

SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

NoroTec™ Zinc

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

1.1 Product identifier

PRODUCT NAME:	NoroTec™ Zinc
Group Name	Fertilisers based on zinc.

1.2 Relevant identified uses of the substance or preparation and uses advised against

Use of the product	Fertilizers against zinc deficiency in agricultural crops and horticultural production.
Limited conditions of use	Not applicable

1.3 Details of the supplier of the safety data sheet

Company	NoroTec AB
Address	Långebergavägen 40
Zip Code / City or Town	SE-256 69 Helsingborg
Country	Sweden
Telephone	+46 411 406 60
Contact person	Fredrik Olsheden
E-mail	mail@norotec.se

1.4 Emergency telephone number

Emergency telephone number	Call 112 – ask for Poisson Information Centre.
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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or preparation

Product definition: Mixture

Classification according to (EG) 1272/2008

Acute Tox. 4; H302

Eye Dam. 1; H318

Aquatic Acute 1, H400

Aquatic Chronic 1, H410

2.2 Label Information

Label elements according to (EG) 1272/2008

Labelling required.



Signal Word: Danger

Hazard Statement

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H410	Very toxic to aquatic life with long lasting effects.

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Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P273	Avoid release to the environment
P391	Collect spillage.
P501	Dispose of contents/container to a licensed hazardous waste disposal contractor.

Contains

Zinc sulphate monohydrate	25-50 weight-%
Zinc nitrate	10-25 weight-%

2.3 Other hazards

PBT / vPvB	The product contains no PBT or vPvB substances.
Other hazards which do not cause classification	Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance (UVCB)

No	Component/ ingredient name	EC-number	CAS- number	REACH registration number	Conc. (weight-%)	Classification CLP]
1	Zinc nitrate	231-943-8	231-943-8 7779-88-6	01-2119488498-16-000	25-50	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
2	Zinc sulphate monohydrate	231-793-3	7446-19-7	01-2119474684-27-0000	10-25	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
3	Citric acid	201-069-1	77-92-9	01-2119457026-42-0000	2 - 4	Eye Irrit. 2; H319
4	Urea	200-315-5	57-13-6	01-2119463277-33-0000	1 - 10	Not classified as dangerous
5	Water	231-791-2	7732-18-5	--	40 - 60	Not classified as dangerous

Occupational exposure limits are mentioned under section 8, if such exist. See section 16 for the full text of the hazard statements declared above.

4. FIRST AID

4.1 Description of first aid measures

Inhalation	Not relevant.
Skin contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. Consult a physician if irritation persists.
Eye contact	Hold eyelids apart. Rinse with water for 10 minutes. Immediate first aid is necessary.
Ingestion	Rinse mouth with water. Drink a few glasses of water or milk. Contact physician if larger quantity has been consumed.

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4.2 Most important symptoms and effects, both acute and delayed

Inhalation	Not relevant.
Skin contact	Repeated exposure causes dry skin, irritation, redness and cracking.
Eye contact	Causes pain and serious eye damage.
Ingestion	Harmful if swallowed. May cause nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically.
Specific treatments	No specific treatment.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

General information	Non-flammable product.
5.1.1 Suitable extinguishing media	The product is not flammable. Choose extinguishing agents based on the surrounding fire
5.1.2 Unsuitable extinguishing media	None

5.2 Special hazards arising from the substance or preparation

Hazards from the substance or preparation	No fire or explosion risk exists.
Hazardous thermal decomposition products	Zinc oxides and sulfur oxides.

5.3 Advice to firefighters

5.3.1. Special protective actions for fire-fighters	Avoid inhalation of toxic fumes.
5.3.2 Special protective equipment for fire-fighters	Fire-fighters should use chemically protective clothing and self-contained breathing apparatus.
5.3.3 Further information	If possible, move the product from the fire area. Otherwise cool containers exposed to flames with water until fire is out. Do not allow run-off from firefighting to enter drains or water courses

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Provide good ventilation. Keep people away from the site.

Avoid contact with eyes and skin. For information on personal equipment, see section 8.

6.1.1 For non-emergency personnel

Wear protective equipment as described under section 8.

6.2 Environmental precautions

Avoid dispersal of spilt material in waterways and sewers or contaminate of soil and vegetation. If this is not possible immediately contact the police and relevant authorities.

6.3 Methods and materials for containment and cleaning up

Dike spills using vermiculite, sand or other inert absorbent material and place in sealable containers.

Clean up area with detergent and water subsequently. Collected material should be disposed of as hazardous waste, see section 13.

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6.4 Reference to other sections

See section 8. for personal protective equipment.

