



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

Date issued 08.07.2014

1.1. Product identifier

Product name NORDOX 75 WG
 Chemical name Cuprous Oxide
 Synonyms Copper (I) oxide
 CAS no. 1317-39-1
 EC no. 215-270-7
 Formula Cu₂O

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

Use of the substance/preparation Fungicide and Bactericide

1.3. Details of the supplier of the safety data sheet

Manufacturer

Company name NORDOX AS
 Postal address Østensjøveien 13
 Postcode 0661
 City OSLO
 Country Norway
 Tel +47 22 97 50 00
 Fax +47 22 64 12 08
 E-mail marketing@nordox.no
 Website http://www.nordox.no

1.4. Emergency telephone number

Emergency telephone Emergency telephone:+47 22 97 50 00

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS] Aquatic Acute 1; H400; On basis of test data M-factor 100
 Aquatic Chronic 1; H410; On basis of test data M-factor 1

2.2. Label elements

Hazard Pictograms (CLP)



Signal word Warning
 Hazard statements H410 Very toxic to aquatic life with long lasting effects. H400 Very toxic to aquatic life.
 EEC-directive EC Regulations for the formulated product:
 Label name: NORDOX 75 WG

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 oxidating enzymes, and several animal diseases may occur if the diet is deficient in copper.

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.

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	Xn, N; R22, R50/53 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	86.2 %
Other ingredients not classified			13.8 %
Substance comments	Substance/preparation : Preparation As copper dusts or mists (CAS No. 7440-50-8). Compounds not precisely identified are proprietary or not hazardous.		

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.

5.2. Special hazards arising from the substance or mixture

5.3. Advice for firefighters

Other Information Non-flammable product

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.

6.2. Environmental precautions

Environmental precautionary measures Do not allow to enter sewerage 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. Collect spillage.

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 pre-cautionary measures against static discharges.

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

Occupational Exposure limit values

Substance	Identification	Value	TWA Year
Copper (I) Oxide	CAS no.: 1317-39-1 EC no.: 215-270-7	8-hour TWA: 1 mg/m3, TLV 8-hour TWA: 1 mg/m3, PEL	

8.2. Exposure controls

Occupational exposure limits 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



Respiratory protection

Respiratory protection Wear dust mask.

Hand protection

Hand protection	Wear rubber gloves
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Eye / face protection

Eye protection	Safety goggles.
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Skin protection

Additional skin protection measures	Wear protective clothing during handling of concentrated product and Application of spray Liquid.
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Exposure controls

Exposure control comments	Collect after spillage
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Other Information

Other Information	NORDOX 75WG is a registered pesticide. Read and follow the information on the label before use.
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SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Granules
Colour	Red-brown
Odour	Weak earthy odor
pH (as supplied)	Value: 7.0-8.5
Comments, pH (as supplied)	(1% solution)
Melting point/melting range	Value: > 332 °C Method of testing: O`connor and Mullee, 2003
Boiling point / boiling range	Value: > 332 °C Method of testing: O`connor and Mullee, 2003
Comments, Boiling point / boiling range	Decomposes over 332 degrees before boiling. (Purity 87.4 % as total copper)
Comments, Flash point	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
Comments, Vapour pressure	Not necessary as the meting point is above 300 degrees C
Specific gravity	Value: 5,87 kg/L Method of testing: O`connor and Mullee, 2003 Test temperature: = 20 °C
Solubility in water	Solubility in water at pH 6.6 salt: 0,000639 g/L at 20 ° C as Cu 0,000539. (Purity 87.4 % as total copper)
Solubility in organic solvents	Value: < 14 mg/L Name: O`connor and Mullee, 2003 Test temperature: = 20 °C
Comments, Solubility	Toluene
Comments, Partition coefficient: n-octanol / water	Not relevant for the ecotoxicological risk assesment, due to the specific absorption mechanism of copper.
Comments, Spontaneous combustability	Not auto-flammable - self ignition temperature is 234 degrees C. (Baker, D. 2003)
Comments, Viscosity	Not applicable

Physical hazards

Explosive properties	Non explosive
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Oxidising properties	Not oxidizing
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9.2. Other information

Bulk density	Value: 1,70 kg/l
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Comments, Bulk density	CIPAC MT 169
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Comments, Solvent content	Organic solvents, a determination of the stability in organic solvents is unnecessary. Moreover the active substance as manufactured does not include any organic solvents.
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Other physical and chemical properties

Physical and chemical properties	Einecs ref.: Unit 250, col. 2, page 125.
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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

Toxicological Information:

Other toxicological data	Chemical name : Copper (I) oxide Acute toxicity Oral : LD50 (rat) 3165 mg/kg bodyweight Dermal : > 2000 mg/kg Inhalation : LC50 > 4,84 mg/l, no deaths observed
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Other information regarding health hazards

General	Copper is an essential element and therefore, its concentration in the body is strictly and efficiently regulated by homeostatic mechanisms.
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Acute toxicity, Mixture estimate

Dermal	Non irritant (OECD)
Metabolism	Metabolism does not occur. Copper is a monatomic ion and cannot be metabolised. It is however used in every cell in the body, and every cell can regulate its copper content.

