

# COPPER

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1.8	24.04.2024	50001136	Date of first issue: 25.09.2019

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

- 1.1 Product identifier
  - Product name COPPER

### Other means of identification

Product code	50001136
	00001100

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

Use of the Sub- stance/Mixture	:	A fertilizer with micronutrients for use in agriculture
Recommended restrictions on use	:	Use as recommended by the label.

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

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

Supplier Address	FMC Agro Limited
	Rectors Lane, Pentre
	Flintshire
	CH5 2DH
	United Kingdom
	T.I

Telephone: + 44 1244 537370 E-mail address: SDS-Info@fmc.com .

#### 1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call: England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency: England and Wales: 111 Scotland: 84 54 24 2424

### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)



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Sho gory	rt-term (acute) aquatic ha ′ 1	azard, Cate-	- H400: Very toxic to aquatic life.
Long	g-term (chronic) aquatic I ry 2	nazard, Cat	- H411: Toxic to aquatic life with long lasting effects.
2.2 Labe	l elements		
Lab 201	elling (REGULATION (E 9/720, and UK SI 2020/1	EC) No 1272 567)	2/2008) as amended by GB-CLP Regulation, UK SI
Haz	ard pictograms		7
Sigr	al word	: Warnir	ng
Haz	ard statements	: H400 H411	Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Prec	cautionary statements	: Prever P273	ntion: Avoid release to the environment.
		<b>Respo</b> P391	onse: Collect spillage.
		Dispos P501	sal: Dispose of contents/ container to an approved waste

#### Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction. To avoid risks to human health and the environment, comply with the instructions for use.

disposal plant.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **SECTION 3: Composition/information on ingredients**

#### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No.	Classification	Concentration (% w/w)
	Registration number		
Substances with a workplace exposure limit :			

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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dicoppe	er chloride trihydroxide	1332-65-6 215-572-9 029-017-00-1	Acute Tox. 3; H301 Acute Tox. 4; H332 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 30 - < 50
ethane	diol	107-21-1 203-473-3 603-027-00-1	Acute Tox. 4; H302 STOT RE 2; H373 (Kidney)	>= 1 - < 10

For explanation of abbreviations see section 16.

### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures

General advice	:	Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific personal protective equipment.
If inhaled	:	Move to fresh air. If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	Take off all contaminated clothing immediately. Wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.



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

Risks	: None known.
4.3 Indication of any ir	nmediate medical attention and special treatment needed
Treatment	: Treat symptomatically.

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

## 5.1 Extinguishing media

	Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam.
	Unsuitable extinguishing media	:	Do not spread spilled material with high-pressure water streams.
5.2	Special hazards arising from t	the	substance or mixture
	Specific hazards during fire- fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
	Hazardous combustion prod- ucts	:	Carbon oxides
5.3	Advice for firefighters		
	Special protective equipment for firefighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.

Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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

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

Personal precautions	Use personal protective equipment. Ensure adequate ventilation. If it can be safely done, stop the leak. Do not touch or walk through the spilled material. Never return spills in original containers for re-use. Mark the contaminated area with signs and prevent access to unauthorized personnel. Only qualified personnel equipped with suitable protective equipment may intervene. For disposal considerations see section 13.
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6.2 E	Environ Environ	mental precautions mental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.			
<b>6.3 Methods and material for contain</b> Methods for cleaning up :				<b>Iment and cleaning up</b> Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.			
6.4 F	6.4 Reference to other sections See sections: 7, 8, 11, 12 and 13.						
SEC	SECTION 7: Handling and storage						
715	Procauti	ions for safe handling	r				
/.ı r	Advice	on safe handling	9 :	Do not breathe va For personal prote Smoking, eating a plication area. Dispose of rinse w regulations.	pours/dust. ection see section 8. nd drinking should be prohibited in the ap- vater in accordance with local and national		
	Advice of fire and	on protection against explosion	:	Normal measures	for preventive fire protection.		
	Hygiene	emeasures	:	Wash hands befor	re breaks and at the end of workday.		
7.2 0	Conditic	ons for safe storage, i	incl	uding any incomp	patibilities		
	Require areas a	ements for storage nd containers	:	Keep container tig place. Containers sealed and kept u tions / working ma safety standards.	htly closed in a dry and well-ventilated which are opened must be carefully re- pright to prevent leakage. Electrical installa- iterials must comply with the technological		
	Recomr perature	mended storage tem- e	:	> 5 °C			
	Further age stal	information on stor- bility	<ul> <li>No decomposition if stored and applied as directed.</li> <li>Protect from frost.</li> <li>Do not freeze.</li> </ul>				

