

# Material Safety Data Sheet

according to Regulation (EC) No. 1907/2006

## Granubor Natur



Version: 2.7  
Date of last issue: 23.12.2022  
Date of first issue: 08.11.2016

Revision Date:  
06.04.2023

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

#### 1.1 Product identifier

Trade name : Granubor Natur

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

Use of the Substance/Mixture : Fertilizer

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

Company : COMPO EXPERT GmbH  
Krögerweg 10  
D-48155 Münster

Telephone : +49 (0) 251 29 79 81 – 000

Telefax : +49 (0) 251 29 79 81 - 111

E-mail address of person responsible for the SDS : info@compo-expert.com

#### 1.4 Emergency telephone number

GBK GmbH - Global Regulatory Compliance - 24h  
Telephone: +49 (0) 6132 - 84463

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2 H319: Causes serious eye irritation.

Reproductive toxicity, Category 1B H360FD: May damage fertility. May damage the unborn child.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

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|                          |   |   |
|--------------------------|---|---|
| Hazard pictograms        | : |   |
| Signal word              | : | Danger  |
| Hazard statements        | : | H360FD May damage fertility. May damage the unborn child.<br>H319 Causes serious eye irritation.  |
| Precautionary statements | : | <b>Prevention:</b><br>P201 Obtain special instructions before use.<br>P202 Do not handle until all safety precautions have been read and understood.<br>P281 Use personal protective equipment as required.<br><b>Response:</b><br>P308 + P313 IF exposed or concerned: Get medical advice/ attention.<br>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br><b>Storage:</b><br>P405 Store locked up.<br><b>Disposal:</b><br>P501 Dispose of contents/ container to an approved waste disposal plant. |

### 2.3 Other hazards

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : trace elements

#### Hazardous components

| Chemical Name | CAS-No.<br>EC-No.<br>Registration number | Classification | Concentration<br>(% w/w) |
|---------------|--|----------------|--------------------------|
|               |  |                |                          |

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|   |  |  |       |
|---|--|--|-------|
| Borates, tetra sodium salts, pentahydrate | 12179-04-3<br>215-540-4<br>01-2119490790-32-XXXX | Repr. 1B; H360FD<br>Eye Irrit. 2; H319 | >= 99 |
|---|--|--|-------|

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Take off immediately all contaminated clothing.  
Wash contaminated clothing before re-use.
- If inhaled : Fresh air.  
If symptoms persist, seek medical advice.
- In case of skin contact : Wash thoroughly with soap and water.  
If symptoms persist, seek medical advice.
- In case of eye contact : Rinse thoroughly with plenty of water for at least 15 minutes  
and consult a physician.  
If symptoms persist, seek medical advice.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Seek medical attention.

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

- Symptoms : No information available.

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

- Treatment : Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : The product is not flammable.  
Use extinguishing measures that are appropriate to local  
circumstances and the surrounding environment.
- Unsuitable extinguishing media : none

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

Specific hazards during firefighting : In case of combustion evolution of dangerous gases possible.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Avoid dust formation.  
Keep away from sources of ignition - No smoking.  
In case of involuntary exposition of the product contact producer or supplier.

### 6.2 Environmental precautions

Environmental precautions : Do not empty into drains.  
Product should not reach open waters.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Ensure adequate ventilation.  
Use mechanical handling equipment.  
Sweep up or vacuum up spillage and collect in suitable container for disposal.  
To clean the floor and all objects contaminated by this material, use plenty of water.

### 6.4 Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid dust formation.  
Keep away from sources of ignition - No smoking.

Advice on protection against fire and explosion : Dust can form an explosive mixture with air. Keep away from sources of ignition - No smoking. Take precautionary

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measures against static discharges.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Take off immediately all contaminated clothing. Wash hands before breaks and at the end of workday.

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

Requirements for storage areas and containers : Keep in a dry, cool and well-ventilated place.

Further information on storage conditions : Protect from atmospheric humidity. Protect against water.

Advice on common storage : Not relevant

Storage class (TRGS 510) : 6.1D, Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

### 7.3 Specific end use(s)

Specific use(s) : Always read the label and product information before use.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

| Components                                | CAS-No.   | Value type (Form of exposure) | Control parameters             | Basis       |
|---|---|-------------------------------|--------------------------------|-------------|
| Borates, tetra sodium salts, pentahydrate | 12179-04-3  |                               | 3 mg/m <sup>3</sup>            | DE TRGS 900 |
| Peak-limit: excursion factor (category)   | 8;(II)  |                               |                                |             |
| Further information                       | Commission for dangerous substances, The threshold value is based on the element content of the corresponding metal., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child |                               |                                |             |
|   |   | AGW                           | 0,5 mg/m <sup>3</sup> (Borate) | DE TRGS 900 |
| Peak-limit: excursion factor (category)   | 2;(I)   |                               |                                |             |
| Further information                       | Commission for dangerous substances, The threshold value is based on the element content of the corresponding metal., When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child |                               |                                |             |

