

ALGEA Safety Sheet (This document is outside the scope of article 31 of REACH)

Date: 06/11/2014 Rev. 1.0

Product: Algea Fert solid

Code: 4101020 - 4101420

Print date: 06/11/2014

SAFETY SHEET

Algea Fert Solid

1 – IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier	
Chemical name:	Ascomyllum nodosum, ext.
Trade name:	Algea Fert Solid
Synonyms:	Not available
CAS Registry number:	84775-78-0
EC N°:	283-907-6
Index No.:	Not available
Registration number:	01-2119575389-21-0000
Molecular weight:	Not available
Formula:	Not applicable; a generic molecular formula cannot be provided for this UVCB substance
1.2 Relevant identified uses of the substance and uses advised against	
Relevant identified uses of the substance: Uses by <ul style="list-style-type: none"> - workers in industrial settings - professional workers - consumers <p>a) Formulation and use of fertilisers at professional and consumer level using the substance Ascomyllum nodosum extract, on its own or in a preparation.</p> <p>b) Bacterial growth promoter in biotech products</p>	
Uses advised against:	
No uses advised against	
Uses advised against:	No uses advised against
1.3 Details of the supplier of the safety data sheet:	
Company:	Algea AS Omagata 78 N-6517 Kristiansund Norway Telephone: +47 71 58 09 50 Fax: +47 71 58 09 51
Competent person responsible for the safety data sheet:	Email: info@algea.com
1.4 Emergency telephone number:	Tel. (+39) 0872 8811 (Valagro Spa _ from Monday to Friday from 8.30 to 13:00 and from 14:00 to 17.30 h (GMT+1))

2 – HAZARDS IDENTIFICATIONS

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2.1 Classification of the substance:

Classification according to Regulation (EC) No 1272/2008:

Not classified as dangerous

Classification according to Directive 67/548/EEC:

Not classified as dangerous

Most important adverse physicochemical, human health and environmental effects:

see sections from 9 to 12.

2.2 Label Elements:

Hazard pictograms : none
Signal word: none
Hazard statements: none
Precautionary statements: none

2.3 Other hazards:

None

3 – COMPOSITION/INFORMATION ON INGREDIENTS

<i>Name</i>	<i>EINECS</i>	<i>CAS</i>	<i>Degree of purity %</i>
Ascophyllum nodosum, ext.	283-907-6	84775-78-0	100

4 – FIRST AID MEASURES

4.1 Description of first aid measures

Routes of exposure:

- **Inhalation:**
Well ventilate the area and go to the open space.
- **Skin:**
Take off all contaminated clothing. Rinse abundantly with water and soap. Seek medical advice in case of irritation. Wash clothes before reuse.
- **Eye:**
Rinse immediately and abundantly with water for at least 10 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if the irritation spreads out
- **Ingestion:**
Rinse mouth, give water to drink, If the subject is unconscious do not induce vomiting. Seek medical advice

Advice:

Who provides the first medical aide must use the individual protection equipment (latex gloves).

4.2 Most important symptoms and effects, both acute and delayed

- **Inhalation:**
Possible irritation of respiratory tract
- **Skin:**
Possible irritation according to the contact time with the product
- **Eye:**
Possible irritation according to the contact time with the product

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- **Ingestion:**
Possible irritation of mouth and digestive tract.

4.3 Indication of any immediate medical attention and special treatment needed

In case of accident, seek immediately medical advice showing the safety data sheet

5 – FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Water spray, foam, carbon dioxide (CO₂),

Information on the appropriate extinguishing media:

Not relevant

Unsuitable extinguishing media:

None

Indications if extinguishing media are inappropriate for a particular situation involving the substance or mixture:

None

5.2 Special hazards arising from the substance:

In case of fire avoid to breath fumes , it may release toxic fumes containing oxides of carbon oxides (COx) and Nitrogen Oxides (NOx)

5.3 Advice for firefighters

In case of fire and in close proximity wear the protective clothes heat resistant and air respiratory equipment

6 – ACCIDENTAL RELEASE MEASURE

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Keep away from the affected area people not involved in the emergency intervention

Alert the responsible of the internal emergency

For emergency responders:

Wear protective clothes giving a total skin protection, latex gloves and safety glasses.

