

# SAFETY DATA SHEET



Date of issue: 2009-09-17

Version no:1

Revision date:

## NoroTec™ Copper

### 1. IDENTIFICATION OF THE PRODUCT AND COMPANY

|                           |  |
|---------------------------|--|
| <b>Product name</b>       | NoroTec™ Copper  |
| <b>Type of product</b>    | Micronutrient based on copper.   |
| <b>Use of the product</b> | Micronutrient against copper deficiency in agricultural crops for foliar and seed application. |

#### Manufacturer/undertaking identification

|                       |                                  |
|-----------------------|----------------------------------|
| <b>Company</b>        | NoroTec AB                       |
| <b>Address</b>        | Lilla Fabriksgatan 15            |
| <b>Zip code/Place</b> | S-274 30 Skurup                  |
| <b>Country</b>        | Sweden                           |
| <b>Telephone</b>      | +46 411 491 50                   |
| <b>Fax/mail</b>       | +46 411 491 59 / mail@norotec.se |

|                                   |     |
|-----------------------------------|-----|
| <b>Emergency telephone number</b> | 112 |
|-----------------------------------|-----|

### 2. HAZARDS IDENTIFICATION



Harmful



Dangerous for the environment

#### HEALTH

Harmful if swallowed. Irritating to eyes and skin.

#### FIRE AND EXPLOSION HAZARDS

No danger of fire or explosion exists. The product is not combustible.

#### ENVIRONMENT

Very toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| No | Ingredient name | EC-no      | CAS-no    | Conc. (%) | Classification          |
|----|-----------------|------------|-----------|-----------|-------------------------|
| 1  | Copper sulphate | 231-847-6  | 7758-99-8 | 10-25     | Xn, N, R22-R36/38-50/53 |
| 2  | Copper nitrate  | 10031-43-3 | 3251-23-8 | 5-15      | R22, R36/ R38- 50/53    |
| 3  | Citric acid     | 201-069-1  | 77-92-9   | 2 - 4     | Xi, R37/38 - R41        |
| 4  | Urea            | 200-315-5  | 57-13-6   | 5 - 10    | --                      |
| 5  | Water           | 231-791-2  | 7732-18-5 | 40-60     | --                      |

Abbreviations: T+= Very toxic, T=Toxic, C=Corrosive, Xn=Harmful, Xi=Irritant, E=Explosive, O=Oxidizing, F+=Extremely flammable, F=Highly flammable, N=Dangerous for the environment.

Occupational Exposure Limit(s), if available, are listed in Section 8. See section 16 for the full text of the classification declared above.

### 4. FIRST AID MEASURES

#### INHALATION

Fresh air, rest.

#### SKIN CONTACT

Take immediately off contaminated clothing and shoes. Wash properly with soap and water.

#### EYE CONTACT

Keep eyelids well apart. Rinse with water for at least 10 minutes. Contact a doctor if the complaints persist.

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### OTHER INFORMATION

Never give anything by mouth to an unconscious person.

### 5. FIRE-FIGHTING MEASURES

#### SUITABLE EXTINGUISHING MEDIA

The product is not combustible. Use an extinguishing agent suitable for surrounding fires.

#### FIRE AND EXPLOSION HAZARDS

No danger of fire or explosion exists.

#### PROTECTION OF FIRE-FIGHTERS

Wear respiratory protection and full protective gear.

### 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS

Use proper personal protective equipment as indicated in section 8.

#### ENVIRONMENTAL PRECAUTIONS

Don't let the leakage reach sewage, waterways or surface water. Don't let the leakage contaminate soil and vegetation. In case of release to the environment, immediately inform the local competent authority and emergency personnel.

#### METHOD FOR CLEANING UP

If possible, suck up larger amount of the spill for reuse. Absorb the remaining spill with inert material (e.g. vermiculite, sand or soil), then place this in a sealable container. The collected material is hazardous waste.

### 7. HANDLING AND STORAGE

#### HANDLING

Avoid contact with skin and eyes. Do not breathe spray mist.

#### STORAGE

Store the container tightly closed in a cool, dry and well-ventilated area. Protect against frost and direct sunlight.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### RESPIRATORY PROTECTION

In case of insufficient ventilation, wear properly fitted respiratory equipment (particle filter Type II).

#### Hygienic threshold values

| Ingredient name             | CAS No.   | Interval | ppm | mg/m3 | Year | Note. |
|-----------------------------|-----------|----------|-----|-------|------|-------|
| Copper sulphate (as copper) | 7440-50-8 | 8 h      | --  | 1,0   | 1978 | --    |

#### HAND PROTECTION

Wear safety gloves made of butyl rubber.

#### EYE PROTECTION

Wear safety goggles.

