occupational Exposure Limit Value - 8-hour reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction. (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
 (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (11) = Inhalable fraction (2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (2004/37/CE). |
 | OELV-15min = Occupational Exposure Limit Value - 15-minute reference period (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): (IFV) = Inhalable Fraction and Vapour. (I) = Inhalable Fraction. (R) = Respirable Fraction. (EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU or 2019/1831/EU:
 (8) = Inhalable fraction (2004/37/EC, 2017/164/EU). (9) = Respirable fraction (2004/37/EC, 2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). |
 | BMGV = Biological Monitoring Guidance Value (Biological Monitoring Guidelines 2011, HSA (Health and Safety Authority)): ACGIH-BEI = BMGV have been sourced from Biological Exposure Indices (BEI) as issued by the American Conference of Governmental Industrial Hygienists (ACGIH). SCOEL = BMGV have been sourced from the Scientific Committee on Occupational Exposure Limit Values (SCOEL) which was set up by a Commission Decision (95/320/EC) with the mandate to advise the European Commission on occupational exposure limits for chemicals in the workplace. HSE = BMGV have been sourced from the Health and Safety Executive (HSE), UK.

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Copper Spray S425

300 ml Art.: 6510 5000, Art.: 6514 5000

(EU) = Directive 98/24/EC or 2004/37/EC or SCOEL (Biological Limit Value - BLV, Recommendation from the Scientific Committee on Occupational Exposure Limits (SCOEL)) |

| Other information (Chemical Agents and Carcinogens CoP (Code of Practice) 2021, HSA (Health and Safety Authority)): Carc1A, Carc1B = carcinogenic substance, Cat. 1A or 1B. Muta1A, Muta1B = mutagenic substance, Cat. 1A or 1B. Repr1A, Repr1B = Substances known to be toxic for reproduction, Cat. 1A or 1B. Sk = can be absorbed through skin. Asphx = asphyxiant. Sen = Respiratory sensitizer. BOELV = Binding Occupational Exposure Limit Values. IOELV = Indicative Occupational Exposure Limit Values.

(EU) = Directive 91/322/EEC, 98/24/EC, 2000/39/EC, 2004/37/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU, 2019/1831/EU or 2024/869/EU: (13) = The substance can cause sensitisation of the skin and of the respiratory tract (98/24/EC, 2004/37/CE), (14) = The substance can cause sensitisation of the skin (2004/37/CE), (15) = Substantial contribution to the total body burden via dermal exposure possible. |

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Protective nitrile gloves (EN ISO 374).

Minimum layer thickness in mm:

0,4

Protective PVC gloves (EN ISO 374).

Minimum layer thickness in mm:

0,6

Protective Viton® / fluoroelastomer gloves (EN ISO 374).

Protective gloves made of polyvinyl alcohol (EN ISO 374).

Minimum layer thickness in mm:

0,7

Permeation time (penetration time) in minutes:

>= 480

Protective hand cream recommended.

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:

If OES or MEL is exceeded.

Filter A P2 (EN 14387), code colour brown, white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

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The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls

No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Aerosol. Active substance: liquid.
Colour:	Copper
Odour:	Characteristic
Melting point/freezing point:	There is no information available on this parameter.
Boiling point or initial boiling point and boiling range:	There is no information available on this parameter.
Flammability:	Does not apply to aerosols.
Lower explosion limit:	There is no information available on this parameter.
Upper explosion limit:	There is no information available on this parameter.
Flash point:	-41 °C (The flash-point of the mixture was not tested, but complies with the ingredient with the lowest value.)
Auto-ignition temperature:	Does not apply to aerosols.
Decomposition temperature:	There is no information available on this parameter.
pH:	Mixture is non-soluble (in water).
Kinematic viscosity:	Does not apply to aerosols.
Solubility:	Insoluble
Partition coefficient n-octanol/water (log value):	Does not apply to mixtures.
Vapour pressure:	4500 hPa (20°C)
Density and/or relative density:	Not determined
Relative vapour density:	Does not apply to aerosols.
Particle characteristics:	Does not apply to aerosols.