# 7.3 Specific end use(s)

Specific use(s)	:	Fertilizers
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### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis		
dicopper chloride	1332-65-6	TWA (Dusts and	1 mg/m3	GB EH40		
trihydroxide		mists)	(Copper)			
		STEL (Dusts and	2 mg/m3	GB EH40		
		mists)	(Copper)			
ethanediol	107-21-1	TWA (Vapour)	20 ppm	GB EH40		
			52 mg/m3			
	Further inform	nation: Can be absor	bed through the skin. The as	signed sub-		
	stances are th	nose for which there	are concerns that dermal abs	sorption will		
	lead to system	nic toxicity.				
		TWA (particles) 10 mg/m3		GB EH40		
	Further information: Can be absorbed through the skin. The assigned sub-					
	stances are those for which there are concerns that dermal absorption will					
	lead to system	systemic toxicity.				
		STEL (Vapour)	40 ppm	GB EH40		
			104 mg/m3			
	Further inform	nation: Can be absor	bed through the skin. The as	signed sub-		
	stances are th	nose for which there	are concerns that dermal abs	sorption will		
	lead to system	nic toxicity.				
		STEL	40 ppm	2000/39/EC		
		104 mg/m3				
	Further information: Identifies the possibility of significant uptake through the					
	skin, Indicative					
		TWA	20 ppm	2000/39/EC		
			52 mg/m3			
	Further inform	nation: Identifies the	possibility of significant uptal	ke through the		
	skin Indicative					

#### Predicted No Effect Concentration (PNEC):

:

Substance name	Environmental Compartment	Value
dicopper chloride trihydroxide	Fresh water	0.0078 mg/l
	Marine water	0.0052 mg/l
	Sewage treatment plant	0.23 mg/l
	Fresh water sediment	87 mg/kg dry weight (d.w.)
	Marine sediment	676 mg/kg dry weight (d.w.)

#### 8.2 Exposure controls

#### Personal protective equipment

Eye/face protection	

Eye wash bottle with pure water Tightly fitting safety goggles

Hand protection Material

: Wear chemical resistant gloves, such as barrier laminate,

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			butyl rubber or nit	ile rubber.	
Rem	narks	:	The suitability for a with the producers	a specific workplace should be discussed s of the protective gloves.	
Skin and body protection		:	Impervious clothing Choose body protection according to the amount and concen- tration of the dangerous substance at the work place.		
Respiratory protection		:	No personal respiratory protective equipment normally re- quired.		
Protective measures		:	Plan first aid actio Always have on ha structions. Ensure that eye flu located close to th Wear suitable pro	n before beginning work with this product. and a first-aid kit, together with proper in- ushing systems and safety showers are e working place. tective equipment.	

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

### 9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Form	:	liquid
Colour	:	green
Odour	:	Faint odour
Odour Threshold	:	No data available
рН	:	7.0 - 9.0 Concentration: 100 %
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available

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	Relative	e density	:	1.31 - 1.35	
	Density	1	:	No data available	
	Bulk de	ensity	:	No data availabl	e
	Solubili Wat	ty(ies) er solubility	:	Miscible	
	Solu	ubility in other solvents	:	No data available	)
	Partitio octanol	n coefficient: n- /water	:	No data available	•
	Auto-ig	nition temperature	:	No data available	)
	Decom	position temperature	:	No data available	)
	Viscosi Visc	ty cosity, dynamic	:	1,200 - 2,500 mF	'a.s
	Visc	cosity, kinematic	:	No data available	)
	Explosi	ve properties	:	Not explosive	
	Oxidiziı	ng properties	:	Non-oxidizing	
9.2	Other ir	formation			
	Particle	size	:	No data available	)
	Particle	e Size Distribution	:	No data available	

## **SECTION 10: Stability and reactivity**

10.1 Reactivity	
	No decomposition if stored and applied as directed.
10.2 Chemical stability	
	No decomposition if stored and applied as directed.
10.3 Possibility of hazardous r	reactions
Hazardous reactions	: No decomposition if stored and applied as directed.
10.4 Conditions to avoid	
Conditions to avoid	: Avoid extreme temperatures
	Protect from frost, heat and sunlight.
	Direct sources of neat.