See also section 8

6.2 Environmental precautions:

If possible store into a clean container either to reuse or disposal . Avoid waterway and discharging contamination, competent authority must be informed in case of waterway accidental contamination

6.3 Methods and material for containment and cleaning up:

Any release should be immediately cleaned up wearing protective clothes(suit, latex gloves and safety glasses).

If possible store into a clean container either to reuse or disposal. If possible absorb with the inert material

After store , wash the area with water and suitable materials

6.4 Reference to other sections:

referred to Sections 8 and 13

7 – HANDLING AND STORAGE

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7.1. Precautions for safe handling

Avoid powder inhalation
Avoid direct contact with skin and eyes. See the following section 8.
Remove all protective clothing before access to the areas where you eat
Always respect hygienic rules, do not drink neither eat in the working areas

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a well-ventilated place far from humidity and heat source.

7.3 Specific end use(s)

Fertilizer
Bacterial growth promoter in biotech products

8 - EXPOSURE CONTROL/ PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limit values:

ACGIH (2003): recommended limit – powder to be inhaled: TLV/TWA: 10 mg/m³

ACGIH (2003): recommended limit – breathable powder: TLV/TWA: 3 mg/m³

Data obtained from similar *Ascophyllum nodosum*, extract.

Test material: Algeafert solid K+:

PNEC water:

PNEC (freshwater): 65.3 µg/L

PNEC (marine water): 6.53 µg/L

PNEC (intermittent release): 653 µg/L

PNEC Soil: 4.7 µg/Kg soil dw

PNEC STP (sewage treatment plant): 1 mg/L

Recommended monitoring procedures: None

8.2 Exposure control

- Appropriate engineering controls:

Operate in well-ventilated areas

- Individual protection measures, such as personal protective equipment:

The personal protective equipment must be compliant to the regulation UNI-EN in force

Eye / face protection:

Wear safety glasses according to the standard EN 166

Skin protection:

-Hand protection:

Wear latex gloves according to the standard EN 374.

-Other:

Wear total skin protection clothes

Respiratory protection:

Use anti-powder mask with P2 filters in case of dust making. The powder exposition limit must be respected

- Environmental exposure controls:

Keep the product concentration under the exposure limits established by the law

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9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Solid black micro-flakes	at 20°C and 1013hPa
Odour:	algae	
Odour threshold:	Not available	
pH:	9-10	water solution 25% at 20 °C
Melting point/freezing point:	> 300 °C	Test material: Algeafert solid K+: No decomposition
Initial boiling point and boiling range:	Not applicable	In accordance with Column 2 of REACH Annex VII, the boiling point (required in section 7.3) does not need to be conducted as the substance is a melting point greater than 300°C.
Flash point:	Not applicable	
Evaporation rate:	Not available	
Flammability (solid, gas):	Not flammable	Test material: Algeafert solid K+: EU Method A. 10, Reference: Panuzzi Ticco S. (2010)
Upper/lower flammability or explosive limits:	Not applicable	
Vapour pressure:	Not applicable	In accordance with Column 2 of REACH Annex VII, the vapour pressure (required in section 7.5) does not need to be conducted as the substance is a melting point greater than 300°C.
Vapour density:	Not applicable	
Apparent density:	0.5 – 0.9 Kg/dm ³	
Solubility:		
- Solubility in water:	500 g/L at 20 °C	
- Lipid solubility:	not available	
Partition coefficient n-octanol/water (Log Kow (Pow):	-3.3 at 22 °C.	
Auto-ignition temperature:	Not applicable.	The seaweed extract does not contain groups that may react with oxygen, thus is not expected to propagate combustion along a test substance pile, and is therefore considered not flammable. In accordance with REACH Annex XI, testing may be omitted if testing does not appear scientifically necessary.
Decomposition temperature:	Not applicable	
Viscosity:	Not applicable to solids	
Explosive properties:	not explosive	There are no chemical groups associated with explosive properties present in the molecule of the substance. In accordance with Column 2 of

