



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Copac Flow

Version 12

Issuing date: 2016/12/22

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name : **Copac Flow**

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

Use : Fungicide, bactericide

1.3. Details of the supplier of the safety data sheet

Nufarm GmbH & Co KG
St.-Peter-Str. 25
A-4021 Linz
Austria
Telephone: +43/732/6918-3187
Telefax: +43/732/6918-63187
E-mail address: Katharina.Krueger@at.nufarm.com

1.4. Emergency telephone number

+43/732/6914-2466 (Linz/Austria production site)
+43/1/4064343 (Poison Control Centre)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

EG_1272/08 :	EyeIrrit.2	H319 - Causes serious eye irritation.
	AcuteTox.4	H332 - Harmful if inhaled.
	AquaticAcute1	H400 - Very toxic to aquatic life.
	AquaticChronic1	H410 - Very toxic to aquatic life with long lasting effects.

2.2. Label elements

REGULATION (EC) No 1272/2008

Pictogram:



GHS07



GHS09

Signal word: Warning

- | | |
|--------|---------------------------------------------------------------------------------------------------------------------------------|
| H319 | - Causes serious eye irritation. |
| H332 | - Harmful if inhaled. |
| H410 | - Very toxic to aquatic life with long lasting effects. |
| EUH208 | - Contains mixture of 5-chloro-2-methyl-2H-isothiazole-3-one + 2-methyl-2H-isothiazole-3-one. May produce an allergic reaction. |
| EUH401 | - To avoid risks to human health and the environment, comply with the instructions for use. |
| P101 | - If medical advice is needed, have product container or label at hand. |
| P102 | - Keep out of reach of children. |
| P270 | - Do not eat, drink or smoke when using this product. |
| P280 | - Wear protective gloves/ protective clothing. |
| P391 | - Collect spillage. |
| P501 | - Dispose of contents/ container to an approved waste disposal plant. |

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Mixture of active ingredient and additives
copper content 360g/l

3.2. Mixtures

Components:

copper(II)hydroxide

CAS-No.:	20427-59-2
EINECS-No. / ELINCS No.:	243-815-9
REACH No.:	
Concentration:	38,38 % (w/w)

Classification:



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EG_1272/08 :	AcuteTox.4	H302 - Harmful if swallowed.
	AcuteTox.2	H330 - Fatal if inhaled.
	EyeDam.1	H318 - Causes serious eye damage.
	AquaticAcute1	H400 - Very toxic to aquatic life.
	AquaticChronic2	H411 - Toxic to aquatic life with long lasting effects.

Monotridecyloxy-PEG6 ester phosphate

CAS-No.:	9046-01-9
EINECS-No. / ELINCS No.:	
REACH No.:	
Concentration:	2,0% - 8,0% (w/w)

Classification:

EG_1272/08 :	SkinIrrit.2	H315 - Causes skin irritation.
	EyeDam.1	H318 - Causes serious eye damage.

Mixture of: 5-Chloro-2-methyl-2H-isothiazol-3-one [EG Nr. 247-500-7] and 2-Methyl-2H-isothiazol-3-one [EG Nr. 220-239-6] (3:1)

CAS-No.:	55965-84-9
EINECS-No. / ELINCS No.:	
REACH No.:	
Concentration:	0,0002% - 0,0008% (w/w)

Classification:

EG_1272/08 :	AcuteTox.2	H330 - Fatal if inhaled.
	AcuteTox.2	H310 - Fatal in contact with skin.
	AcuteTox.3	H301 - Toxic if swallowed.
	SkinCorr.1B	H314 - Causes severe skin burns and eye damage.
	EyeDam.1	H318 - Causes serious eye damage.
	SkinSens.1	H317 - May cause an allergic skin reaction.
	AquaticAcute1	H400 - Very toxic to aquatic life.
	AquaticChronic1	H410 - Very toxic to aquatic life with long lasting effects.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	: When symptoms persist or in all cases of doubt seek medical advice.
Eye contact	: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
Skin contact	: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation	: Move to fresh air.
Ingestion	: Rinse mouth. Do NOT induce vomiting. The affected person should drink 2-3 dcl of water or a large quantity of milk, egg whites or gelatin. Consumption of alcohol is prohibited. If swallowed, seek medical advice immediately and show this container or label.



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

Symptoms : Nausea, Vomiting, Spasm, stomach pains, Diarrhoea, haemolytic anemia, liver and kidney failure, Irritating to eyes, respiratory system and skin., may lead to perforation of the nasal septum, chronic cough

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

Treatment : Provide and maintain basic life functions. No specific antidote, symptomatic treatment. If ingested, irrigate the stomach.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media : Water spray, Dry powder, Sand, Foam, Carbon dioxide (CO₂)

Extinguishing media which shall not be used for safety reasons : High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : In the event of fire (CO_x) may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

Further Information : Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. (see Chapter 8)

6.2. Environmental precautions



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Do not allow uncontrolled discharge of product into the environment.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Use mechanical handling equipment.

Additional advice : Never return spills in original containers for re-use.

6.4. Reference to other sections

see Chapter 13

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice : Wear personal protective equipment. Keep out of the reach of children.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container.

