



SAFETY DATA SHEET SYMBIO LIQUID AERATION

SDS COMPLETED 8TH JUNE 2015

VERSION 01
REVISION NUMBER: N/A

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name Symbio Liquid Aeration
REACH registration No. Not applicable

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

Identified use(s) Odour controller, soil drainage improver, plant stimulator, water oxygenator
Uses advised against Mixing with combustible materials

1.3. Details of the supplier of the safety data sheet

Company name:

Eco Solutions (C&R) Ltd T/a Symbio
Unit 8
Coopers Place
Combe Lane
Wormley
Surrey
GU8 5SZ

Tel: +44 (0) 1428 685762

Fax: +44 (0)1428 685702

Email: info@symbio.co.uk

1.4. Emergency telephone number

Emergency phone No. +44 (0) 1428 685762

2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Regulation (EC) No.1272/2008 (CLP)

Skin irritation (Category 2)

2.2.2. Directives 67/548/EEC, 1999/45/EC

Irritating to skin
Risk of serious damage to eyes
Serious eye irritation (Category 2)

2.2. Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

CLP Hazard Pictograms:



Signal Word(s): Warning

Hazard Statements: H315 Causes skin irritation
H319 Causes serious eye irritation



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Precautionary Statements: P264 Wash thoroughly after handling
 P280 Wear protective gloves/protective clothing/eye protection
 P302+ P352 IF ON SKIN: Wash with plenty of soap and water
 P305+ P352 IF IN EYES: Rinse cautiously with water for several minutes.
 P351+ P338 Remove contact lenses, if present and easy to do. Continue rinsing
 P337+ P313 If eye irritation persists: Get medical advice/attention
 P362 Take off contaminated clothing and wash before reuse

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



Xi; Irritating

R-phrases R36 Irritating to eyes
 R38 Irritating to skin

S-phrases S2 Keep out of the reach of children
 S24/25 Avoid contact with skin and eyes
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
 S28 After contact with skin, wash immediately with plenty of water
 S37/39 Wear suitable gloves and eye protection
 S45 In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

2.3. Other hazards

PBT Not tested for PBT vPvB Not tested for vPvB

3. Composition/information on ingredients

3.2. Mixtures

EC Classification No 1272/2008

Hazardous ingredient(s)	%w/w	CAS no	EC no	REACH Registration number	H statements
Water	40 – 50%	7732-18-5	231-791-2		
Ammonium nitrate	50 – 60%	6484-52-2	229-347-8	01-2119490981-27-####	H272, H315, H319, H335
Urea	10 – 15%	57-13-6	200-315-5	01-2119463277-33-####	
Calcium nitrate dihydrate	5 – 10%	13477-34-4		01-2119495093-35-####	H272, H302, H319
Potassium nitrate	0 – 2%	7757-79-1		01-2119488224-35-####	H272



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C9 – 11 alcohol ethoxylate 6 – 8 moles EO	0 – 0.5%	68439-46-3			H302, H318
Potassium hydroxide	<0.1%	1310-58-3	215-181-3	01-2119487136-33-####	H302, H314

EEC Classification No 67/548/EEC

Hazardous ingredient(s)	%w/w	CAS no	EC no	REACH Registration number	Risk Phrases
Water	40 – 50%	7732-18-5	231-791-2		
Ammonium nitrate	50 – 60%	6484-52-2	229-347-8	01-2119490981-27-####	O; R8, Xi; R36/37/38
Urea	10 – 15%	57-13-6	200-315-5	01-2119463277-33-####	
Calcium nitrate dihydrate	5 – 10%	13477-34-4		01-2119495093-35-####	O; R8, Xi; R36
Potassium nitrate	0 – 2%	7757-79-1		01-2119488224-35-####	O; R8
C9 – 11 alcohol ethoxylate 6 – 8 moles EO	0 – 0.5%	68439-46-3			Xn; R22, Xi; R41
Potassium hydroxide	<0.1%	1310-58-3	215-181-3	01-2119487136-33-####	Xn; R22, C; R35

4. First aid measures

4.1. Description of first aid measures

4.1.1. First aid instructions.

If inhaled: Move person into fresh air, rest and seek medical advice

If on skin (or hair): Wash affected skin with plenty of water. Use an emollient to treat irritation