See section 13 for handling of waste materials.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling	Provide good ventilation. Avoid contact with eyes and skin. Avoid breathing vapours/spray mist. Do not eat, drink or smoke while working. Wash hands before break and after work. Provide easy access to water supply and eye wash facilities.
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7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Keep dry and cool.
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7.3 Special characteristics and risks

Conditions to avoid	None.
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7.4 Specific end use(s)

Specific use (s)	Fertilizers.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limit:

Substance	CAS no.	Range	ppm	mg/m ³	Year	Remarks
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8.2 Exposure Control

Provide good ventilation. Avoid contact with skin and eyes. Do not eat, drink or smoke while working.

Wash hands before break and after work. Provide easy access to water supply and eye wash facilities.

8.2.1 Appropriate technical controls

Not relevant for this product.

8.2.2 Individual protective measures, e.g. protective personal equipment.

8.2.2.1 Respiratory protection	Not normally required. At risk of inhalation of spray mist use respiratory equipment (half mask with particle filter P2).
8.2.2.2 Eye/face protection	Wear tight-fitting goggles or face shield.
8.2.2.3 Hand protection	At the risk of prolonged and repeated contact with the product, use protective gloves made of butyl rubber.
8.2.2.4 Body protection	Wear appropriate protective clothing.
8.2.2.5 Thermal hazards	The product does not constitute a thermal hazard. No special measures required.

8.2.2 Environmental exposure controls

Avoid release to the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Slightly yellow green

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Odour	Practically
Odour threshold	Not available
Solubility	Completely soluble in water.
pH (product)	1.8
Melting point /freezing point	Not available.
Initial boiling point and boiling range	100 °C.
Flash point	> 100°C
Evaporation rate	Not available.
Flammable (solid, gas)	Not applicable
Burning time	Not applicable
Burning rate	Not applicable
Upper / lower flammability or explosive limits	Not explosive
Steam pressure	Not available.
Vapour density	Not available.
Relative density	1,35 g/cm ³ vid 20°C
Partition coefficient octanol/water	Not applicable
Ignition temperature	Not relevant.
Decomposition Temperature	Not available.

9.2 Other information

VOC	Not applicable
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10. STABILITY AND REACTIVITY

10.1 Reactivity	Non-reactive.
10.2 Chemical stability	Chemically stable under normal conditions of use and storage.
10.3 Possibility of hazardous reactions	None
10.4 Conditions to avoid	None
10.5 Incompatible materials	None
10.6 Hazardous decomposition products	Thermal decomposition results in the formation of zinc oxides and sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

11.1.1 Acute toxicity

Not harmful by skin contact. Not harmful if inhaled. Harmful if swallowed.

Acute toxicity of zinc nitrate

Exposure route	Value/Unit	Species	Exp. time	Method/note
LD50, oral	293 mg/kg	rat	--	--
LD50, dermal	> 2.000 mg/kg	rat	--	--
LC50, inhalation	46-73 mg/l	rat	4 h	--

Acute toxicity of zinc sulfate, monohydrate

Exposure route	Value/Unit	Species	Exp. time	Method/note
LD50, oral	623 mg/kg	rat	--	ATE-calculated
LD50, dermal	> 2.000 mg/kg	rat	--	ATE-calculated
LC50, inhalation	46-73 mg/l	rat	--	ATE-calculated

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Irritation/Corrosion

Experimental/calculated data:

Corrosive or irritant to the skin, rabbit: No irritating effect

Serious eye injury or eye irritation, rabbit: Causes serious eye damage.

11.2 Potential acute effects

Inhalation	Not relevant.
Skin contact	Repeated exposure gives rise to dry skin, irritation, redness and skin cracking
Eye contact	Causes pain and serious eye damage. Immediate first aid is necessary.
Ingestion	Harmful if swallowed. May cause nausea, vomiting and diarrhea.

11.3 Sensitization by inhalation/skin contact

Assessment of sensibility for the product:

The product does not contain any sensitizing agents.

11.4.1 Germ cell mutagenicity

Assessment of mutagenicity for the product:

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

11.4.2 Carcinogenicity

Assessment of carcinogenicity for the product:

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

11.4.3 Reproduction toxicity

Assessment of reproduction toxicity for the product:

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

11.5.1 Specific target organ toxicity (single exposure)

STOT assessment single dos toxicity:

Shall not be classified as a specific target organ toxicant (single exposure).

11.5.2 Repeated dose toxicity and specific organ toxicity (repeated exposure)

STOT assessment of repeated dose toxicity:

Shall not be classified as a specific target organ toxicant (repeated exposure).