Advice on common storage : Keep away from food, drink and animal feeding stuffs.

German storage class : 12/10 (Non Combustible Liquids, Packaging possibly combustible)

Storage stability

Storage temperature : > 0 °C

7.3. Specific end use(s)

none

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with workplace control parameters

Components	CAS-No.	National occupational exposure limits	Note

copper(II)hydroxide	20427-59-2	1 mg/m3	inhalable fraction, (calculated as copper), Long-term exposure limit
Monotridecyloxy-PEG6 ester phosphate	9046-01-9		no classification available
Mixture of: 5-Chloro-2-methyl-2H-isothiazol-3-one [EG Nr. 247-500-7] and 2-Methyl-2H-isothiazol-3-one [EG Nr. 220-239-6] (3:1)	55965-84-9	0,05 mg/m3	Long-term exposure limit

8.2. Exposure controls

Personal protective equipment

- Respiratory protection : Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).
- Hand protection : Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other
- Eye protection : Safety glasses with side-shields (frame goggles) (e.g. EN 166)
- Skin and body protection : Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).
- Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.
- Protective measures : The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

- Physical state : liquid at 20 °C ,
- Form : suspension
- Colour : blue green
- Odour : characteristic



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Melting point/range	: no data available
Flash point	: does not flash
Ignition temperature	: not applicable
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: Active ingredient is an inorganic salt. Vapour pressure is negligibly low.
Density	: no data available
Bulk density	: 1.458 kg/m ³
Water solubility	: dispersible
Partition coefficient: n-octanol/water	: no data available
Dissociation constant	: no data available
Viscosity, dynamic	: no data available
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Explosive properties	: Not explosive

9.2. Other information

none

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

no data available



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10.2. Chemical stability

No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions

no data available

10.4. Conditions to avoid

none

10.5. Incompatible materials to avoid

none

10.6. Hazardous decomposition products

none

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute oral toxicity : LD50 Oral rat
Dose: > 2.000 mg/kg

Acute dermal toxicity : LD50 Dermal rat
Dose: > 5.000 mg/kg

Acute inhalation toxicity : LC50 rat
Dose: > 2,06 mg/l

Skin irritation : rabbit
Classification: No skin irritation

Eye irritation : rabbit
Result: Irritating to eyes.

Sensitisation : guinea pig
Classification: Did not cause sensitization.



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SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

- Toxicity to earthworms : LC50 *Eisenia fetida* (earthworms)
Dose: > 677,3 mg/kg
- Toxicity to bees : LD50 (oral) *Apis mellifera* (bees)
Dose (µg/Species): 49
- : LD50 (contact) *Apis mellifera* (bees)
Dose (µg/Species): > 57
- Toxicity to fish : flow-through test LC50 *Oncorhynchus mykiss* (rainbow trout)
Dose: 0,0165 mg/l
Testing period: 96 h
- NOEC *Oncorhynchus mykiss* (Rainbow trout)
Dose: 0,0155 mg/l
- Toxicity to aquatic invertebrates : semi-static test EC50 *Daphnia magna* (Water flea)
Dose: 0,038 mg/l
Testing period: 48 h
- NOEC *Daphnia magna* (Water flea)
Dose: 0,0109 mg/l
- Toxicity to algae : static test EbC50 *Selenastrum capricornutum*
Dose: 0,0093 mg/l
Exposure time: 72 h
- ErC50 *Selenastrum capricornutum*
Dose: 0,0222 mg/l
Exposure time: 72 h

12.2. Persistence and degradability

- Biodegradability : Totally biodegradable
- Additional advice : The degree of mobility of copper in the environment depends upon the pH of ambient soils and waters



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12.3. Potential bioaccumulation

Bioaccumulation : no data available

12.4. Mobility in soil

no data available

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6. Other adverse effects

none

SECTION 13: DISPOSAL CONSIDERATIONS

According to European Directive 2000/532/EC as amended :

Waste Code : 02 01 08 (agrochemical waste containing dangerous substances)

13.1. Waste treatment methods

Product : In accordance with local and national regulations.

Do not dispose with household waste.

Dispose at an approved waste disposal facility. Dispose the product and its packages as dangerous waste.

Contaminated packaging : Do not re-use empty containers.

Dispose empty and triple rinsed container within a local disposing system according to EC directive 94/62/EC

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN3082



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14.2. Proper shipping name

UN3082 Environmentally hazardous substance, liquid, n.o.s.(copper(II)hydroxide)

14.3. Transport hazard class(es)

ADR/RID :
Class : 9

IMDG :
Class : 9

IATA-DGR :
Class : 9

14.4. Packaging group

ADR/RID : III

IMDG : III

IATA-DGR : III

14.5. Environmental hazards

IMDG

Marine Pollutant : MP

14.6. Special precautions for user

none

SECTION 15: REGULATORY INFORMATION

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

National legislation

Water contaminating class : WGK 3
(Germany)

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.



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15.2. Chemical Safety Assessment

none

SECTION 16: OTHER INFORMATION

Print Date : 2016/12/22

The date format YYYY/MM/DD is used according to ISO 8601.
(Alterations are indicated in the left hand margin by: ||)

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