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|  |  |     |                     |          |
|--|--|-----|---------------------|----------|
|  |  |     | 1 mg/m <sup>3</sup> | ACGIHTLV |
|  |  | TWA | 1 mg/m <sup>3</sup> | GB EH40  |

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

| Substance name | End Use               | Exposure routes | Potential health effects       | Value                   |
|----------------|-----------------------|-----------------|--------------------------------|-------------------------|
| Granubor Natur | Workers,<br>Consumers | Inhalation      | Acute effects, Chronic effects | 15,09 mg/m <sup>3</sup> |
|                | Workers,<br>Consumers | Skin contact    | Chronic effects                | 407,2 mg/kg             |
| Remarks:       | Exposure time: 1 d    |                 |                                |                         |
|                | Consumers             | Ingestion       | Acute effects, Chronic effects | 1,02 mg/kg              |
| Remarks:       | Exposure time: 1 d    |                 |                                |                         |
|                | Workers               | Skin contact    | Chronic effects                | 205,4 mg/kg             |
| Remarks:       | Exposure time: 1 d    |                 |                                |                         |

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

| Substance name | Environmental Compartment          | Value |
|----------------|------------------------------------|-------|
| Granubor Natur |                                    |       |
| Remarks:       | This information is not available. |       |

## 8.2 Exposure controls

### Engineering measures

Ensure thorough ventilation of stores and work areas.

### Personal protective equipment

Eye protection : Wear suitable gloves and eye/face protection.

### Hand protection

Remarks : For prolonged or repeated contact use protective gloves. Observe skin protection measures like preventiveskin protection, soil-related careful cleaning and application of creamy skin-care agents. The selection of suitable depends

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upon the material, and also upon the quality of the gloves. The degree of protection will vary from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Not necessary if room is well-ventilated.

In case of insufficient ventilation, wear suitable respiratory equipment.

Short term filtering device: filter P2

Protective measures : Handle in accordance with good industrial hygiene and safety practice.

### Environmental exposure controls

General advice : Do not empty into drains.  
Product should not reach open waters.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : granular

Colour : off-white

Odour : odourless

pH : 9,2, Concentration: 3,5 g/l (23 °C)

Melting point/range : > 500 °C

Boiling point/boiling range : Not applicable

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|  |   |
|--|---|
| Flash point                            | : The product is not flammable.                       |
| Evaporation rate                       | : Not applicable                                      |
| Flammability (solid, gas)              | : does not ignite                                     |
| Upper explosion limit                  | : Not applicable                                      |
| Lower explosion limit                  | : Not applicable                                      |
| Vapour pressure                        | : Not applicable                                      |
| Relative vapour density                | : Not applicable                                      |
| Relative density                       | : Not applicable                                      |
| Bulk density                           | : 600 - 650 kg/m <sup>3</sup>                         |
| Solubility(ies)                        |   |
| Water solubility                       | : ca. 35,9 g/l partly soluble (20 °C)                 |
| Partition coefficient: n-octanol/water | : Not applicable                                      |
| Auto-ignition temperature              | : Not applicable                                      |
| Decomposition temperature              | : No decomposition if stored and applied as directed. |
| Viscosity                              |   |
| Viscosity, dynamic                     | : Not applicable                                      |
| Viscosity, kinematic                   | : Not applicable                                      |
| Explosive properties                   | : Not explosive                                       |
| Oxidizing properties                   | : Not considered an oxidizing substance               |

### 9.2 Other information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Stable under recommended storage conditions.



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### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Reacts with reducing agents.

### 10.4 Conditions to avoid

Conditions to avoid : Avoid moisture.  
Avoid dust formation.

### 10.5 Incompatible materials

Materials to avoid : Water  
strong reducing agents  
Alkali metals  
alkaline-earth metal hydroxides

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

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## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

##### Product:

Acute oral toxicity : LD50 (Rat): > 3.000 mg/kg  
Remarks: information on:  
similar borate chemicals

Acute inhalation toxicity : LC50 (Rat): > 2 mg/l

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

##### Components:

##### **Borates, tetra sodium salts, pentahydrate:**

Acute oral toxicity : LD50 (Rat): 3.200 - 3.400 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2,0 mg/l  
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

#### Skin corrosion/irritation

##### Product:

Remarks: No irritation, but during longer, repeated mechanical effects it can become red and

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easy red.

