

### 1. Identification of the substance/preparation and company

Trade name: Natural Power Enzymes +  
 Supplier details: Advanced Hydroponics of Holland  
 Hornweg 316  
 NL-1432 GT Aalsmeer  
 Tel.: +31 297 363404  
 Fax : +31 297 363401

In emergency, information can be obtained from:  
 Dr. ir. N.C. Stutterheim. +31 (0)6 22698853

### 2. Composition / Information on constituents

Filtered water extract made from:

- 10% (w/w) *Fucus vesiculosus* (seaweed)
- 10% (w/w) *Ascophyllum nodosum* (seaweed)
- 5% (w/w) *Allium sativa* (garlic)
- 0.5% (w/w) Extract from *Aspergillus aculeatus*. CAS 62213-14-3; EINECS 2634624
- < 0.3% (w/w) Formic acid

Ec (mS/cm) 5 - 6  
 pH-H<sub>2</sub>O 4

	mmol /l	mg/l		µmol/l	µg/l
NH <sub>4</sub>	0.8	14	Fe	42.0	2960
NO <sub>3</sub>	1.0	62	Mn	10.0	440
P	0.8	24	Zn	13.0	915
K	10.9	426	B	92.0	238
Ca	3.1	124	Cu	2.1	172
Mg	2.4	58	Mo	0.1	10
SO <sub>4</sub>	50.9	4890			
Si	0.3	7			
HCO <sub>3</sub>	45.3	2763			
Na	31.0	713			
Cl	10.2	362			

### 3. Potential hazards

Description of hazard: None

Special hints concerning hazards for the human and environment:

So far as the usual regulations of industrial hygiene are adhered to, the product handling does not involve any appreciable risk. Neither involves the product any risk of fire or explosion.

**Material Safety Data Sheet (MSDS) acc, to Guideline 93/112/EC**

**Date:** 17.06.2006

**page 2 of 5**

*Trade name:* Natural Power Enzymes +  
*Supplier details:* Advanced Hydroponics of Holland  
Hornweg 316  
NL-1432 GT Aalsmeer

**4. First aid measures**

*General:*

*Inhalation:*

*If the product has come into contact with the skin:*

*If the product has come into contact with the eyes:*

*If the product is ingested:*

*Instruction for the physician:*

General instructions are not necessary. Avoid extensive inhalation, although no adverse effects from inhalation have been observed or reported.

Wash affected area with water and soap. Rinse the eyes with lukewarm water, with eyelid opened.

Keep cool. Consult a physician and make this Safety Data Sheet available.

Specific measures to be taken are not known or documented. Carry out a symptomatic therapy.

**5. Fire-fighting measuring**

Not applicable because the product is not inflammable.

**6. Measures to be taken in case of unintentional release**

*Personal precautionary measures:*

*Cleaning/picking-up method:*

None

Vacuum or sweep up large quantities of the material and dispose according local regulations.

**7. Handling and storage**

*Handling:*

*Storage:*

When the product is handled in unpacked condition, its quality or purity may be impaired. Agrobio Products disclaims any liability once the original package has been opened.

Store the product in a cool place protected from frost. If not used, keep the container closed. The plastic used as container materials are resistant (HDPE).

Trade name: Natural Power Enzymes +  
 Supplier details: Advanced Hydroponics of Holland  
 Hornweg 316  
 NL-1432 GT Aalsmeer

### 8. Exposure control and personal protective equipment

*General protective and hygienic measures:* Wash your hands after the work and before the breaks. Observe the rules of industrial hygiene.

*Respiratory protection:* During spraying use appropriate masks

*Hand protection:* Wear rubber protective gloves to avoid a repeated contact with the skin.

*Eye protection:* Wear protective goggles in case of potential contact with the eyes, e.g. by splashing, spraying, etc.

*Body protection:* Wear suitable work clothing if there is a risk of splashing or in case of potential contact with the body.

### 9. Physical and chemical properties

*Appearance:*  
*Shape:* Liquid  
*Odor:* Atypical

<b>Safety data</b>	<b>Value/Range</b>	<b>Unit</b>
<i>Change of state:</i>	N.A.	
<i>Boiling point:</i>	100	°C
<i>Melting point:</i>	N.A.	
<i>Flash point:</i>	N.A.	
<i>Inflammability:</i>	N.A.	
<i>Explosion hazard:</i>	N.A.	
<i>Self-ignition:</i>	N.A.	
<i>Fire-promoting properties:</i>	None	
<i>Vapour pressure at 20 °C</i>	2.34E3	Pa
<i>Density:</i>	1	kg dm <sup>-3</sup>
<i>Solubility in water:</i>	Soluble	
<i>Solubility in organic solvents:</i>	Soluble	
<i>pH value:</i>	4	
<i>Viscosity at 20 °C:</i>	1E-3	Pa s
<i>Thermal conductivity at 20 °C:</i>	0.60	W m <sup>-1</sup> K <sup>-1</sup>
<i>Specific electrical resistance:</i>	0.18	cm/mS

Trade name: Natural Power Enzymes +  
Supplier details: Advanced Hydroponics of Holland  
Hornweg 316  
NL-1432 GT Aalsmeer

### 10. Stability and reactivity

Conditions to be avoided: Once opened, the product has limited storability  
Substances to be avoided: None  
Hazardous decomposition products: None

### 11. Toxicological information

Acute toxicity: The preparation itself has not been tested.  
Assessment based on raw materials: Exposure quantities are significantly below acute toxicity limits even when complete absorption is assumed.  
Experience gained in practice; effects on humans: No adverse health effect has been observed or reported.  
Inhalation: No adverse health effect has been observed or reported.  
Ingestion: No adverse health effect has been observed or reported.  
Skin: Some skin irritation is possible in case of continuous or repeated contact with the skin.  
Eyes: Direct contact with the surface of the eye may cause irritation. Eye protection is then recommended

### 12. Ecological information

This product is dissolves in water. Ecologically sound, if applied at recommended doses.