11.6 Aspiration

Shall not be classified as presenting an aspiration hazard.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Acute aquatic toxicity of zinc nitrate.

Test	Value/unit	Test Method	Exp. time	Species
Fish LC50	0.112 mg/l	ECHA	96 h	--
Daphnia EC50	0.155	ECHA	49 h	--
Algae IC50	0,136	OECD Guideline 201	72 timmar	Pseudokirchnerella subcapitata

Zinc has moderate to high bioaccumulation in aquatic organisms but gives no biomagnification in the food chain.

Acute aquatic toxicity of zinc sulfate monohydrate

Test	Value / unit	Test Method	Exp. time	Species
Fish C50	0,6	ECHA	96 timmar	Pimephales promelas
Daphnia EC50	0,75 mg/l	ECHA	48 h	Daphnia magna
Algae IC50	0,52	IUCLID	72 timmar	Scenedesmus

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				quadricauda
BCF: 13900th Log Pow: <-2.5. Zinc has moderate to high bioaccumulation in aquatic organisms, but gives no biomagnification in the food chain.				

Ecological toxicity

The product is very toxic to aquatic organisms.

12.2 Persistence and degradability

Conclusion/Summary	The product contains the element zinc.. Elements are by definition not biodegradable
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12.3 Bioaccumulative potential

Conclusion/Summary	Zinc has moderate to high bioaccumulation in aquatic organisms, but gives no biomagnification in the food chain.
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12.4 Mobility in soil

The product is assessed as mobile in the soil profile.

12.5 Results of PBT and vPvB assessment

The product contains no substances which are identified as a PBT or vBvP substance (substance that is persistent, bioaccumulative and toxic).

12.6 Other adverse effects

None known

12.7 Environmental information/conclusion

The mixture in concentrated form is classified as very toxic to aquatic life with long lasting effects. Solution ready for use that is spread on arable land is not considered dangerous for the environment. However, avoid spreading near lakes and rivers

13. DISPOSAL CONSIDERATIONS



13.1 Waste treatment methods

Product

Method of disposal	Residues and waste are hazardous waste. Dispose of at an approved disposal facility.
Hazardous waste	Yes

Packaging

Method of disposal	Uncleaned empty packaging is hazardous waste. Dispose of at an approved disposal facility.
Hazardous waste	Yes
Special precautions	Not relevant

European Waste Catalogue (EWC)

EWC Waste Code	Type of waste
02 01 08*	Agrochemical waste containing dangerous substances
15 01 10*	Packaging containing residues of or contaminated by dangerous substances

14. TRANSPORT INFORMATION



This product is classified as dangerous goods.

UN no:	3082
Proper Shipping Name:	Environmentally hazardous substance, liquid n.o.s. (zinc nitrate/zinc sulphate)

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ADR / RID (Road / Rail Transport)

Class:	9	Packing Group:	III
Label:	--	Environmental hazards:	Yes
Hazard number:	90	Tunnel restriction code:	E

IMDG (SEA)

Class:	9	Packing Group:	III
Label:	--	EmS:	F-A, S-F
Marine Pollutant:	Yes		

IATA (Air Transport)

Class:	9	Packing Group:	III
Label:	--	Environmental hazards:	Yes

14.7 Bulk transport in accordance with annex II of convention Marpol 73/78 and IBC-Code

Not covered by this legislation.

15. REGULATORY INFORMATION

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

Classification and labelling according to (EG) 1272/2008 is available under section 2. This Safety Data Sheet is prepared in accordance with Annex II of the REACH Regulation (EC) 1907/2006 and Regulation (EC) No. 453/2010 Appendix I.

Authorisation	Not required.
Restriction in use	None.
Other EU legislation	This product contains no ozone depleting substance and no persistent organic pollutant.

15.2 Chemical Safety Assessment

Not relevant for products.

16. OTHER INFORMATION

THE PRODUCER'S NOTES

This safety data sheet is provided by MM-Support AB, Sweden, and approved by NoroTec AB, Sweden.

LIST OF HAZARD STATEMENTS MENTIONED UNDER SECTION 2 and 3

No.	Text
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Revision overview

Version	Revision date	Responsible	Changes in section
v.2	15-02 -2012	Bo Isacsson	The entire safety data sheet has been updated to REACH II format. The content of sections 2, 3 and 12 has also been changed.
v.3	05-09 - 2012	Bo Isacsson	3
v.4	12-03 - 2013	Bo Isacsson	4, 11 and 12.
v.5	21-12 - 2015	Bo Isacsson	2, 3, 4, 11, 13, and 15
v.6	May 28, 2020	Bo Isacsson	3, 7, 8, 11 and 12