

# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

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

#### 1.1 Product identifier

|                      |                 |
|----------------------|-----------------|
| <b>PRODUCT NAME:</b> | NoroTec™ Potato |
| <b>Group Name</b>    | Fertilizers.    |

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

|                                  |   |
|----------------------------------|---|
| <b>Use of the product</b>        | Fertilizers in agricultural crops for foliar treatment. |
| <b>Limited conditions of use</b> | Not applicable  |

#### 1.3 Details of the supplier of the safety data sheet

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

#### 1.4 Emergency telephone number

|                                   |  |
|-----------------------------------|--|
| <b>Emergency telephone number</b> | Call 112 – ask for Poisson Information Centre. |
|-----------------------------------|--|

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or preparation

**Product definition:** Mixture

#### Classification according to (EG) 1272/2008

Skin Irrit. 2; H315

Eye Irrit. 2; H319

Aquatic Chronic 3; H412

#### 2.2 Label Information

**Label elements according to (EG) 1272/2008**

Labelling required.



**Signal Word:** Warning

#### Hazard Statement

|             |  |
|-------------|--|
| <b>H315</b> | Causes skin irritation.                            |
| <b>H319</b> | Causes serious eye irritation.                     |
| <b>H412</b> | Harmful to aquatic life with long lasting effects. |

# SAFETY DATA SHEET

## NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

### NoroTec™ Potato

#### Precautionary statements

|                       |  |
|-----------------------|--|
| <b>P280</b>           | Wear protective gloves/protective clothing/eye protection/face protection  |
| <b>P302+P352</b>      | IF ON SKIN: Wash with plenty of soap and water.  |
| <b>P305+P351+P338</b> | IF IN EYES: Rinse cautiously with water for several minutes.<br>Remove contact lenses if easy to do. Continue rinsing. |
| <b>P314</b>           | Get medical advice/attention if you feel unwell  |
| <b>P273</b>           | Avoid release to the environment.  |
| <b>P391</b>           | Collect spillage.  |
| <b>P501</b>           | Dispose of contents/container to a licensed hazardous waste disposal contractor.                                       |

#### Contains

|    |    |
|----|----|
| -- | -- |
|----|----|

#### 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 Mixture

| No | Component/<br>ingredient name  | EC-number | CAS-<br>number | REACH registration<br>number | Conc.<br>(weight-%) | Classification<br>CLP]   |
|----|--------------------------------|-----------|----------------|------------------------------|---------------------|--|
| 1  | Phosphoric acid                | 231-633-2 | 7664-38-2      | 01-2119485924-24-0000        | 10 - 20             | Skin Corr. 1B; H314  |
| 2  | Potassium dihydrogen phosphate | 231-913-4 | 7778-77-0      | 01-2119490224-41-0000        | 10 - 25             | Not classified as dangerous  |
| 3  | Magnesium sulphate             | 231-298-2 | 7487-88-9      | 01-2119486789-11-0000        | 10 - 20             | Not classified as dangerous  |
| 4  | Manganese sulphate             | 232-089-9 | 10034-96-5     | 01-2119456624-35-0000        | 2 - 5               | STOT RE 2, H373<br>Aquatic Chronic 2, H411   |
| 5  | Zinc nitrate                   | 231-943-8 | 7779-88-6      | 01-2119488498-16-000         | < 2                 | Acute Tox. 4; H302<br>Eye Dam. 1; H318<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 |
| 6  | Urea                           | 200-315-5 | 57-13-6        | 01-2119463277-33-0000        | 5 - 10              | Not classified as dangerous  |
| 7  | Citric acid                    | 201-069-1 | 77-92-9        | 01-2119457026-42-0000        | 2 - 4               | Eye Irrit. 2; H319   |
| 8  | 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

|                     |   |
|---------------------|---|
| <b>Inhalation</b>   | Not relevant.   |
| <b>Skin contact</b> | Remove contaminated clothing. Wash skin thoroughly with soap and water.   |
| <b>Eye contact</b>  | Hold eyelids apart. Rinse with a gentle stream of water for up to 5 minutes.<br>Consult a physician if irritation persists. |

# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

|                  |   |
|------------------|---|
| <b>Ingestion</b> | Rinse mouth with water. Drink a few glasses of water or milk. Contact physician if a larger quantity has been ingested. |
|------------------|---|