9.2 Other information

No information available at present.

SECTION 10: Stability and reactivity

10.1 Reactivity

The product has not been tested.

10.2 Chemical stability

Stable with proper storage and handling.

10.3 Possibility of hazardous reactions

No dangerous reactions are known.

10.4 Conditions to avoid

Heating, open flame, ignition sources
 Pressure increase will result in danger of bursting.

10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products

No decomposition when used as directed.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

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Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	ATE	>2000	mg/kg			calculated value
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:	ATE	>5	mg/l			calculated value, Aerosol
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.

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Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

Dimethyl ether						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by inhalation:	LC50	164	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	
Skin corrosion/irritation:						Not irritant
Serious eye damage/irritation:						Not irritant
Respiratory or skin sensitisation:						No (skin contact)
Germ cell mutagenicity:					OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:					OECD 473 (In Vitro Mammalian Chromosome Aberration Test)	Negative
Germ cell mutagenicity:					OECD 477 (Genetic Toxicology - Sex-Linked Recessive Lethal Test in Drosophila melanogaster)	Negative
Carcinogenicity:	NOAEC	47000	mg/m3	Rat	OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Negative
Reproductive toxicity:	NOAEL	5000	ppm	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	
Specific target organ toxicity - repeated exposure (STOT-RE):	NOAEC	47106	mg/kg	Rat	OECD 452 (Chronic Toxicity Studies)	Negative(2 a)
Aspiration hazard:						No

Hydrocarbons, C6, isoalkanes, <5% n-hexane						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>16750	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>3350	mg/kg	Rabbit	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	259354	mg/m3	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours
Skin corrosion/irritation:						Skin Irrit. 2
Respiratory or skin sensitisation:				Mouse	OECD 429 (Skin Sensitisation - Local Lymph Node Assay)	No (skin contact)
Reproductive toxicity:	NOAEC	10560	mg/m3	Rat	OECD 416 (Two-generation Reproduction Toxicity Study)	
Aspiration hazard:						Asp. Tox. 1

Symptoms:						drowsiness, unconsciousness, heart/circulatory disorders, headaches, cramps, drowsiness, mucous membrane irritation, dizziness, nausea and vomiting.
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Copper						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	300-500	mg/kg	Rat	OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)	
Acute toxicity, by oral route:	ATE	300	mg/kg			
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5,11	mg/l/4h	Rat	OECD 436 (Acute Inhalation Toxicity - Acute Toxic Class Method)	
Skin corrosion/irritation:				Rabbit	OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	Regulation (EC) 440/2008 B.12 (MAMMALIAN ERYTHROCYTE MICRONUCLEUS TEST)	Negative

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>5000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by dermal route:	LD50	>2000	mg/kg	Rat	OECD 402 (Acute Dermal Toxicity)	
Acute toxicity, by inhalation:	LC50	>5	mg/m3/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Vapours, Analogous conclusion
Acute toxicity, by inhalation:	LC50	>4,951	mg/m3/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Analogous conclusion, Maximum achievable concentration., Vapours
Skin corrosion/irritation:						Repeated exposure may cause skin dryness or cracking., Product removes fat.