### 13. Instruction for disposal

Recommendation: Recycling through composting should be given preference over disposal. If recycling is not possible, the product should be disposed according to the locally valid laws on waste disposal and regulations (the competent authorities should be able to give the necessary information).

**Material Safety Data Sheet (MSDS) acc, to Guideline 93/112/EC**

**Date:** 17.06.2006

**page 5 of 5**

<i>Trade name:</i>	Natural Power Enzymes +
<i>Supplier details:</i>	Advanced Hydroponics of Holland
	Hornweg 316
	NL-1432 GT <u>Aalsmeer</u>

**14. Transport information**

No special instructions. The product is from natural origin. No ADR, UN, CAS or Class numbers required. TARIC-code: 3101 0000 00.

**16. Other data**

None



## **Material Safety Data Sheet for Natural Power Products**

### **GENERAL INFORMATION**

**Product Name:** Advanced Natural Power Enzymes+  
**Date revised:** 20-08-2009  
**Manufactured by:** Advanced Hydroponics of Holland B.V.  
Oosteinderweg 303-B  
1432 AW Aalsmeer  
The Netherlands  
info@advancedhydro.com

**Advanced Natural Power Enzymes+** stimulates the mineralisation in soil or substrate by decomposing resistant soil elements into organic nutrients ready for plant uptake.

**Advanced Natural Power Enzymes+** is not a fertilizer, it is a so-called biostimulant. It does not contain micro-organisms. At very low concentrations, biostimulants improve essential biochemical processes in plant and soil, thus improving plant growth and resistance to stress. Biostimulants are thus not a replacement for fertilizers, dung or other sources of minerals, they just allow the plant to perform better. This cold extracted product is not amended with minerals like many other 'green' extracts and thus it contains mainly organic compounds like aminoacids, enzymes, auxins, cytokinins, gibberellins, betaines, alginates, various sugars, etc.

**Advanced Natural Power Enzymes+** is a multi-compound extract derived from several seaweed-species enriched with extracts of the non-GMO fungus *Aspergillus aculeatus*. Regular use of the product results in a rich and diverse soil food chain, which is essential to obtain a disease suppressing soil.

In the Netherlands, **Advanced Natural Power Enzymes+** is successfully used in professional intensive indoors and outdoors horticulture (vegetables, fruits, bulbs, flowers), on recreation areas (golf, soccer, parks) and in normal and landscape gardens.



**Ingredients**

Extracts from several edible seaweed species  
Extracts from *Aspergillus aculeatus*

**Physical state**

Finely filtered solutions with pH 4.5 - 5.5

**Function**

To increase the strength and resistance of crops  
To enhance the turnover of resilient soil elements  
To stimulate the build-up of a disease resistant soil

**Application methods**

Spraying or application through irrigation systems

**Application interval**

Bi-weekly during the vegetative growth phase

**Dosage**

Foliar application: first application 10-20 L/ha, following applications 5 L/ha  
Irrigation system: first application 20 L/ha, following applications 10 L/ha

**Package**

0,25 / 0,5 / 1 and 5 litre bottles/can

**Storage**

As this is a 100% natural product, storability is strongly reduced once the can is opened



**Guaranteed analysis Advanced Natural Power Enzymes+ in a 1:2 CaCl<sub>2</sub> extract**

<b>Ec (mS/cm)</b>	4.5 – 5.5
<b>pH-KCl</b>	4,5 – 5,5

	mmol/l	μmol/l	mg/l	μg/l
<b>NH<sub>4</sub></b>	0.8		14	
<b>NO<sub>3</sub></b>	1.0		62	
<b>P</b>	0.77		24	
<b>K</b>	10.9		426	
<b>Ca</b>	3.1		124	
<b>Mg</b>	2.4		58	
<b>SO<sub>4</sub></b>	50.9		4890	
<b>Fe</b>		42		2346
<b>Mn</b>		10		549
<b>Zn</b>		13		850
<b>B</b>		92		995
<b>Cu</b>		2.1		133
<b>Mo</b>		0.1		10
<b>Si</b>	0.26		7	
<b>HCO<sub>3</sub></b>	45.3		2763	
<b>Na</b>	31.0		713	
<b>Cl</b>	10.2		362	

**Aalsmeer, April 2011**

*Advanced Hydroponics of Holland B.V.*  
Oosteinderweg 303-B  
1432 AW AALSMEER  
Telefoon 0297 363404- Fax 0297 363401  
Email: info@advancedhydro.com  
www.advancedhydro.com

**Legislation:**

**All compounds in this product are allowed for use in organic agriculture according EU regulation 2092/91 Annex II**