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

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Not relevant.  |
| <b>Skin contact</b> | Irritating to the skin. Repeated exposure causes dry skin, irritation, redness and cracking. |
| <b>Eye contact</b>  | Causes serious eye irritation. Splashes may cause reversible irritation of the eye.          |
| <b>Ingestion</b>    | Ingestion of large amounts can cause nausea and vomiting.                                    |

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

|                            |                        |
|----------------------------|------------------------|
| <b>Notes to physician</b>  | Treat symptomatically. |
| <b>Specific treatments</b> | No specific treatment. |

## 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

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

### 5.2 Special hazards arising from the substance or preparation

|  |  |
|--|--|
| <b>Hazards from the substance or preparation</b> | No fire or explosion risk exists.                              |
| <b>Hazardous thermal decomposition products</b>  | Oxides of phosphorus, manganese, magnesium, zinc, and sulphur. |

### 5.3 Advice to firefighters

|   |   |
|---|---|
| <b>5.3.1. Special protective actions for fire-fighters</b>  | Avoid inhalation of toxic fumes.  |
| <b>5.3.2 Special protective equipment for fire-fighters</b> | Fire-fighters should use chemically protective clothing and self-contained breathing apparatus.   |
| <b>5.3.3 Further information</b>                            | 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 spill area. Avoid contact with skin and eyes.

#### 6.1.1 For non-emergency personnel

Use appropriate protective equipment, see section 8.

#### 6.1.2 For emergency responders

Small spills: Use appropriate personal protective equipment, see section 8.

For larger spills: Use chemically protective clothing and breathing apparatus.

# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

### 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 suitable detergent, do not use solvents. Collected material should be disposed of as hazardous waste, see section 13.

### 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

|                 |   |
|-----------------|---|
| <b>Handling</b> | Provide good ventilation. Avoid contact with skin and eyes Avoid breathing vapours/spray mist. Do not eat or drink or smoke while handling the product. Wash hands before break and at the end of work shift. |
|-----------------|---|

### 7.2 Conditions for safe storage, including any incompatibilities

|                            |   |
|----------------------------|---|
| <b>Storage conditions</b>  | Keep dry and cool in a well ventilated place.   |
| <b>Conditions to avoid</b> | Protected against frost. Avoid direct sunlight. |

### 7.3 Special characteristics and risks

|                            |  |
|----------------------------|--|
| <b>Conditions to avoid</b> | Keep away from strong alkaline solution and strong oxidizing agents. |
|----------------------------|--|

### 7.4 Specific end use(s)

|                         |             |
|-------------------------|-------------|
| <b>Specific use (s)</b> | Fertiliser. |
|-------------------------|-------------|

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Occupational Exposure Limit:

| Substance                            | CAS no.   | Range  | ppm | mg/m <sup>3</sup> | Country | Remarks |
|--------------------------------------|-----------|--------|-----|-------------------|---------|---------|
| Manganese sulphate<br>(as manganese) | 7439-96-5 | 8 h    | --  | 0,5               | UK      | --      |
| Phosphoric acid                      | 7664-38-2 | 8 h    | --  | 1                 | UK      | --      |
| Phosphoric acid                      | 7664-38-2 | 15 min | --  | 2                 | UK      | --      |

### 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 at the end of work shift.

#### 8.2.1 Appropriate technical controls

Not relevant for this product.

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

|                                       |   |
|---------------------------------------|---|
| <b>8.2.2.1 Respiratory protection</b> | Normally not needed. At risk of inhalation of spray mist use respiratory equipment (half mask with particle filter P2). |
| <b>8.2.2.2 Eye/face protection</b>    | Wear tight-fitting goggles or face shield.  |
| <b>8.2.2.3 Hand protection</b>        | At the risk of prolonged and repeated contact with the product use protective gloves made of butyl rubber.              |

# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

|                                |   |
|--------------------------------|---|
| <b>8.2.2.4 Body protection</b> | Wear appropriate protective clothing.   |
| <b>8.2.2.5 Thermal hazards</b> | 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

|   |                                  |
|---|----------------------------------|
| <b>Physical state</b>                                 | Liquid                           |
| <b>Colour</b>   | Salmon pink                      |
| <b>Odour</b>  | Practically odourless            |
| <b>Odour threshold</b>                                | Not available                    |
| <b>Solubility</b>                                     | Completely soluble in water.     |
| <b>pH (product)</b>                                   | About 1.0                        |
| <b>Melting point /freezing point</b>                  | Not available                    |
| <b>Initial boiling point and boiling range</b>        | 100 °C.                          |
| <b>Flash point</b>                                    | > 100°C                          |
| <b>Evaporation rate</b>                               | Not available                    |
| <b>Flammable (solid, gas)</b>                         | Not applicable                   |
| <b>Burning time</b>                                   | Not applicable                   |
| <b>Burning rate</b>                                   | Not applicable                   |
| <b>Upper / lower flammability or explosive limits</b> | Not explosive                    |
| <b>Steam pressure</b>                                 | Not available                    |
| <b>Vapour</b>   | Not available                    |
| <b>Relative density</b>                               | 1.40 g /cm <sup>3</sup> at 20 °C |
| <b>Partition coefficient octanol/water</b>            | Not applicable                   |
| <b>Ignition temperature</b>                           | Not relevant                     |
| <b>Decomposition Temperature</b>                      | Not available                    |

### 9.2 Other information

|            |                |
|------------|----------------|
| <b>VOC</b> | Not applicable |
|------------|----------------|

## 10. STABILITY AND REACTIVITY

|  |  |
|--|--|
| <b>10.1 Reactivity</b>                         | Non-reactive.  |
| <b>10.2 Chemical stability</b>                 | Chemically stable under normal conditions of use and storage.  |
| <b>10.3 Possibility of hazardous reactions</b> | None   |
| <b>10.4 Conditions to avoid</b>                | None   |
| <b>10.5 Incompatible materials</b>             | Strong alkaline solutions and strong oxidizing agents.   |
| <b>10.6 Hazardous decomposition products</b>   | Thermal decomposition results in the formation of oxides of phosphorus, manganese, magnesium, zinc, and sulphur. |

## 11. TOXICOLOGICAL INFORMATION

### Information on toxicological effects

#### 11.1 Acute toxicity

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

# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

### Acute toxicity of manganese sulphate

| Exposure route | Value/Unit | Species | Exp. time | Method/note |
|----------------|------------|---------|-----------|-------------|
| LD50, oral     | 782 mg/kg  | rat     | --        | --          |

### Acute toxicity of the product

| Exposure route   | Value/Unit    | Species | Exp. time | Method/note         |
|------------------|---------------|---------|-----------|---------------------|
| LD50, oral       | > 2.000 mg/kg | --      | --        | ATE-mix, calculated |
| LD50, dermal     | > 2.000 mg/kg | --      | --        | ATE-mix, calculated |
| LC50, inhalation | > 20 mg/l     | --      | 4 h       | ATE-mix, calculated |

### Irritation/Corrosion

Experimental/calculated data:

Corrosive or irritant to the skin, rabbit: Irritating

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

### 11.2 Potential acute effects

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Not relevant.  |
| <b>Skin contact</b> | Irritating to the skin. Repeated exposure gives rise to dry skin, irritation, redness and skin cracking. |
| <b>Eye contact</b>  | Causes serious eye irritation. Splashes may cause reversible irritation of the eye.                      |
| <b>Ingestion</b>    | Ingestion of larger quantity can cause nausea and vomiting.  |

### 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 dose 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).

However, local effect such as dry skin, irritation, redness and cracking will occur.

### 11.6 Aspiration

Shall not be classified as presenting an aspiration hazard.

# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

### 12. ECOLOGICAL INFORMATION

#### 12.1. 1 Toxicity

##### Acute aquatic toxicity of manganese sulphate

| Test         | Value/unit | Test Method | Exp. time | Species                 |
|--------------|------------|-------------|-----------|-------------------------|
| Fish LC50    | 30 mg/l    | Ecetox      | 96 h      | Fathead minnow          |
| Daphnia EC50 | 8 mg/l     | Ecetox      | 48 h      | Daphnia magna           |
| Algae ErC50  | 61 mg/l    | ECHA        | 72 h      | Desmodesmus subspicatus |

##### Acute aquatic toxicity of zinc nitrate

| Test      | Value/unit | Test Method | Exp. time | Species           |
|-----------|------------|-------------|-----------|-------------------|
| Fish LC50 | 3,2 mg/l   | --          | 96 h      | Phoxinus phoxinus |

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

#### Ecological toxicity

The product is harmful to aquatic organisms.