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Skin corrosion/irritation:					OECD 404 (Acute Dermal Irritation/Corrosion)	Not irritant, Analogous conclusion, Repeated exposure may cause skin dryness or cracking.
Serious eye damage/irritation:					OECD 405 (Acute Eye Irritation/Corrosion)	Not irritant
Respiratory or skin sensitisation:				Guinea pig	OECD 406 (Skin Sensitisation)	No (skin contact)
Germ cell mutagenicity:				Salmonella typhimurium	OECD 471 (Bacterial Reverse Mutation Test)	Negative
Germ cell mutagenicity:				Mouse	OECD 474 (Mammalian Erythrocyte Micronucleus Test)	Negative, Analogous conclusion
Carcinogenicity:					OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies)	Negative, Analogous conclusion
Reproductive toxicity:					OECD 421 (Reproduction/Developmental Toxicity Screening Test)	Negative, Analogous conclusion
Reproductive toxicity:	NOAEC	>= 5220	mg/m3	Rat	OECD 414 (Prenatal Developmental Toxicity Study)	Negative, Analogous conclusion inhalation
Specific target organ toxicity - repeated exposure (STOT-RE):					OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	No indications of such an effect., Analogous conclusion
Aspiration hazard:						Yes
Symptoms:						unconsciousness, headaches, dizziness, Dermatitis (skin inflammation), Reddening, drying of the skin., mucous membrane irritation, nausea and vomiting., diarrhoea, lower abdominal pain

Zinc powder - zinc dust (stabilized)						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:	LD50	>2000	mg/kg	Rat	OECD 401 (Acute Oral Toxicity)	
Acute toxicity, by inhalation:	LC50	5,41	mg/l/4h	Rat	OECD 403 (Acute Inhalation Toxicity)	Dusts or mist

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Symptoms:						respiratory distress, chest pain (thorax pain), fever, joint pain, heart/circulatory disorders, coughing, metal fume fever, muscle pains, mucous membrane irritation, chills, nausea and vomiting.
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11.2. Information on other hazards

Copper Spray S425 300 ml Art.: 6510 5000, Art.: 6514 5000						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Endocrine disrupting properties:						Does not apply to mixtures.
Other information:						No other relevant information available on adverse effects on health.

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

Copper Spray S425 300 ml Art.: 6510 5000, Art.: 6514 5000							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Endocrine disrupting properties:							Does not apply to mixtures.
12.7. Other adverse effects:							No information available on other adverse effects on the environment.
Other information:							DOC-elimination degree(complexing organic substance) \geq 80%/28d: n.a.
Other information:	AOX		0	%			According to the recipe, contains no AOX.

Dimethyl ether							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes

12.1. Toxicity to fish:	LC0	96h	2695	mg/l	Pimephales promelas		
12.1. Toxicity to fish:	LC50	96h	3082	mg/l	Salmo gairdneri		
12.1. Toxicity to fish:	LC50	96h	>4,1	mg/l	Poecilia reticulata		
12.1. Toxicity to daphnia:	EC50	48h	>4,4	mg/l	Daphnia magna		
12.1. Toxicity to algae:	EC50	96h	154,9	mg/l	Chlorella vulgaris		
12.2. Persistence and degradability:		28d	5	%		OECD 301 D (Ready Biodegradability - Closed Bottle Test)	Not readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		-0,07				Bioaccumulation is unlikely (LogPow < 1). 25°C (pH 7)
12.4. Mobility in soil:	H (Henry)		518,6	Pa*m3/mol			No adsorption in soil.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
Toxicity to bacteria:	EC10		>1600	mg/l	Pseudomonas putida		
Water solubility:			45,60	mg/l			25°C

Hydrocarbons, C6, isoalkanes, <5% n-hexane

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOEC/NOEL	28d	4,09	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to fish:	EC50	96h	18,27	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	NOEC/NOEL	21d	7,14	mg/l	Daphnia magna	QSAR	
12.1. Toxicity to daphnia:	LC50	48h	3,87	mg/l	Daphnia magna		Analogous conclusion
12.1. Toxicity to algae:	EC50	72h	13,56	mg/l	Pseudokirchneriella subcapitata	QSAR	
12.1. Toxicity to algae:	ErL50	72h	55	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	Analogous conclusion
12.2. Persistence and degradability:		28d	98	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable (Analogous conclusion), Analogous conclusion
12.3. Bioaccumulative potential:	Log Kow		4				
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance

Copper

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,0087 - 0,29	mg/l			

Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, <2% aromatics

Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	NOELR	28d	0,10	mg/l	Oncorhynchus mykiss	QSAR	
12.1. Toxicity to fish:	LC50	96h	>1000	mg/l	Oncorhynchus mykiss	OECD 203 (Fish, Acute Toxicity Test)	
12.1. Toxicity to daphnia:	EC50	48h	>1000	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