#### 10.5 Incompatible materials



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Ν	Materials to avoid : Avoid strong acids, bases, and oxidizers				
<b>10.6 H</b>	Hazardous decomposition	pro	ducts		
SEC	FION 11: Toxicological i	nfor	mation		
11.1 I	nformation on toxicologic	al ef	fects		
A E	Acute toxicity Based on available data, the	clas	sification criteria a	e not met.	
<u>F</u> A	Product: Acute oral toxicity	:	Acute toxicity est	mate: > 3,000 mg/kg	
A	Acute inhalation toxicity	:	Remarks: No dat	a is available on the product itself.	
A	Acute dermal toxicity	:	Remarks: No dat	a is available on the product itself.	
<u>c</u>	Components:				
d	licopper chloride trihydro	xide			
F	Acute oral toxicity	:	Method: OECD T	est Guideline 401	
			LD50 (Rat, femal Method: US EPA	e): 950 mg/kg Test Guideline OPP 81-1	
A	Acute inhalation toxicity	:	LC50 (Rat, male) Exposure time: 4	: 2.83 mg/l h	
			Test atmosphere Method: OECD T	dust/mist est Guideline 403	
			Symptoms: Fatal	ty	
			LC50 (Rat, femal Exposure time: 4	e): > 2.77 mg/l h	
			Test atmosphere Method: OECD T	dust/mist est Guideline 403	
			Symptoms: Fatal	ty	
Α	Acute dermal toxicity	:	LD50 (Rabbit, fer Method: US EPA Symptoms: Fatal	nale): > 2,000 mg/kg Test Guideline OPP 81-2 ty	
			LD0 (Rat, male a Method: OECD T Remarks: no mor	nd female): > 2,000 mg/kg est Guideline 402 tality	
e	ethanediol:				
Α	Acute inhalation toxicity	:	LC0 (Rat, male a Exposure time: 6	nd female): > 2.5 mg/l h	
9/21					



