



## SAFETY DATA SHEET

### Power Roots

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

#### 1. Identification

##### Product identifier

Product name	Power Roots
appearance	Liquid.
Product number	power roots v00.1.1
Internal identification	A31641
Container size	100 mL - 20 L 0.0264 gal - 5.28 gal

##### Recommended use of the chemical and restrictions on use

Application	Fertilizer
Uses advised against	Use only for intended applications.

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

Supplier	Bertels B.V. Ommepad 2 6035 PC Ospel The Netherlands www.plagron.com ☎ +31 (0)495 63 15 59 ✉ msds@bertelsholland.com
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##### Emergency telephone number

Emergency telephone	+31 (0)6 51 66 52 10 +31 (0)6 27 84 19 52
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#### 2. Hazard(s) identification

##### Classification of the substance or mixture

Physical hazards	Not Classified
Health hazards	Not Classified
Environmental hazards	Not Classified

##### Label elements

Hazard statements	NC Not Classified
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##### Other hazards

This product does not contain any substances classified as PBT or vPvB.

#### 3. Composition/information on ingredients

##### Mixtures

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**Composition comments** This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

### 4. First-aid measures

#### Description of first aid measures

**General information** If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.

**Inhalation** No specific recommendations. If throat irritation or coughing persists, proceed as follows. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Loosen tight clothing such as collar, tie or belt. Get medical attention if any discomfort continues.

**Ingestion** No specific recommendations. If throat irritation or coughing persists, proceed as follows. Rinse mouth. Get medical attention if any discomfort continues.

**Skin Contact** No specific recommendations. Rinse with water. Get medical attention if any discomfort continues.

**Eye contact** Remove any contact lenses and open eyelids wide apart. Rinse with water. Get medical attention if any discomfort continues.

**Protection of first aiders** Use protective equipment appropriate for surrounding materials.

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

**General information** The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

**Inhalation** No specific symptoms known. Spray/mists may cause respiratory tract irritation.

**Ingestion** No specific symptoms known. May cause discomfort if swallowed.

**Skin contact** No specific symptoms known. May cause discomfort.

**Eye contact** No specific symptoms known. May be slightly irritating to eyes.

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

**Notes for the doctor** Treat symptomatically.

**Specific treatments** No special treatment required.

### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

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

**Specific hazards** Containers can burst violently or explode when heated, due to excessive pressure build-up.

**Hazardous combustion products** Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

#### Advice for firefighters

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<b>Protective actions during firefighting</b>	Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak.
<b>Special protective equipment for firefighters</b>	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

### 6. Accidental release measures

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

**Personal precautions** No specific recommendations. For personal protection, see Section 8.

#### Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground.

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

**Methods for cleaning up** Absorb spillage to prevent material damage. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of contents/container in accordance with national regulations.

**Reference to other sections** For personal protection, see Section 8. For waste disposal, see Section 13.

### 7. Handling and storage

#### Precautions for safe handling

**Usage precautions** Keep out of the reach of children. Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimize spills. Keep container tightly sealed when not in use.

**Advice on general occupational hygiene** Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

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

**Storage precautions** Store at temperatures between 5°C/41°F and 35°C/95°F. Protect from freezing and direct sunlight. Store in tightly-closed, original container. Store away from incompatible materials (see Section 10).

**Storage class** Unspecified storage.

#### Specific end uses(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.

### 8. Exposure controls/Personal protection

#### Exposure controls

**Appropriate engineering controls** No specific ventilation requirements.

**Eye/face protection** No specific eye protection required during normal use. Large Spillages: Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible.

**Hand protection** No specific hand protection recommended.

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<b>Hygiene measures</b>	Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.
<b>Respiratory protection</b>	No specific recommendations. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.
<b>Environmental exposure controls</b>	Not regarded as dangerous for the environment.

### 9. Physical and chemical properties

#### Information on basic physical and chemical properties

<b>Appearance</b>	Colored liquid.
<b>Color</b>	Brown. to Black.
<b>Odor</b>	Characteristic.
<b>Odor threshold</b>	No information available.
<b>pH</b>	pH (concentrated solution): 4.9 - 5.7
<b>Melting point</b>	No information available.
<b>Initial boiling point and range</b>	No information available.
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	No information available.
<b>Vapor pressure</b>	No information available.
<b>Vapor density</b>	No information available.
<b>Relative density</b>	1.03 - 1.07 g/ml
<b>Solubility(ies)</b>	Soluble in water.
<b>Partition coefficient</b>	No information available.
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Explosive properties</b>	Not applicable.
<b>Oxidizing properties</b>	Not applicable.

### 10. Stability and reactivity

<b>Reactivity</b>	See the other subsections of this section for further details.
<b>Stability</b>	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
<b>Possibility of hazardous reactions</b>	No potentially hazardous reactions known.