If in eyes: Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open. Remove contact lenses if possible. Seek medical advice.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth and throat. Do not induce vomiting. Drink 1-2 glasses of water. Consult a physician

Other first aid advice: If vomiting occurs spontaneously, keep airways clear. Give more water when vomiting stops

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

If inhaled: Inhalation of mist or vapours may cause irritation of mucous membranes and upper respiratory tract. Symptoms may include irritation, coughing and tightness of breath



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If on skin (or hair): Irritation or burns may occur to skin especially when already sore, dry or irritated. Where a large exposure is left unwashed skin absorption can occur, systematic effects from skin absorption can include dizziness, weakness, headache, nausea

If in eyes: Irritation of the eye tissues can occur together with tearing and considerable pain. If not washed possible burns, conjunctivitis or iritis can occur

If swallowed: Nausea and stomach pain may occur. Ingestion of large quantities can result in nitrite toxicity manifested as methaemoglobinaemia or metabolic acidosis

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

Medical treatment: Methaemoglobin concentrations are the best indicator of toxicity over plasma nitrate concentrations.

Where methaemoglobinaemia is suspected treat with oxygen and methylene blue at 1 – 2 mg/kg

Burns and irritation should be treated symptomatically

5. Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: All extinguishing agents permitted

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Ammonia, oxides of nitrogen, carbon, calcium and potassium

Other special hazards during fire: Where heated to dryness material may be explosive in contact with flammable or organic substances

5.3. Advice for firefighters

Protective actions during firefighting: Wear self-containing breathing apparatus

Special protective equipment for firefighters: No special instructions

Other advice: Do not allow product to evaporate to dryness

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Non-emergency personnel PPE: See section 8.2

Emergency responders PPE: See section 8.2

Controlling risks from accidental release: Avoid contact with reducing agents, strong acids and bases, metal powders, combustible materials

Emergency procedures: Evacuate personnel to safe areas.

6.2. Environmental precautions

Keep accidental releases away from: Drains, water courses, soil and open ground. Discharge to ground, water courses or drains can cause eutrophication

6.3. Methods and material for containment and cleaning up

Containing a spill: Mop up and contain with absorbent chemical spill kits

Cleaning up a spill: Mop material. Dilute to prevent damage to oxidiser sensitive surfaces. Recycle where possible

Other information on spill handling: Dilute with water. Capture with chemical absorbent kits.



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6.4. Reference to other sections

Recycle where possible

See section 8.2 for personal protective equipment. See section 13.1 for disposal considerations

7. Handling and storage

7.1. Precautions for safe handling

Safe handling recommendations: Avoid creation of aerosols. Provide good ventilation at location of use

Handling incompatibles: Do not use with reducing agents, strong acids or alkalis

Reducing environmental risk: Do not discharge into drains or water courses

Occupational hygiene advice: Wash hands after using this product and before eating, drinking or smoking. Remove contaminated clothing and protective equipment before entering eating areas

7.2. Conditions for safe storage, including any incompatibilities

Safe storage: managing risks during storage:

Explosive atmospheres formed during storage: Not applicable

Corrosive conditions during storage: Not applicable

Flammability hazards during storage: Not applicable

Incompatible substances or mixtures: Incompatible with reducing agents

Evaporative conditions: Not applicable

Potential ignition sources, including electrical equipment: Not applicable

Safe storage: controlling effects of ambient conditions:

Weather conditions: Do not store outside uncontained

Ambient pressure: Not applicable

Temperature: No specific temperature requirements

Sunlight: Keep out of direct sunlight

Humidity: Not applicable

Vibration: Not applicable

Safe storage: maintaining the integrity of the product:

Stabilisers: Stabilisers are not used in this product

Antioxidants: Antioxidants are not used in this product

Safe storage: other advice:

Ventilation requirements for storage: No specific ventilation requirements

Specific designs for storage rooms or vessels: No specific design criteria on storage areas apart from normal regulatory requirements for substances of this type

Quantity limits under storage conditions: Not applicable

Suitable packaging for the substance: Compatible with plastic and protected metal containers

7.3. Specific end use(s)

Uses: Odour controller and hydrocarbon degradation aid in waste water treatment systems, soil drainage improver, plant stimulator, water oxygenator

8. Exposure controls/personal protection

8.1. Control parameters



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8.1.1 Occupational exposure limits:

