



The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	17.04.2018
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1.1. Product identifier

Product name	NORDOX 30 30
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Chemical name	Copper(I) oxide / Zinc oxide
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1.2. Relevant identified uses of the substance or mixture and uses advised against

Function	Description: High and low volume spraying with water as carrier.
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Use of the substance / preparation	Fungicide
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1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name	NORDOX AS
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Postal address	Østensjøveien 13
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Postcode	0661
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City	OSLO
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Country	Norway
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Telephone number	+47 22 97 50 00
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Fax	+47 22 64 12 08
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Email	marketing@nordox.no
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Website	www.nordox.no
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1.4. Emergency telephone number

Emergency telephone	Telephone number: +47 22 97 50 00 Description: Emergency telephone
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SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]

Acute tox. 4; H302; Expert opinion

Aquatic Chronic 1; H400; On basis of test data M-factor 1

Acute tox. 4; H410; On basis of test data M-factor 100

2.2. Label elements

Hazard pictograms (CLP)



Signal word

Warning

Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

2.3. Other hazards

Description of hazard

Physical/chemical hazards : Not Flammable.
Not explosive

Environmental hazards : Copper is a necessary trace element and stimulates plant growth and yield on copper deficient soil. Copper is an integral part of various oxidising enzymes, and several animal diseases may occur if the diet is deficient in copper. Federal or local limits for Zinc in water have to be observed, Zn being "table-II listed" by 80/68/EEC and 76/464/EEC. (EU water quality resolutions)

Human health hazards : Cuprous oxide is classified as harmful, but is not considered a dangerous material for working. (Ulmann Encyclopedia, Band 15, page 560 (1978)). It may cause "metallic fever" after inhalation of dust in the same way as other metal dusts. Zinc oxide is not a substance to mandatory marking in accordance with the EEC Directive 67/548/EEC or amendments.

Skin irritation : Non-irritant.

Eye irritation : Positive irritant.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Substance	Identification	Classification	Contents
Copper (I) Oxide	CAS No.: 1317-39-1 EC No.: 215-270-7	Acute tox. 4; H302; On basis of test data Aquatic Acute 1; H400; On basis of test data Aquatic Chronic 1; H410; On basis of test data	34,5 weight%
Zink Oxide	CAS No.: 1314-13-2		37,5 weight%

	EC No.: 215-222-5
Other ingredients not classified	28,0 weight%
Substance comments	<p>Substance/preparation : Preparation</p> <p>As copper dusts or mists (CAS No. 7440-50-8). Compounds not precisely identified are proprietary or not hazardous.</p> <p>R and S Phrases :</p> <p>R-22: Harmful if swallowed</p> <p>S-22: Do not breathe dust</p> <p>S-Phrases : Einescs Ref. For CuO: 2Unit 250, Col. 2, Page 125</p>

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove victim to fresh air. Give artificial respiration if victim does not breathe. Seek medical advice.
Skin contact	Remove contaminated clothing. Wash off with plenty of water and soap.
Eye contact	Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Seek medical advice.
Ingestion	One glass of water with addition of one tablespoon of common salt may induce vomiting.

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	In case of fire: Use [CO2 or powder] for extinction. Limit the use of water if the spillage can contaminate water Sources.
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5.2. Special hazards arising from the substance or mixture

5.3. Advice for firefighters

Other information	Non-flammable product
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures	Use dust mask and eye protection. No smoking. Do not breathe dust and avoid contact with eyes.
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6.2. Environmental precautions

Environmental precautionary measures Do not allow to enter sewage and other bodies of water.

6.3. Methods and material for containment and cleaning up

Cleaning method The product should be collected for recycling, or be disposed of in a place where copper is tolerated or needed. To be recovered in the most convenient way.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling Do not breathe dust and avoid contact with eyes. Take precautionary measures against static charges.

7.2. Conditions for safe storage, including any incompatibilities

Storage Store in a dry and preferably cool place.

7.3. Specific end use(s)

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Substance	Identification	Value	TWA Year
Copper (I) Oxide	CAS No.: 1317-39-1	TWA (8h) : 1 mg/m ³ , TLV TWA (8h) : 1 mg/m ³ , PEL	

8.2. Exposure controls

Limitation of exposure on workplace
Engineering measures : Take precautionary measures against static discharges.
Hygienic measures : When using do not eat, drink or smoke.
Occupational Exposure
Limits : Not classified.

Safety signs



Eye / face protection

Eye protection Safety goggles.