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<b>Conditions to avoid</b>	There are no known conditions that are likely to result in a hazardous situation.
<b>Materials to avoid</b>	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
<b>Hazardous decomposition products</b>	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

### 11. Toxicological information

#### Information on toxicological effects

<b>Toxicological effects</b>	Not regarded as a health hazard under current legislation.
<b><u>Acute toxicity - oral</u></b>	
<b>Notes (oral LD<sub>50</sub>)</b>	Based on available data the classification criteria are not met.
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	Based on available data the classification criteria are not met.
<b><u>Acute toxicity - inhalation</u></b>	
<b>Notes (inhalation LC<sub>50</sub>)</b>	Based on available data the classification criteria are not met.
<b><u>Skin corrosion/irritation</u></b>	
<b>Animal data</b>	Based on available data the classification criteria are not met.
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Based on available data the classification criteria are not met.
<b><u>Respiratory sensitization</u></b>	
<b>Respiratory sensitization</b>	Based on available data the classification criteria are not met.
<b><u>Skin sensitization</u></b>	
<b>Skin sensitization</b>	Based on available data the classification criteria are not met.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	Based on available data the classification criteria are not met.
<b>IARC carcinogenicity</b>	None of the ingredients are listed or exempt.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Based on available data the classification criteria are not met.
<b>Reproductive toxicity - development</b>	Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	Not classified as a specific target organ toxicant after a single exposure.
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	Not classified as a specific target organ toxicant after repeated exposure.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Based on available data the classification criteria are not met.

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<b>General information</b>	No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Inhalation</b>	No specific symptoms known. Spray/mists may cause respiratory tract irritation.
<b>Ingestion</b>	No specific symptoms known. May cause discomfort if swallowed.
<b>Skin Contact</b>	No specific symptoms known. May cause discomfort.
<b>Eye contact</b>	No specific symptoms known. May be slightly irritating to eyes.
<b>Route of exposure</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target Organs</b>	No specific target organs known.

### 12. Ecological information

<b>Ecotoxicity</b>	Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.
<b>Toxicity</b>	Based on available data the classification criteria are not met.
<b><u>Persistence and degradability</u></b>	
<b>Persistence and degradability</b>	The product is biodegradable.
<b><u>Bioaccumulative potential</u></b>	
<b>Bio-Accumulative Potential</b>	No data available on bioaccumulation.
<b>Partition coefficient</b>	No information available.
<b><u>Mobility in soil</u></b>	
<b>Mobility</b>	The product is water-soluble and may spread in water systems. The product is non-volatile.
<b><u>Other adverse effects</u></b>	
<b>Other adverse effects</b>	None known.

### 13. Disposal considerations

#### Waste treatment methods

<b>General information</b>	The generation of waste should be minimized or avoided wherever possible. This material and its container must be disposed of in a safe way.
<b>Disposal methods</b>	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

### 14. Transport information

<b>General</b>	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).
<b><u>UN Number</u></b>	
<b>UN No. (International)</b>	Not applicable.
<b><u>UN proper shipping name</u></b>	
<b>Proper shipping name (International)</b>	Not applicable.
<b><u>Transport hazard class(es)</u></b>	

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**Transport Labels (International)** No transport warning sign required.

**Packing group**

**Packing group (International)** Not applicable.

**Environmental hazards**

**Environmentally Hazardous Substance**

No.

**Special precautions for user**

Not applicable.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

### 15. Regulatory information

**US Federal Regulations**

**SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

None of the ingredients are listed or exempt.

**CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)**

None of the ingredients are listed or exempt.

**SARA Extremely Hazardous Substances EPCRA Reportable Quantities**

None of the ingredients are listed or exempt.

**SARA 313 Emission Reporting**

None of the ingredients are listed or exempt.

**CAA Accidental Release Prevention**

None of the ingredients are listed or exempt.

**FDA - Essential Chemical**

None of the ingredients are listed or exempt.

**FDA - Precursor Chemical**

None of the ingredients are listed or exempt.

**SARA (311/312) Hazard Categories**

None of the ingredients are listed or exempt.

**OSHA Highly Hazardous Chemicals**

None of the ingredients are listed or exempt.

**US State Regulations**

**California Proposition 65 Carcinogens and Reproductive Toxins**

None of the ingredients are listed or exempt.

**California Air Toxics "Hot Spots" (A-I)**

None of the ingredients are listed or exempt.

**California Air Toxics "Hot Spots" (A-II)**

None of the ingredients are listed or exempt.

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### California Directors List of Hazardous Substances

None of the ingredients are listed or exempt.

### Massachusetts "Right To Know" List

None of the ingredients are listed or exempt.

### Rhode Island "Right To Know" List

None of the ingredients are listed or exempt.

### Minnesota "Right To Know" List

None of the ingredients are listed or exempt.

### New Jersey "Right To Know" List

None of the ingredients are listed or exempt.

### Pennsylvania "Right To Know" List

None of the ingredients are listed or exempt.

### Inventories

#### US - TSCA

All the ingredients are listed or exempt.

#### US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

### 16. Other information

#### Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.

ICAO: Technical instructions for the safe transport of dangerous goods by air.

IMDG: International maritime dangerous goods.

CAS: Chemical abstracts service.

ATE: Acute toxicity estimate.

LC<sub>50</sub>: Lethal concentration to 50 % of a test population.

LD<sub>50</sub>: Lethal dose to 50% of a test population (median lethal dose).

EC<sub>50</sub>: 50% of maximal effective concentration.

PBT: Persistent, bioaccumulative and toxic substance.

vPvB: Very persistent and very bioaccumulative.

#### Training advice

Read and follow manufacturer's recommendations.

#### Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

#### Revision date

10/12/2018

#### Revision

00.0.1

#### SDS No.

4552

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