#### 12.2 Persistence and degradability

|                           |   |
|---------------------------|---|
| <b>Conclusion/Summary</b> | The product contains the elements zinc, manganese and magnesium. Elements are by definition not biodegradable |
|---------------------------|---|

#### 12.3 Bioaccumulative potential

|                           |  |
|---------------------------|--|
| <b>Conclusion/Summary</b> | Bioaccumulation of manganese and magnesium can be expected |
|---------------------------|--|

#### 12.4 Mobility in soil

The product is mobile in the soil profile due to its high water solubility.

Adsorption to solid soil particles is not expected.

#### 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 harmful 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

|                           |  |
|---------------------------|--|
| <b>Method of disposal</b> | Residues and waste are hazardous waste. Dispose of at an approved disposal facility. |
| <b>Hazardous waste</b>    | Yes  |

##### Packaging

|                           |  |
|---------------------------|--|
| <b>Method of disposal</b> | Uncleaned empty packaging is hazardous waste. Dispose of at an approved disposal facility. |
| <b>Hazardous waste</b>    | Yes  |

# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

|                            |              |
|----------------------------|--------------|
| <b>Special precautions</b> | Not relevant |
|----------------------------|--------------|

### European Waste Catalogue (EWC)

|   |  |
|---|--|
| <b>EWC Waste Code</b>                                     | <b>Type of waste</b>   |
| 02 01 08*   | Agrochemical waste containing dangerous substances                       |
| 15 01 10*   | Packaging containing residues of or contaminated by dangerous substances |
| <b>14. TRANSPORT INFORMATION</b> <input type="checkbox"/> |  |

This product is not classified as dangerous goods.

|                              |    |
|------------------------------|----|
| <b>UN-no:</b>                | -- |
| <b>Proper Shipping Name:</b> | -- |

### ADR / RID (Road / Rail Transport)

|                       |    |                               |    |
|-----------------------|----|-------------------------------|----|
| <b>Class:</b>         | -- | <b>Packing Group:</b>         | -- |
| <b>Label:</b>         | -- | <b>Environmental hazards:</b> | -- |
| <b>Hazard number:</b> | -- | <b>Tunnel restriction:</b>    | -- |

### IMDG (SEA)

|                          |    |                       |    |
|--------------------------|----|-----------------------|----|
| <b>Class:</b>            | -- | <b>Packing Group:</b> | -- |
| <b>Label:</b>            | -- | <b>EmS:</b>           | -- |
| <b>Marine Pollutant:</b> | -- |                       |    |

### IATA (Air Transport)

|               |    |                               |    |
|---------------|----|-------------------------------|----|
| <b>Class:</b> | -- | <b>Packing Group:</b>         | -- |
| <b>Label:</b> | -- | <b>Environmental hazards:</b> | -- |

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

Not applicable.

## 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.

|                             |   |
|-----------------------------|---|
| <b>Authorisation</b>        | Not required.   |
| <b>Restriction in use</b>   | None.   |
| <b>Other EU legislation</b> | 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.



# SAFETY DATA SHEET

NoroTec AB

Date of Issue: May 28, 2020

Version no: 6.0

Replaces: February 18, 2016

## NoroTec™ Potato

### LIST OF HAZARD STATEMENTS MENTIONED UNDER SECTION 2 and 3

| No.  | Text   |
|------|--|
| H302 | Harmful if swallowed.  |
| H314 | Causes severe skin burns and eye damage  |
| H318 | Causes serious eye damage.   |
| H319 | Causes serious eye irritation.   |
| H373 | May cause damage to organs through prolonged or repeated exposure through inhalation or ingestion. |
| H411 | Toxic to aquatic life with long lasting effects.   |
| H412 | Harmful to aquatic life with long lasting effects.   |

### Revision overview

| Version | Revision date     | Responsible   | Changes in section   |
|---------|-------------------|---------------|--|
| v.2     | March 20, 2009    | Erland Jordow | --   |
| v.3     | February 2, 2010  | Erland Jordow | --   |
| v.4     | March 15, 2013    | Bo Isacsson   | The entire safety data sheet has been updated to REACH II format |
| v.5     | February 18, 2016 | Bo Isacsson   | 2, 3, 4, 11, 13 and 15   |
| v.6     | May 28, 2020      | Bo Isacsson   | 2, 3, 7, 8, 11 and 12  |