Hand protection

Hand protection Wear rubber gloves

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Granules
Colour	Brown to Yellow
Odour	Weak earthy odor
pH	Status: In aqueous solution Value: 8,32 – 8,83 Method: CIPAC MT 75 Comments: pH range(1% solution)
Melting point / melting range	Comments: Melting point (Cu ₂ O) : 1235 °C (a.i.) Melting point (ZnO) : 1970 °C (a.i.)
Boiling point / boiling range	Comments: Decomposes over 332 degrees before boiling. (Purity 87.4 % as total copper)
Flash point	Comments: Not required (solid)
Flammability (solid, gas)	Not highly flammable
Lower explosion limit with unit of measurement	Non explosive
Upper explosion limit with units of measurement	Non explosive
Vapour pressure	Comments: Not necessary as the melting point is above 300 degrees C.
Specific gravity	Comments: Relative density for copper: 5,87 kg/L Relative density for Zinc: 5,60 kg/L
Bulk density	Value: = 1,30 kg/l Method: CIPAC MT 169
Solubility in water	Very little soluble
Solubility	Comments: Soluble in plant surfaces and soil moisture. Organic solvents, a determination of the stability in organic solvents is unnecessary. Moreover the active substance as manufactured does not include any organic solvents.
Partition coefficient: n-octanol/water	Comments: Not relevant for the ecotoxicological risk assessment, due to the specific absorption mechanism of copper and zinc.
Spontaneous combustibility	Comments: Not auto-flammable – self ignition temperature is 234 degrees C. (Baker, D. 2003)
Viscosity	Comments: Not applicable

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

Stability	Stable under normal conditions
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10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid	High humidity
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10.5. Incompatible materials

10.6. Hazardous decomposition products

Hazardous decomposition products	None
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Other toxicological data	<p>Chemical name, active ingredient : Copper (I) oxide / Zinc oxide</p> <p>Acute toxicity</p> <p>Oral : LD50 (rat) 2500 mg/kg bodyweight</p> <p>Inhalation: LC 50 – 5.03 mg/l, No deaths observed</p> <p>Dermal: LD50 > 2000 mg/kg</p>
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Other information regarding health hazards

Skin contact	<p>Skin Irritation : Non irritant.</p> <p>Skin sensitisation : Non sensitiser.</p>
Eye contact	Moderate (unwashed) and Mildly (washed)
Chronic effects	Cuprous oxide is classified as harmful, but is not considered a dangerous material for working (Ulmann Encyclopedia, Band 15, page 560 (1978). It may cause "metallic fever" after inhalation of dust in the same way as other metal dusts.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic, fish	Comments: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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12.2. Persistence and degradability

12.3. Bioaccumulative potential

12.4. Mobility in soil

Mobility	<p>Copper and zinc salts will in general gradually release Cu⁺⁺ and Zn⁺⁺ ions in soil. The ions will strongly adhere to negatively charged clay minerals and soil oxides, and charged organic molecules. Some ions will also be absorbed as nutrient to biota.</p> <p>Following this the mobility of copper and zinc ions is strongly restricted in soil.</p>
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12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Other adverse effects, comments	<p>Copper and Zinc are necessary trace elements and stimulate plant growth and yield on deficient soils. The metals are integral parts of various enzymes, and several animal diseases may occur if the diet is deficient in copper and zinc.</p> <p>Cuprous oxide is an active ingredient in antifouling paints and accordingly toxic to primitive marine organisms.</p> <p>Ecotoxicity (Cu²⁺): EC50 (Daphnia magna: 48 h) : 9.8 -41.2 ppb</p>
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	The product should be collected for recycling, or be disposed of in a place where copper and zinc are tolerated or needed. Leakage to water should be avoided. Comply with local legislation.
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SECTION 14: Transport information

14.1. UN number

ADR / RID / ADN	3077
IMDG	3077
ICAO / IATA	3077

14.2. UN proper shipping name

ADR / RID / ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
ICAO / IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3. Transport hazard class(es)

ADR / RID / ADN	9
IMDG	9
ICAO / IATA	9

14.4. Packing group

ADR / RID / ADN	III
IMDG	III
ICAO / IATA	III

14.5. Environmental hazards

IMDG Marine pollutant	Yes
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14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Additional information

Additional information	UN number : Not classified. IMDG : Not classified ADR/RID : Not classified ICAO/IATA : Not classified National transport : There are no additional regulations National Transport Regulations required/available.
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ADR / RID - Other information

Hazard No.	90
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IMDG / ICAO / IATA Other information

EmS	F-A, S-F
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SECTION 15: Regulatory information

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

Other label information	Label name : NORDOX 30 30 Hazard Symbols : Harmful
Legislation and regulations	National regulations : There are no additional National Regulations required/available.

15.2. Chemical safety assessment

SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)	H302 Harmful if swallowed. H410 Very toxic to aquatic life with long lasting effects. H400 Very toxic to aquatic life.
Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Acute tox. 4; H302; Expert opinion Acute tox. 1; H302; Aquatic Chronic 1; H400; On basis of test data Acute tox. 4; H410; On basis of test data Aquatic Acute 1; H410;
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