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		Test at Remar	mosphere: dust/mist <s: mortality<="" no="" td=""></s:>
Acute	dermal toxicity	: LD50 (	Nouse, male and female): > 3,500 mg/kg
Skin ( Based	<b>corrosion/irritation</b> d on available data. th	e classificatior	criteria are not met.
Produ	uct:		
Rema	arks	: No data	a is available on the product itself.
<u>Com</u>	oonents:		
dicop	per chloride trihydro	xide:	
Speci	es	: Rabbit	
Metho	pd	: OECD	Test Guideline 404
Resul	lt	: No skir	riritation
ethan	ediol:		
Speci	es	: Rabbit	
Resul	t	: No skir	irritation
Serio	us eye damage/eye i	rritation	
Based	d on available data, th	e classification	criteria are not met.
Based Produ	d on available data, th u <u>ct:</u> vrte	e classification	o criteria are not met.
Based <u>Produ</u> Rema	d on available data, th u <u>ct:</u> arks	e classificatior : No data	a is available on the product itself.
Based Produ Rema	d on available data, th u <u>ct:</u> arks <u>conents:</u>	e classificatior : No data	a is available on the product itself.
Based Produ Rema Comp dicop	d on available data, th u <u>ct:</u> arks <u>conents:</u> oper chloride trihydro	e classificatior : No data	a is available on the product itself.
Based Produ Rema Comp dicop Speci	d on available data, th u <u>ct:</u> arks ponents: oper chloride trihydro es	e classificatior : No data <b>oxide:</b> : Rabbit	a is available on the product itself.
Based Produ Rema Comp dicop Speci Metho	d on available data, th u <u>ct:</u> arks <b>conents:</b> p <b>per chloride trihydro</b> es od	e classification : No data oxide: : Rabbit : OECD	reriteria are not met. a is available on the product itself. Test Guideline 405
Based Produ Rema Comp dicop Speci Metho Resul	d on available data, th u <u>ct:</u> arks <b>ponents:</b> p <b>per chloride trihydro</b> es od t	e classification : No data oxide: : Rabbit : OECD : No eye	riteria are not met. a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema Comp dicop Speci Metho Resul	d on available data, th u <u>ct:</u> arks <b>ponents:</b> oper chloride trihydro es od it mediol:	e classification : No data oxide: : Rabbit : OECD : No eye	a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema Comp dicop Speci Metho Resul ethan Speci	d on available data, th uct: arks oonents: oper chloride trihydro es od It nediol: es	e classification : No data <b>oxide:</b> : Rabbit : OECD : No eye : Rabbit	a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema dicop Speci Metho Resul Speci Resul	d on available data, th uct: arks <b>ponents:</b> <b>pper chloride trihydro</b> es od It <b>nediol:</b> es	e classification : No data <b>oxide:</b> : Rabbit : OECD : No eye : Rabbit : No eye	a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema dicop Speci Metho Resul ethan Speci Resul	d on available data, th uct: arks oonents: oper chloride trihydro es od it nediol: es it iratory or skin sensit	e classification : No data oxide: : Rabbit : OECD : No eye : Rabbit : No eye isation	a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema Comp dicop Speci Metho Resul Resul Resul Skin	d on available data, th <u>uct:</u> arks <u>ponents:</u> per chloride trihydro es od It nediol: es It iratory or skin sensit sensitisation	e classification : No data <b>oxide:</b> : Rabbit : OECD : No eye : Rabbit : No eye isation	a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema dicop Speci Metho Resul ethan Speci Resul Resul Speci Resul	d on available data, th <u>uct:</u> arks <b>ponents:</b> <b>per chloride trihydro</b> es od it <b>nediol:</b> es it <b>iratory or skin sensit</b> <b>sensitisation</b> d on available data, th	e classification : No data oxide: : Rabbit : OECD : No eye : Rabbit : No eye isation	a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema dicop Speci Metho Resul ethan Speci Resul Resul Resul Resul Resp Skin Based	d on available data, th <u>uct:</u> arks <b>ponents:</b> <b>per chloride trihydro</b> es od It <b>iratory or skin sensit</b> <b>sensitisation</b> d on available data, th <b>iratory sensitisation</b>	e classification : No data <b>i</b> Rabbit : OECD : No eye : Rabbit : No eye <b>isation</b> e classification	a is available on the product itself. Test Guideline 405 irritation
Based Produ Rema dicop Speci Metho Resul ethan Speci Resul Resul Speci Resul Based Resp Based	d on available data, th <u>uct:</u> arks <b>ponents:</b> <b>per chloride trihydro</b> es od it <b>nediol:</b> es it <b>iratory or skin sensit</b> <b>sensitisation</b> d on available data, th <b>iratory sensitisation</b> d on available data, th	e classification : No data oxide: : Rabbit : OECD : No eye : Rabbit : No eye isation e classification e classification	a is available on the product itself. Test Guideline 405 irritation irritation
Based Produ Rema dicop Speci Metho Resul ethan Speci Resul Resul Resul Skin Based Resp Based Produ	d on available data, th <u>uct:</u> arks <u>ponents:</u> per chloride trihydro es od It <b>nediol:</b> es It <b>iratory or skin sensit</b> <b>sensitisation</b> d on available data, th <b>iratory sensitisation</b> d on available data, th <b>iratory sensitisation</b> d on available data, th	e classification : No data <b>ixide:</b> : Rabbit : OECD : No eye : Rabbit : No eye <b>isation</b> e classification e classification	a is available on the product itself. Test Guideline 405 irritation irritation

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### Components:

dicopper chloride trihydroxide:					
Test Type	:	Maximisation Test			
Species	:	Guinea pig			
Method	:	OECD Test Guideline 406			
Result	:	Does not cause skin sensitisation.			