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		REACH Annex VII, explosive properties (required in section 7.11) does not need to be conducted in case there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties:	Not Oxidising	Test material: Algeafert solid K+: Experience in handling shows that this seaweed extract has no oxidising properties, is incapable of reacting exothermically.
9.2 Other information		
Surface tension	51.1 mN/m	Test material: Algeafert solid K+: at 20°C
Granulometry	< 2 mm	

10 – STABILITY AND REACTIVITY

10.1 Reactivity:
The product is stable and does not decompose under normal use and storage conditions.
10.2 Chemical stability:
Stable at the usual work condition
10.3 Possibility of hazardous reactions:
In case of fire and high temperature the products can release fumes containing oxides of carbon oxides (COx) and Nitrogen Oxides (NOx)
10.4 Conditions to avoid:
Strong oxidizing; Heating of the product at high temperatures
10.5 Incompatible materials:
Strong oxidizing
10.6 Hazardous decomposition products:
In case of fire may release toxic fumes containing oxides of carbon oxides (COx) and Nitrogen Oxides (NOx)

11 – TOXICOLOGICAL INFORMATION

Toxicological (health) effects caused by exposure to the substance: see also sections 2 and 4.

Data obtained from similar *Ascophyllum nodosum*, extract.

Test material: Algeafert solid K+:

11.1 Information on toxicological effects	
acute toxicity:	
No acute toxicity study is provided because due the nature of the substance. Algeafert solid K + is not deemed to pose any toxicological hazard	
oral	not available
skin	not available
Inhalation	not available
skin corrosion/irritation:	not irritant (rabbit, OECD 404)

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serious eye damage/irritation:	mild irritant (rabbit, OECD 405)
respiratory or skin sensitisation:	no data available
aspiration hazard:	no data available
Reproductive/developmental toxicity:	no data available; because due the nature of the substance. Algeafert solid K + is not deemed to pose any toxicological hazard
germ cell mutagenicity:	not classified as mutagenic
Carcinogenicity:	No data available. Not required
repeated dose toxicity	no data available; because due the nature of the substance. Algeafert solid K + is not deemed to pose any toxicological hazard
STOT-single exposure	no data available
STOT-repeated exposure	no data available
Information on likely routes of exposure:	
Inhalation: can be irritant for nose and respiratory system	
Skin: can be irritant for skin	
Eye: can be irritant for eyes	
Ingestion: can be irritant for mouth and digestive tract	
Other informations:	
N.A.	

12 – ECOLOGICAL INFORMATION

Use according to good working rules, avoid to dispose of the product in the environment (see sections 6, 7, 13, 14 e 15).

The product is very soluble in water, therefore a low potential for adsorption is expected

Data obtained from similar *Ascomyllum nodosum*, extract.

Test material: Algeafert solid K+:

12.1 Toxicity

Short-term toxicity to fish:

LC50 (96h) *Danio rerio* (freshwater): > 100 mg/L

(OECD Guideline 203 Fish acute Toxicity Test; Neri, M.C. & Noé F. (2010b)

Short-term toxicity to aquatic invertebrates:

IC50 (48 h) *Daphnia magna* (freshwater): > 100 mg/L

(OECD Guideline 202 *Daphnia* sp. Acute immobilisation test) xicity; Neri, M. C. & Noé, F. 2010)

Toxicity to algae and aquatic plant:

EyC50 (72 h) *Pseudokirchnerella sub capitata* (freshwater): 60.35 mg/L based on yield rate

ErC50 (72 h) *Pseudokirchnerella sub capitata* (freshwater): > 100mg/L based on grow rate

EyC10 (72 h) *Pseudokirchnerella sub capitata* (freshwater): 17.74 mg/L based on yield rate

ErC10 (72 h) *Pseudokirchnerella sub capitata* (freshwater): 39.52 mg/L based on grow rate

EyC20 (72 h) *Pseudokirchnerella sub capitata* (freshwater): 25.99 mg/L based on yield rate

ErC20 (72 h) *Pseudokirchnerella sub capitata* (freshwater): 63.51 mg/L based on grow rate

(OECD Guideline 201 Alga, Growth Inhibition Test; Neri, M. C. & Noé, F. 2010c)

12.2 Persistence and degradability

Biodegradable organic substance which may require a Biochemical Oxygen Demand.

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In general, the plant extract appear to be biodegradable with a low environmental impact (For Algeafert solid K+ >60% of biodegradation is reached within 17 days). The degradation products are naturally occurring elements.

12.3 Bioaccumulative potential

The product is very soluble in water and logKow is negative, therefore a low potential for bioaccumulation or bioconcentration is expected.

12.4 Mobility in soil

The product is very soluble in water, therefore it is not expected to adsorb to the sediment

12.5 Results of PBT and vPvB assessment

The A. nodosum extract is neither a PBT nor a vPvB substance
The aschophyllum nodosum extract does not bioaccumulate or bioconcentrate due to its high water solubility and negative calculated log Kow.
In addition the product is readily biodegradable, >60% of biodegradation is reached within 17 days and the degradation products are normally occurring elements

12.6 Other adverse effects

None Known

13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Recover the product, if possible, or send to the incineration and disposal system.
Avoid waterway and discharging contamination.
Follow the local and national disposition in force

14 – TRANSPORT INFORMATION

Not dangerous product within the meaning of transport regulations

15 – REGULATORY INFORMATION

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

Council Directive 67/548/EEC (Classification, packaging and labelling of dangerous substances) and subsequent amendments. Council Directive 1999/45/EC (Classification, packaging and labelling of dangerous preparations) and subsequent amendments. Regulation (EC) nr 1272/2008 (CLP). Commission Directive 98/24/EC (Protection of the health and safety of workers from the risk related to chemical agent).
Commission Directive 2000/39/EC occupational exposure limit values).
Regulation (EC) No 1907/2006 (REACH).

15.2. Chemical safety assessment

Not available

16 – OTHER INFORMATION

This revised SDS cancels and replaces any preceding release

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Paragraphs modified from previous revision: 1, 7, 8, 9, 10, 11, 12, 15, 16

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality. It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

ACGIH - Threshold Limit Values - 2004 edition

ESIS

A. M. Raut (2010). In vitro Mammalian Cell Gene Mutation Test of ALGEA FERT SOLID K+. Testing laboratory: INTOX PVT. LTD. Report no.: 11052. Owner company: ALGEA AS. Report date: 2010-11-24.

Colli, M. (2010). Effects of ALGEA FERT SOLID K+ on the predatory mite, Typhlodromus pyri Scheuten (Acari: Phytoseiidae) under Extended Laboratory Conditions (Rate Response Test). Testing laboratory: Biotechnologie BT s. r. l. Report no.: BT028/10. Owner company: ALGEA AS. Report date: 2010-10-07.

Colli, Monica (2010). EFFECTS OF ALGEA FERT SOLID K+ ON THE APHID PARASITOID APHIDIUS RHOPALOSIPHI DE STEFANI PEREZ (HYMENOPTERA: BRACONIDAE) UNDER LABORATORY CONDITION (LIMIT TEST). Testing laboratory: Biotechnologie BT s. r. l., Italy. Report no.: BT027/10. Owner company: ALGEA AS. Report date: 2010-09-09.

Corboli, Massimiliano (2010a). Seedling emergence limit test for non-target plants following application of Algeafert Solid K+. Testing laboratory: Biotechnologie BT S. r. l., ITALY. Report no.: BT025/10. Owner company: ALGEA AS, Norway. Report date: 2010-09-10.

Corboli, Massimiliano (2010b). Vegetative vigour test for non-target plants following application of the product Algeafert Solid K+. Testing laboratory: Biotechnologie BT S. r. l., ITALY. Report no.: BT026/10. Owner company: ALGEA AS, Norway. Report date: 2010-09-10.

De Roeck Y., Holtzhauer, 1991, 4 Uses of Seaweeds in Cosmetics, in Seaweed resources in Europe: Uses and Potential.

Dottorini, F. (2010a). Assessment of the effects of Algeafert Solid K+ on soil microorganism respiration and nitrification. Testing laboratory: Biotechnologie BT s. r. l. Report no.: BT051/10. Owner company: ALGEA AS. Report date: 2010-10-05.

Dottorini, F. (2010b). Assessment of the effects of Algeafert Solid K+ on soil microorganism respiration and nitrification. Testing laboratory: Biotechnologie BT s. r. l. Report no.: BT051/10. Owner company: ALGEA AS. Report date: 2010-10-29.

M. B. Kale (2009a). ALGIFERT K+: ACUTE DERMAL IRRITATION / CORROSION STUDY IN RABBITS. Testing laboratory: INTOX PVT. LTD., India. Report no.: R/9835/ADI/09. Owner company: VALAGRO S. p. A. Report date: 2009-09-30.

M. B. Kale (2009b). ALGIFERT K+: Acute Eye Irritation/Corrosion Study in Rabbits. Testing laboratory: INTOX PVT. LTD., India. Report no.: R/9836/AEI/09. Owner company: VALAGRO S. p. A. Report date: 2009-10-01.

Neri, M. C. & Noè, F. (2010). Algea Fert Solid K+: Acute toxicity to Daphnia magna in a 48-hour immobilization test under static exposure. Testing laboratory: Chemservice s. r. l. Report no.: CH-E-057/2010. Owner company: Algea AS. Report date: 2010-10-12.

Neri, M. C. & Noè, F. (2010a). Algea Fert Solid K+: Ready Biodegradability in a Manometric Respirometry Test. Testing laboratory: ChemService s. r. l. Report no.: CH-E-060/2010. Owner company: ALGEA AS. Report date: 2010-10-28.

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Neri, M. C. & Noè, F. (2010b). Algea Fert Solid K+: Acute toxicity to zebra fish (*Danio rerio*) in a 96-hour study under static exposure. Testing laboratory: Chemservice s. r. l. Report no.: CH-E-056/2010. Owner company: Algea AS. Report date: 2010-10-15.

Neri, M. C. & Noè, F. (2010c). Algea Fert Solid K+: Toxicity to green algae *Pseudokirchneriella subcapitata* determined in a growth inhibition study. Testing laboratory: Chemservice s. r. l. Report no.: CH-E-058/2010. Owner company: Algea AS. Report date: 2010-10-12.

Neri, M. C. & Noè, F. (2010d). Algea Fert Solid K+: Toxicity to activated sludge in a respiration inhibition study. Testing laboratory: ChemService s. r. l. Report no.: CH-E-059/2010. Owner company: ALGEA AS. Report date: 2010-10-28.

Paronuzzi Ticco S. (2010). Algea Fert Solid K+: Determination of the Flammability. Testing laboratory: ChemService S. r. l. Report no.: CH-243/2010. Owner company: Algea AS. Report date: 2010-11-03.

Raut, A. M. (2010). Salmonella typhimurium Reverse mutation assay of Algea Fert Solid K+ (Ames Test). Testing laboratory: INTOX Pvt Ltd. Report no.: 11051. Owner company: ALGEA AS. Report date: 2010-10-25.

SANCO Draft Working Document 10472/2003/rev. 5, concerning the data requirements for active substances of plant protection products made from plants or plant extracts

Stephenson W. A., 1973. 10 Seaweed meal as feeding stuff, in Seaweed in agriculture and horticulture.

Acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling, Packaging.

DNEL: Derived No Effect Level.

EINECS: European Inventory of Existing Commercial Chemical Substances.

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

N.A. : no data available

PNEC: Predicted No Effect Concentration.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

WGK: German Water Hazard Class.