### **Components:**

#### **Borates, tetra sodium salts, pentahydrate:**

Species: Rabbit

Result: No skin irritation

#### **Serious eye damage/eye irritation**

### **Product:**

Remarks: slight irritation

### **Components:**

#### **Borates, tetra sodium salts, pentahydrate:**

Species: Rabbit

Assessment: Irritant

Result: Moderate eye irritation

#### **Respiratory or skin sensitisation**

### **Product:**

Remarks: None known.

### **Components:**

#### **Borates, tetra sodium salts, pentahydrate:**

Test Type: Buehler Test

Species: Guinea pig

Method: OECD Test Guideline 406

Result: Does not cause skin sensitisation.

#### **germ cell mutagenicity**

### **Components:**

#### **Borates, tetra sodium salts, pentahydrate:**

Germ cell mutagenicity- : In vitro tests showed mutagenic effects

Assessment

#### **Carcinogenicity**

### **Components:**

#### **Borates, tetra sodium salts, pentahydrate:**

Carcinogenicity - : Carcinogenicity classification not possible from current data.

Assessment

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### Reproductive toxicity

#### Components:

#### **Borates, tetra sodium salts, pentahydrate:**

Reproductive toxicity - Assessment : In animal testing, risk of impaired fertility was shown only after administration of very high doses of this substance.  
May damage fertility. May damage the unborn child.

### Aspiration hazard

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

## 11.2 Information on other hazards

### Endocrine disrupting properties

No data available

### Experience with human exposure

#### Product:

General Information : Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. A recent epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

### Further information

#### Product:

Test Type: Reproductive/Developmental toxicity:  
Remarks: No experimental test data. However, animal feeding studies with boric acid and sodium tetraborate in rat, mouse and dog, at high doses, have demonstrated effects on fertility and testes. Studies with boric acid in rat, mouse and rabbit, at high doses, demonstrate developmental effects on the foetus including foetal weight loss and minor skeletal variations. The doses administered were many times in excess of those to which humans would normally be exposed

Test Type: Carcinogenicity/Mutagenicity:  
Remarks: No experimental test data. However, no evidence of carcinogenicity or mutagenicity was observed with boric acid or other sodium borates.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

Toxicity to fish : LC50 (dab): 74 mg/l  
Exposure time: 96 h

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LC50 (Oncorhynchus mykiss (rainbow trout)): 88 mg/l  
Exposure time: 24 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 54 mg/l  
Exposure time: 32 h

LC50 (Goldfish): 65 mg/l  
Exposure time: 7 h

LC50 (Goldfish): 71 mg/l  
Exposure time: 3 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 242 mg/l  
Exposure time: 24 h

Toxicity to algae : EC10 (Desmodesmus subspicatus (green algae)): 24 mg/l  
Exposure time: 96 h

### Components:

#### **Borates, tetra sodium salts, pentahydrate:**

Toxicity to fish : LC50 (dab): 74 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 242 mg/l  
Exposure time: 24 h

Toxicity to algae : EC10 (Scenedesmus subspicatus): 24 mg/l  
Exposure time: 96 h

## 12.2 Persistence and degradability

### Product:

Biodegradability : Remarks: The product works in the soil as fertilizer and is diminished in a few weeks.

## 12.3 Bioaccumulative potential

### Product:

Bioaccumulation : Remarks: No bioaccumulation is to be expected (log Pow <= 4).

## 12.4 Mobility in soil

### Product:

Mobility : Remarks: No data available

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### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : Remarks: Not applicable

### 12.6 Endocrine disrupting properties

No data available

### 12.7 Other adverse effects

**Product:**

Additional ecological information : Boron is an essential micronutrient for healthy growth of plants. However, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimise the amount of borate product released to the environment except as part of a balanced plant nutrition programme preferably after soil and/or tissue analysis.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.  
Fertilizer  
Check if agriculture use is possible.

Contaminated packaging : Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.  
Packs that cannot be cleaned should be disposed of in the same manner as the contents.  
Observe all local regulations.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

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### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

### 14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not relevant

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## SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : contains Boric acid

Water contaminating class (Germany) : WGK 1 slightly water endangering

### 15.2 Chemical Safety Assessment

Chemical Safety Assessments have been carried out for these substances.

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## SECTION 16: Other information

### Full text of H-Statements

H319 : Causes serious eye irritation.

H360FD : May damage fertility. May damage the unborn child.

### Full text of other abbreviations

Eye Irrit. : Eye irritation

Repr. : Reproductive toxicity

(Q)SAR - (Quantitative) Structure Activity Relationship; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; DIN - Standard of the German Institute for Standardisation; ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50

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- Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TRGS - Technical Rule for Hazardous Substances; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECI - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice

### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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