#### ethanediol:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.

#### Germ cell mutagenicity

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

### **Components:**

#### dicopper chloride trihydroxide:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse (male and female) Application Route: Oral Method: Mutagenicity (micronucleus test) Result: negative
		Test Type: DNA binding study Species: Rat (male) Application Route: Oral Result: negative
Germ cell mutagenicity- As- sessment	:	Weight of evidence does not support classification as a germ cell mutagen.
ethanediol:		
Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OPPTS 870.5100 Result: negative
Genotoxicity in vivo	:	Test Type: dominant lethal test Species: Rat

#### Carcinogenicity

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

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	Compo	onents:			
	ethane	diol:			
	Species Applica Exposu Result	s tion Route re time	: : :	Mouse Oral 24 month(s) negative	
	Reproc Based (	<b>luctive toxicity</b> on available data, the	clas	sification criteria are	e not met.
	Compo	onents:			
	diconn	or chlorido tribydrov	idor		
	Effects	on fertility	:	Test Type: Two-g Species: Rat, mal Dose: 0, 100, 500 General Toxicity - General Toxicity F General Toxicity F Method: OECD Te Result: negative	eneration study e and female , 1000, 1500 parts per million Parent: LOAEL: 1,500 F1: LOAEL: 1,500 F2: LOAEL: 1,500 est Guideline 416
	Effects ment	on foetal develop-	:	Test Type: reprod Species: Rat Application Route Dose: 0, 100, 500 Duration of Single General Toxicity M Embryo-foetal tox Method: OECD Te Result: negative	uctive and developmental toxicity study : Oral , 1000, 1500 parts per million Treatment: 70 d Maternal: LOAEL: 1,500 part per million icity: LOAEL: 1,500 part per million est Guideline 416
	Reprod sessme	uctive toxicity - As- ent	:	Weight of evidenc ductive toxicity	e does not support classification for repro-
	<b>STOT -</b> Based (	single exposure	clas	sification criteria are	e not met.
	Compo	onents:			
	diconn	er chloride tribydrov	ido.		
	Assess	ment	:	The substance or organ toxicant, sir	mixture is not classified as specific target ngle exposure.
	STOT - Based ( <u>Compo</u>	repeated exposure on available data, the onents:	clas	sification criteria are	e not met.

#### ethanediol:

Exposure routes : Oral

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Target Organs Assessment		: Kidney : The substanc toxicant, repe	e or mixture is classified as specific target orga eated exposure, category 2.
Repe	ated dose toxicity		
<u>Comp</u>	oonents:		
dicop	oper chloride trihydr	oxide:	
Speci NOAE LOAE Applic Expos Dose	es EL EL cation Route sure time	: Rat, male and : 1000 ppm : 2000 ppm : Oral - feed : 92 d : 0,500,1000,2	d female 000,4000,8000 ppm
Speci NOAE Applic Test a Expose Dose Metho	es EL cation Route atmosphere sure time od	<ul> <li>Rat, male and</li> <li>&gt;= 2 mg/m3</li> <li>Inhalation</li> <li>dust/mist</li> <li>28 d</li> <li>0.2,0.4,0.8,2</li> <li>OECD Test G</li> </ul>	d female mg/m3 Guideline 412
ethan	nediol:		
Speci NOAE Applic Expos	es EL cation Route sure time	: Rat : 150 mg/kg : Oral : 12 Months	
Speci NOAE Applic Expos Metho	es EL cation Route sure time od	: Dog : > 2,200 - < 4, : Dermal : 4 Weeks : OECD Test G	400 mg/kg Guideline 410
Aspir	ation toxicity	a classification criter	ie ere net met
Furth	er information	ie classification criter	ia are not met.
Drode	uct:		
	arke	: No data avail	able

### 12.1 Toxicity

Product:

Toxicity to fish

: LC50 (Oncorhynchus mykiss (rainbow trout)): 1.03 mg/l

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				Exposure time: 96 Remarks: Estimate	h ed value
	Toxicity aquatic	to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 48 Remarks: Estimate	agna (Water flea)): 0.206 mg/l h ed value
	Toxicity plants	to algae/aquatic	:	ErC50 (Raphidoce 0.730 mg/l Exposure time: 72 Remarks: Estimate	lis subcapitata (freshwater green alga)): h ed value
	<u>Compo</u>	nents:			
	dicopp	er chloride trihydroxi	de:		
	Toxicity	to fish	:	LC50 (Pimephales Exposure time: 96 Test Type: flow-th Remarks: Based of	s promelas (fathead minnow)): 0.0384 mg/l h rough test on data from similar materials
	Toxicity aquatic	to daphnia and other invertebrates	:	EC50 (Daphnia m Exposure time: 48 Method: OECD Te	agna (Water flea)): 0.0338 mg/l h est Guideline 202
				LC50 (Ceriodaphr Exposure time: 48 Test Type: semi-s	ia dubia (water flea)): 0.014 mg/l h tatic test
	Toxicity plants	to algae/aquatic	:	NOEC (Phaeodac Exposure time: 72 Method: ISO 1025	tylum tricornutum): 0.0057 mg/l h 3
				NOEC (Raphidoce 0.0157 mg/l Exposure time: 72 Test Type: static te	elis subcapitata (freshwater green alga)): h est
				EC50 (Chlamydon Exposure time: 96 Method: OECD Te	nonas reinhardtii (green algae)): 0.047 mg/l h est Guideline 201
				NOEC (Pseudokir Exposure time: 72 Test Type: static te	chneriella subcapitata (algae)): 0.0194 mg/l h est
				NOEC (Skeletone Exposure time: 72 Test Type: static te	ma costatum (Diatom)): 0.00754 mg/l h est
				NOEC (Chlamydo Exposure time: 10 Test Type: flow-th	monas reinhardtii (green algae)): 0.022 mg/l d rough test



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			NOEC (Lemna mi Exposure time: 7 Test Type: static t	inor (duckweed)): 0.030 mg/l d rest
M-F icity	Factor (Acute aquatic tox- /)	:	10	
То	kicity to microorganisms	:	EC50 (Bacteria): Exposure time: 10	0.025 mg/l 00 d
			NOEC (Tetrahym Exposure time: 48 Test Type: Growt	ena pyriformis): 3.563 mg/l 3 h h inhibition
			NOEC (activated Exposure time: 30 Test Type: Respir	sludge): 0.26 - 0.29 mg/l ) d ration inhibition
M-F tox	Factor (Chronic aquatic icity)	:	10	
To» gar	kicity to soil dwelling or- nisms	:	NOEC: 25 mg/kg Exposure time: 6 Species: worms	Weeks
To» ism	kicity to terrestrial organ- IS	:	LD50: 1,400 mg/k Exposure time: 14 Species: Colinus	g I d virginianus (Bobwhite quail)
eth	anediol:			
To	cicity to fish	:	LC50 (Pimephale Exposure time: 96	s promelas (fathead minnow)): > 72,860 mg/l S h
To» aqu	kicity to daphnia and other latic invertebrates	:	EC50 (Daphnia m Exposure time: 48 Method: OECD Te	agna (Water flea)): > 100 mg/l 3 h est Guideline 202
Tox pla	kicity to algae/aquatic nts	:	IC50 (Pseudokircl mg/l Exposure time: 96	hneriella subcapitata (green algae)): 10,940 S h
То	kicity to microorganisms	:	(activated sludge Exposure time: 30 Method: ISO 8192	): > 1,995 mg/l ) min 2
To» icity	<pre>kicity to fish (Chronic tox- /)</pre>	:	1,500 mg/l Exposure time: 28 Species: Menidia	3 d peninsulae (tidewater silverside)
Tox aqu ic te	kicity to daphnia and other latic invertebrates (Chron- oxicity)	:	33,911 mg/l Exposure time: 21 Species: Daphnia	l d magna (Water flea)



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### 12.2 Persistence and degradability

	Components:				
	dicopper chloride trihydroxide:				
	Biodegradability :	Remarks: Not readily biodegradable.			
	othenedial				
	Biodegradability :	Result: Readily biodegradable. Biodegradation: 90 - 100 % Exposure time: 10 d Method: OECD Test Guideline 301A			
12.3	Bioaccumulative potential				
	Components:				
	dicopper chloride trihydroxide:				
	Bioaccumulation :	Remarks: Not applicable due to the insolubility of the salt.			
	ethanediol: Partition coefficient: n- : octanol/water	log Pow: -1.36			
12.4	Mobility in soil				
	Components:				
	dicopper chloride trihydroxide:				
	Distribution among environ- : mental compartments	Remarks: Low mobility in soil			

### 12.5 Results of PBT and vPvB assessment

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of
		0.1% or higher.

### 12.6 Other adverse effects

### Product:

Endocrine disrupting poten- tial	:	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher
		levels of 0.1% or higher.



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Additic mation	nal ecological infor-	:	An environmental unprofessional ha Very toxic to aqua	hazard cannot be excluded in the event of ndling or disposal. tic life with long lasting effects.
SECTION	13: Disposal consic	lera	tions	
13.1 Waste	treatment methods			
Produc	ot.	:	The product shoul courses or the soil Do not contaminat cal or used contain Send to a licensed	d not be allowed to enter drains, water .e ponds, waterways or ditches with chemi- ner. I waste management company.
Contar	ninated packaging	:	Empty remaining of Dispose of as unu Do not re-use emp	contents. sed product. oty containers.

## **SECTION 14: Transport information**

14.1	UN number		
	ADN	:	UN 3082
	ADR	:	UN 3082
	RID	:	UN 3082
	IMDG	:	UN 3082
	ΙΑΤΑ	:	UN 3082
14.2	UN proper shipping name		
	ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dicopper chloride trihydroxide)
	ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dicopper chloride trihydroxide)
	RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dicopper chloride trihydroxide)
	IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (dicopper chloride trihydroxide)
	ΙΑΤΑ	:	Environmentally hazardous substance, liquid, n.o.s. (dicopper chloride trihydroxide)

## 14.3 Transport hazard class(es)

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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				Class	Subsidiary risks
	ADN		:	9	
	ADR		:	9	
	RID		:	9	
	IMDG		:	9	
	ΙΑΤΑ		:	9	
14.4	Packir	ng group			
	Packin Classif Hazaro Labels	g group ication Code I Identification Number	:	III M6 90 9	
	ADR Packin Classif Hazaro Labels Tunnel	g group ication Code I Identification Number restriction code	:	III M6 90 9 (-)	
	<b>RID</b> Packin Classif Hazarc Labels	g group ication Code I Identification Number	:	III M6 90 9	
	IMDG Packin Labels EmS C	g group ode	:	III 9 F-A, S-F	
	IATA ( Packin aircraft Packin Packin Labels	<b>Cargo)</b> g instruction (cargo ) g instruction (LQ) g group	:	964 Y964 III Miscellaneous	
	IATA ( Packin ger airo Packin Packin Labels	Passenger) g instruction (passen- craft) g instruction (LQ) g group	:	964 Y964 III Miscellaneous	
14.5	5 Enviro	onmental hazards			
	<b>ADN</b> Enviror	nmentally hazardous	:	yes	
	<b>ADR</b> Enviror	nmentally hazardous	:	yes	

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



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RI	<b>D</b>	· ves	
IM Ma	<b>DG</b> arine pollutant	: yes	
<b>IA</b> En	<b>TA (Passenger)</b> vironmentally hazardous	: yes	

#### IATA (Cargo)

Environmentally hazardous : yes

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

### **SECTION 15: Regulatory information**

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

Relevant EU provisions transposed through retained EU law

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

### The components of this product are reported in the following inventories:

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL.
		Ethanol, 2,2',2"-nitrilotris-, compd. with .alpha[2,4,6-tris(1- phenylethyl)phenyl]omegahydroxypoly(oxy-1,2-ethanediyl) phosphate emulsion of silicone
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory



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KECI		:	Not in compliance	with the inventory
PICCS		:	Not in compliance	with the inventory
IECSC		:	Not in compliance	with the inventory
NZIoC		:	Not in compliance	with the inventory
TECI		:	Not in compliance	with the inventory

### 15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

### **SECTION 16: Other information**

Full text of H-Statements		
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H332	:	Harmful if inhaled.
H373	:	May cause damage to organs through prolonged or repeated exposure if swallowed.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
Full text of other abbreviation	าร	
Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
STOT RE	:	Specific target organ toxicity - repeated exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first
		list of indicative occupational exposure limit values
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL



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- Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### Further information

Classification of the mixture	e:	Classification procedure:
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 2	H411	Based on product data or assessment

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