#### SKIN PROTECTION

Wear suitable protective clothing.

#### INFORMATION

Portable safety equipment for rinsing of the eyes in field shall be available.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

|                             |                   |
|-----------------------------|-------------------|
| <b>Physical state</b>       | Liquid.           |
| <b>Colour</b>               | Blue-green.       |
| <b>Odour</b>                | Nearly odourless. |
| <b>Solubility in water</b>  | Unlimited.        |
| <b>Explosion properties</b> | Not explosive.    |

#### Physical and chemicals parameters

| Parameter         | Value/unit             | Method / Reference | Note |
|-------------------|------------------------|--------------------|------|
| pH in concentrate | Approx. 1,9            |                    |      |
| Density           | 1,21 g/cm <sup>3</sup> |                    |      |

### 10. STABILITY AND REACTIVITY

#### STABILITY

Stabile under normal conditions of use and storage.

#### MATERIALS TO AVOID

Avoid strong heating.

#### HAZARDOUS REACTIONS

The product reacts with strong alkaline solutions and oxidizing agents.

#### HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of copper, sulphur and nitrogen may be formed when heated to decomposition.

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

| Exposure route | Value/unit       | Animal species | Time | Method                                     |
|----------------|------------------|----------------|------|--|
| Oral LD50      | Approx.300 mg/kg | Rat            |      | Calculated from the content of substances. |

#### INHALATION

Inhalation may cause coughing and pain in nose and throat.

#### SKIN CONTACT

Skin contact may cause smart/ irritation and damage the cornea.

#### EYE CONTACT

Splash in the eyes may cause irritation.

#### INGESTION

May cause burning in the mouth, throat or gastric gut canal and cause vomiting, diarrhoea and impair the general condition.

### 12. ECOLOGICAL INFORMATION

#### Acute toxicity in the aquatic environment

| Test                 | Value/unit | Test method | Exp. tid | Art |
|----------------------|------------|-------------|----------|-----|
| LC50 fish:           | <1 mg/l    |             | 96 h     |     |
| EC 50 Daphnia magna: | <1 mg/l    |             | 48 h     |     |
| IC50 algae:          | <1 mg/l    |             | 72 h     |     |

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### BIODEGRADABILITY

The product contains the elements copper and sulphur. Elements are by definition not biodegradable.

### BIOACCUMULATION

Bioaccumulation of copper can be expected.

### CONCLUSION

Very toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment.

## 13. DISPOSAL CONSIDERATIONS

### METHOD OF DISPOSAL

Waste, spillage, leakage and not cleaned containers are hazardous waste. Destroyed in an approved destruction site or plant.

### EWC-CODE

Proposed EWC code: 02 01 08.

## 14. TRANSPORT INFORMATION

Product classified as dangerous goods:  Yes  No  Not decided

UN-no: 3082

### Description of the goods

Environmentally hazardous substance, liquid, n.o.s. (copper sulphate, copper nitrate)

### ADR/RID (Road transport / Railway transport)

|                |    |                |     |
|----------------|----|----------------|-----|
| Class:         | 9  | Packing group: | III |
| Label:         | 9  |                |     |
| Hazard number: | 90 |                |     |

### IMDG (Sea transport)

|                   |     |                |     |
|-------------------|-----|----------------|-----|
| Class:            | 9   | Packing group: | III |
| Sub Risk:         | --  | EMS:           |     |
| Label:            | 9   |                |     |
| Marine Pollutant: | Yes |                |     |

### IATA (Air transport)

|           |    |                |     |
|-----------|----|----------------|-----|
| Class:    | 9  | Packing group: | III |
| Sub Risk: | -- |                |     |
| Label:    | 9  |                |     |

## 15. REGULATORY INFORMATION



Harmful



Dangerous for the environment

EU LABEL  No  Yes  Not assessed

### Content

Copper sulphate 10 - 25%, Copper nitrate 5-15%

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### R-PHRASES

Irritant to eyes and skin. Harmful: Danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment.

### S-PHRASES

Keep out of reach for children. Do not breathe spray mist. Wear suitable gloves and eye/face protection. This material and its container must be disposed of as hazardous waste.

To avoid risks to man and the environment, comply with the instruction for use.

## 16. OTHER INFORMATION

### THE PRODUCER'S NOTES

Safety data sheet prepared by Erland Jordow, NoroTec AB.

### LIST OF RELEVANT R-PHRASES

| Nr.     | R-phrases   |
|---------|---|
| R 22    | Harmful if swallowed.   |
| R 36/38 | Irritating to eyes and skin.  |
| R37/38  | Irritating to respiratory system and skin.  |
| R41     | Risk of serious damage to eyes.   |
| R 50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment |