



## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT IDENTIFICATION

<b>PRODUCT NAME</b>	SeaVolution
<b>DESCRIPTION</b>	Liquid Seaweed Extract
<b>MANUFACTURERS NAME AND ADDRESS</b>	Oilean Glas Teoranta Ballymoon Industrial Estate Kilcar Co. Donegal Ireland
<b>PRODUCT TYPE</b>	Marine Aquatic Plant Extract
<b>CHEMICAL FAMILY</b>	Not Applicable (natural product)

### 2. PRODUCT CONTENT

<b>MATERIAL OR COMPONENT</b>	Plant growth biostimulant obtained by cold, physical extraction from fresh Algae <i>Ascophyllum nodosum</i> , hand-harvested off the north-west coast of Ireland
<b>PRESERVATIVE</b>	Commercial mix – fertilizer to cosmetic grade Used < 0.1% in the final product

### 3. USE AND INSTRUCTIONS

<b>PURPOSE</b>	Plant and Soil conditioner
<b>DIRECTION FOR USE</b>	Dilute in water. Contact manufacturer for details of application rates
<b>PACK SIZE</b>	10 litres and 200 litres

### 4. PHYSICAL-CHEMICAL PROPERTIES

<b>APPEARANCE AND COLOUR</b>	Cream, green clay
<b>ODOUR</b>	Characteristic fishy odour
<b>pH</b>	4.28 (pure) & 5.22 (1% aqueous solution)
<b>BOILING POINT</b>	102°C
<b>VOLATILE COMPOUNDS</b>	Not applicable (no volatile components)
<b>VAPOUR PRESSURE (mmHg)</b>	Not determined
<b>DENSITY</b>	1.033 g/ml
<b>MELTING POINT (°C)</b>	Not applicable
<b>SOLUBILITY</b>	100% soluble in water
<b>SPECIFIC GRAVITY</b>	1.10
<b>PERSISTENT FOAMING AT 0.2% V/V</b>	After 1 min, no foam

<b>PERSISTENT FOAMING AT 2.0% V/V</b>	After 1 min, 1ml of foam
<b>DYNAMIC VISCOSITY AT 22°C</b>	300-510P (mm <sup>2</sup> /s)
<b>SURFACE TENSION</b>	Dilutions at 0.2%: 70.5 mN/m Dilution at 2.0%: 56.1 mN/m

## 5. FIRE AND EXPLOSION DATA

<b>FIRE AND EXPLOSION HAZARD</b>	Not applicable
<b>FLASH POINT (Deg.C.)</b>	Not applicable (aqueous solution)
<b>EXPLOSIVE LIMITS IN AIR (% volume)</b>	Not applicable (no explosive component)
<b>AUTO IGNITION TEMPERATURE</b>	Not applicable (no flammable component)
<b>FIRE EXTINGUISHING MEDIA</b>	Not applicable
<b>SPECIAL FIRE FIGHTING PROCEDURES</b>	Not applicable
<b>UNUSUAL FIRE AND EXPLOSION HAZARD</b>	Not applicable

## 6. HEALTH HAZARD INFORMATION

<b>EFFECT ON / OF</b>	
<b>INHALATION</b>	Mild irritation effects to nose and throat may occur from really deep inhalation of the seaweed liquid.
<b>EYES</b>	Mild eye irritation may occur in some sensitive individuals
<b>SKIN</b>	Does not cause irritation to intact skin
<b>INGESTION</b>	Small amounts (20-30 cc) swallowed accidentally are not likely to cause bad effects; large quantities might cause gastrointestinal symptoms

<b>EMERGENCY AND FIRST AID PROCEDURES</b>	
<b>INALATION</b>	If symptoms such as nose or throat irritation are observed, remove to fresh air
<b>EYES</b>	Use eye wash medium or abundant fresh water to cleanse eye.
<b>SKIN</b>	No treatment necessary
<b>INGESTION</b>	In case large amounts are swallowed, give two glasses of drinking water and seek medical attention

## 7. ECOLOGICAL DATA

<b>ECOTOXICITY:</b>		
<b>ACUTE TOXICITY ON GREEN ALGAE (72Hrs)</b>	Yield	Growth rate
	EC <sub>10</sub> > 30mg/L	> 30mg/L
	EC <sub>20</sub> > 30mg/L	> 30mg/L
	EC <sub>50</sub> > 30mg/L	> 30mg/L
<b>ACUTE TOXICITY ON <i>Daphnia magna</i> (48Hrs)</b>	No Observed EC	≥ 100 mg/L
	Lowest Observed EC	> 100 mg/L
	IC <sub>50</sub>	> 100 mg/L

<b>ACUTE TOXICITY ON Zebrafish (96Hrs)</b>	No Observed EC $\geq$ 100 mg/L Lowest Observed EC > 100 mg/L IC <sub>50</sub> > 100 mg/L
<b>BIODEGRABILITY</b>	100% biodegradable (all organic matter)
<b>BIOACCUMULATION</b>	Not applicable

## 8. REACTIVITY DATA

<b>STABILITY</b>	9 – 12 months
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	none
<b>HAZARDOUS POLYMERIZATION</b>	none
<b>MATERIALS/SITUATIONS TO AVOID</b>	none
<b>PRODUCTS FORMED WHEN SUBJECTED TO OPEN FLAME AND HIGH TEMPERATURE</b>	none
<b>CORROSIVENESS</b>	non corrosive
<b>RADIOACTIVITY</b>	negligible

## 9. SPILLAGE AND DISPOSAL

<b>STEPS TO BE TAKEN IF MATERIAL IS LEAKED OR SPILLED</b>	Surfaces can become slippery. Handle spillage as for viscous liquid. Sponge as much liquid as possible and the remaining can be washed away until surface non-slippery
<b>WASTE DISPOSAL METHOD</b>	Scoop up as much of the viscous liquid as possible and dump. The remaining can be washed away with water using dilution factor

## 10. PRECAUTIONS FOR HANDLING

<b>VENTILATION REQUIREMENTS</b>	No special requirements
<b>RESPIRATORY PROTECTION</b>	No special requirements
<b>EYE PROTECTION TYPE</b>	No special requirements
<b>PROTECTIVE GLOVES</b>	No special requirements
<b>PROTECTIVE CLOTHING</b>	No special requirements
<b>GENERAL</b>	No special requirements

## 11. STORAGE AND TRANSPORT

<b>STORAGE</b>	Cool, dry place. Ensure that the product is not exposed to air or direct light.
<b>SHELF LIFE</b>	9 – 12 month to keep all nutrients active
<b>HAZCHEM CODE</b>	none
<b>TRANSPORT</b>	n.a.
<b>CLASS</b>	n.a.
<b>SUB RISK CLASS</b>	n.a.

**APPROVED BY TECHNICAL MANAGER**