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12.1. Toxicity to daphnia:	NOELR	21d	0,18	mg/l	Daphnia magna	QSAR	
12.1. Toxicity to algae:	ErL50	72h	>1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.1. Toxicity to algae:	NOELR	72h	1000	mg/l	Pseudokirchneriella subcapitata	OECD 201 (Alga, Growth Inhibition Test)	
12.2. Persistence and degradability:		28d	80	%		OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)	Readily biodegradable
12.3. Bioaccumulative potential:	Log Pow		5,5-7,2				
12.4. Mobility in soil:	Log Koc		>3				Product is slightly volatile.
12.5. Results of PBT and vPvB assessment							No PBT substance, No vPvB substance
12.7. Other adverse effects:							Product floats on the water surface.
Water solubility:			~10	mg/l			Slight

Zinc powder - zinc dust (stabilized)							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	0,238-0,56	mg/l	Oncorhynchus mykiss		
12.1. Toxicity to daphnia:	EC50	48h	0,937	mg/l	Daphnia magna	OECD 202 (Daphnia sp. Acute Immobilisation Test)	

SECTION 13: Disposal considerations

13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

16 05 04 gases in pressure containers (including halons) containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Take full aerosol cans to problem waste collection.

Take emptied aerosol cans to valuable material collection.

For contaminated packing material

Pay attention to local and national official regulations.

15 01 04 metallic packaging

15 01 10 packaging containing residues of or contaminated by hazardous substances

Recycling

Do not perforate, cut up or weld uncleaned container.

SECTION 14: Transport information

General statements

Transport by road/by rail (ADR/RID)

14.1. UN number or ID number:

1950

14.2. UN proper shipping name:

UN 1950 AEROSOLS



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14.3. Transport hazard class(es): 2.1
 14.4. Packing group: -
 14.5. Environmental hazards: environmentally hazardous
 Tunnel restriction code: D
 Classification code: 5F
 LQ: 1 L
 Transport category: 2

Transport by sea (IMDG-code)

14.1. UN number or ID number: 1950
 14.2. UN proper shipping name: UN 1950 AEROSOLS
 14.3. Transport hazard class(es): 2.1
 14.4. Packing group: -
 14.5. Environmental hazards: environmentally hazardous
 Marine Pollutant: Yes
 EmS: F-D, S-U



Transport by air (IATA)

14.1. UN number or ID number: 1950
 14.2. UN proper shipping name: UN 1950 Aerosols, flammable
 14.3. Transport hazard class(es): 2.1
 14.4. Packing group: -
 14.5. Environmental hazards: Not applicable



14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.
 All persons involved in transporting must observe safety regulations.
 Precautions must be taken to prevent damage.

14.7. Maritime transport in bulk according to IMO instruments

Freighted as packaged goods rather than in bulk, therefore not applicable.
 Minimum amount regulations have not been taken into account.
 Danger code and packing code on request.
 Comply with special provisions.

SECTION 15: Regulatory information

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

Observe restrictions:
 Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!
 Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
E1		100	200
E2		200	500
P3a	11.1	150 (netto)	500 (netto)

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 77,9 %

Observe incident regulations.

National requirements/regulations on safety and health protection must be applied when using work equipment.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

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SECTION 16: Other information

Revised sections: 14
 Employee training in handling dangerous goods is required.
 These details refer to the product as it is delivered.
 Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Eye Irrit. 2, H319	Classification according to calculation procedure.
Skin Irrit. 2, H315	Classification according to calculation procedure.
Asp. Tox. 1, H304	Classification according to calculation procedure.
Aquatic Acute 1, H400	Classification according to calculation procedure.
Aquatic Chronic 2, H411	Classification according to calculation procedure.
Aerosol 1, H222	Classification according to calculation procedure.
Aerosol 1, H229	Classification based on the form or physical state.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents.