Potential acute effects

Inhalation	Inhalation: Copper (I) oxide showed little/no toxicity when administered to test animals by other routes. Furthermore, information on the particle size distribution and low water solubility of Copper (I) oxide indicate a low potential for inhalation exposure.
Skin contact	Skin sensitivity: Non sensitiser
Eye contact	Moderate (unwashed) and non-irritation (washed)

Delayed effects / repeated exposure

Skin contact	Non-sensitiser
Chronic effects	Cuprous oxide is classified as harmful, but is not considered a dangerous material for working (Ullmann Encyclopedia, Band 15, page 560 (1978)). It may cause "metallic fever" after inhalation of dust in the same way as other metal dusts.

Carcinogenic, Mutagenic or Reprotoxic

Mutagenicity	Negative results were obtained for copper sulphate in vitro in a bacterial cell reverse mutation assay (OECD 471). An In vivo unscheduled DNA synthesis test (equivalent to OECD 486) and a mouse micronucleus test (EC method B.12) performed on copper sulphate also gave negative results.
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	Copper (I) oxide does not meet the criteria for classification.
Reproductive toxicity	NOAEL for reproductive toxicity of copper sulphate pentahydrate in rats is > 1500 ppm in food. Test guideline OECD 416.
	Copper (I) oxide does not meet the criteria for classification.

Symptoms of Exposure

Other Information	Copper (I) oxide is not classified on the basis of acute oral, inhalation or dermal toxicity.
	Copper (I) oxide does not meet the criteria for classification as STOT for a single exposure.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity	Copper is a necessary trace element and stimulates plant growth and yield on copper deficient soil. Copper is an intergral part of various oxidating enzymes, and several animal diseases may occur if the diet is deficient in copper. Cuprous oxide is an active ingredient in antifouling paints and accordingly toxic to primitive marine organisms. Ecotoxicity (Cu2+): EC50 (Daphnia magna: 48 h): 9.8 - 41.2 ppb
Aquatic, comments	Chronic marine waters toxicity test results and PNEC derivation: Chronic toxicity of copper ions from soluble copper compounds was assessed using 51 NOEC/EC10 values from 24 species representing different trophic levels (fish, invertebrates and algae). Species-specific NOECs were calculated after normalizing to dissolved organic carbon (DOC) and were used to derive SSDs and HC5 values. Normalisation at a typical DOC for coastal waters of 2 mg/l resulted in an HC5 of 5.2 µg dissolved Cu/L. Applying an assessment factor of 1, a default chronic marine PNEC of 5.2 µg dissolved Cu/L is assigned to assess local risks.

12.2. Persistence and degradability

Comments, Biodegradability	Copper is an element and not degrade.
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12.3. Bioaccumulative potential

Bioaccumulative potential	The "bioaccumulative" criteria are not applicable to essential metals.
Comments, BCF	Copper-ions bind strongly to soil. The median water-soil partitioning coefficient (Kp) is 2120 L/kg.

12.4. Mobility in soil

Mobility	Copper salts will in general gradually release Cu++ 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. Following this the mobility of copper ions is strongly restricted in soil.
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12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

Other adverse effects / Remarks	Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
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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 is 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	3077
RID	3077
IMDG	3077
ICAO/IATA	3077

14.2. UN proper shipping name

ADR	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
RID	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	9
Hazard no.	90
RID	9
IMDG	9
ICAO/IATA	9

14.4. Packing group

ADR	III
RID	III
IMDG	III
ICAO/IATA	III

14.5. Environmental hazards

IMDG Marine pollutant	Yes
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14.6. Special precautions for user

EmS	F-A, S-F
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Additional information.

Additional information.	There are no additional National Transport Regulations required/available.
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SECTION 15: Regulatory information

Hazard symbol



Dangerous for the environment

R-phrases	R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases	S 2 Keep out of reach for children S 29 Do not empty into drains S 36/37 Wear suitable protective clothing and gloves S 61 Avoid release to the environment. Refer to special instructions/Safety data sheets
EC no.	215-270-7

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

References (laws/regulations)	There are no additional National Regulations required/available.
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15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
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SECTION 16: Other information

Supplier's notes	This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]	Acute tox. 1; H302; Aquatic Acute 1; H400; On basis of test data Aquatic Acute 1; H410; Aquatic Chronic 1; H410; On basis of test data
List of relevant R-phrases (under headings 2 and 3).	R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R22 Harmful if swallowed.
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.
Version	1
Responsible for safety data sheet	NORDOX AS