H225 Highly flammable liquid and vapour.
 H302 Harmful if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.
 H220 Extremely flammable gas.
 EUH066 Repeated exposure may cause skin dryness or cracking.

Eye Irrit. — Eye irritation
 Skin Irrit. — Skin irritation
 Asp. Tox. — Aspiration hazard
 Aquatic Acute — Hazardous to the aquatic environment - acute
 Aquatic Chronic — Hazardous to the aquatic environment - chronic
 Aerosol — Aerosols
 Flam. Gas — Flammable gases - Flammable gas
 Flam. Liq. — Flammable liquid
 STOT SE — Specific target organ toxicity - single exposure - narcotic effects
 Acute Tox. — Acute toxicity - oral

Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.
 Guidelines for the preparation of safety data sheets as amended (ECHA).
 Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).
 Safety data sheets for the constituent substances.
 ECHA Homepage - Information about chemicals.
 GESTIS Substance Database (Germany).
 German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).
 EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.
 National Lists of Occupational Exposure Limits for each country as amended.
 Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

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Copper Spray S425

300 ml Art.: 6510 5000, Art.: 6514 5000

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Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ASTM ASTM International (American Society for Testing and Materials)
ATE Acute Toxicity Estimate
BAM Bundesanstalt für Materialforschung und -prüfung (= Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
BSEF The International Bromine Council
CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EbCx, EyCx, EBLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)

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EC European Community
 ECHA European Chemicals Agency
 ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect
 EEC European Economic Community
 EINECS European Inventory of Existing Commercial Chemical Substances
 ELINCS European List of Notified Chemical Substances
 EN European Norms
 EPA United States Environmental Protection Agency (United States of America)
 ErCx, E_pCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)
 etc. et cetera
 EU European Union
 EVAL Ethylene-vinyl alcohol copolymer
 Fax. Fax number
 gen. general
 GHS Globally Harmonized System of Classification and Labelling of Chemicals
 GWP Global warming potential
 K_{oc} Adsorption coefficient of organic carbon in the soil
 K_{ow} octanol-water partition coefficient
 IARC International Agency for Research on Cancer
 IATA International Air Transport Association
 IBC (Code) International Bulk Chemical (Code)
 IMDG-code International Maritime Code for Dangerous Goods
 incl. including, inclusive
 IUCLID International Uniform Chemical Information Database
 IUPAC International Union for Pure Applied Chemistry
 LC50 Lethal Concentration to 50 % of a test population
 LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)
 Log K_{oc} Logarithm of adsorption coefficient of organic carbon in the soil
 Log K_{ow}, Log P_{ow} Logarithm of octanol-water partition coefficient
 LQ Limited Quantities
 MARPOL International Convention for the Prevention of Marine Pollution from Ships
 mg/kg bw mg/kg body weight
 mg/kg bw/d, mg/kg bw/day mg/kg body weight/day
 mg/kg dw mg/kg dry weight
 mg/kg wwt mg/kg wet weight
 n.a. not applicable
 n.av. not available
 n.c. not checked
 n.d.a. no data available
 NIOSH National Institute for Occupational Safety and Health (USA)
 NLP No-longer-Polymer
 NOEC, NOEL No Observed Effect Concentration/Level
 OECD Organisation for Economic Co-operation and Development
 org. organic
 OSHA Occupational Safety and Health Administration (USA)
 PBT persistent, bioaccumulative and toxic
 PE Polyethylene
 PNEC Predicted No Effect Concentration
 ppm parts per million
 PVC Polyvinylchloride
 REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
 REACH-IT List-No. 6/7/8/9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
 RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
 SVHC Substances of Very High Concern
 Tel. Telephone
 TOC Total organic carbon
 UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
 VOC Volatile organic compounds
 vPvB very persistent and very bioaccumulative

The statements made here should describe the product with regard to the necessary safety precautions - they are

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not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.

No responsibility.

These statements were made by:

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