Data not available

8.1.2 Biological Limit Values:

Not applicable

8.1.3 Current recommended monitoring procedures:

Not applicable

8.1.4 Air contaminants formed when using the product as intended:

Not applicable

8.1.5 PNECs and DNELs

Data not available

8.2. Exposure controls

8.2.1. Appropriate engineering controls:

Good ventilation

8.2.2. Personal Protection Equipment

Eye protection: Use safety glasses tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)

Face protection: Not required

Hand protection: Use nitrile, latex or rubber gloves, which satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it

Other skin protection: Do not wear open footwear

Respiratory protection: Not required

Thermal hazards: Not required

8.2.3. Environmental exposure controls

Do not release substance to drains or surface water

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Clear, blue liquid
Physical state:	Liquid
Colour:	Blue
Odour:	Slight ammoniacal
Odour threshold:	Data not available
pH:	6.5 – 7.5
Melting point:	Data not available
Freezing point:	Data not available
Initial boiling point:	100°C
Boiling range:	Data not available
Flash point:	Data not available
Flash point method:	Data not available



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Evaporation rate:	Data not available
Flammability (if solid or gas):	Data not available
Upper and lower flammability or explosive limits:	Data not available
Vapour pressure:	Data not available
Vapour density:	Data not available
Relative density:	1.3 g/cm ³
Solubility(ies)	Completely miscible in water
Partition coefficient: n-octanol/water	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available
Explosive properties	Data not available
Oxidising properties	Data not available

9.2. Other information

Data not available

10. Stability and reactivity

10.1. Reactivity

Can react with reducing agents. May react with concentrated acids and alkalis

10.2. Chemical stability

Product is stable under anticipated storage and handling conditions

10.3. Possibility of hazardous reactions

Can react with reducing agents, concentrated acids or alkalis, metallic powders. Reactions with alkaline materials may generate ammonia

10.4. Conditions to avoid

Excessive heat (to water boiling point), drying on combustible materials

10.5. Incompatible materials

Reducing agents

10.6. Hazardous decomposition products

When heated, toxic and corrosive vapours/gases may be formed

11. Toxicological information

11.1. Information on toxicological effects

Extrapolated from constituents

Acute toxicity	Oral – Rat – LD50 = 3,500 mg/kg body weight
Skin corrosion/irritation	Rat – LD50 > 5,000 mg/kg body weight
Serious eye damage/irritation	Rabbit – irritating to eyes
Respiratory or skin sensitisation	Data not available
Germ cell mutagenicity	Data not available
Carcinogenicity	Data not available
Reproductive toxicity	Data not available
STOT-repeated exposure;	Data not available



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11.2. Other information

No other information

12. Ecological information

12.1. Toxicity

Extrapolated from constituents

Species	Test	Value
Common carp (<i>Cyprinus carpio</i>)	48H LC50	170 mg/L
Water flea (<i>Daphnia magna</i>)	96H EC50	80 mg/L
Algae (various <i>Nitzschia</i> species)	10D EC50	>2,000 mg/L

12.2. Persistence and degradability

Data not available

12.3. Bioaccumulative potential

Data not available

12.4. Mobility in soil

Data not available

12.5. Results of PBT and vPvB assessment

Data not available

12.6. Other adverse effects

Environmental fate	Not applicable
Photochemical ozone creation potential	Not applicable
Ozone depletion potential	Not applicable
Endocrine disrupting potential	Not applicable
Global warming potential	Not applicable

13. Disposal considerations

13.1. Waste treatment methods

This material, if discarded as produced, is not classified as a hazardous waste

Waste treatment containers to be used for product include IBCs or HDPE drums, metal drums should only be used where lined with a protective coating

Recycle material where possible by filtration. If heavily soiled or disposal judged as necessary dispose to landfill in accordance with the Directive on waste 2008/98/EC

No specific waste treatment containers to be used for contaminated packaging. Waste treatment method for contaminated packaging should include a rinse with water. Dilute washings should be recycled where possible, possibly as a low grade fertiliser by a farmer or competent individual

Physical/ chemical properties which may affect waste treatment include the generation of an oxidising solution. Do not mix with reducing agents

14. Transport information

14.1. UN number

Not applicable



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14.2. UN proper shipping name

ADR/RID Not dangerous goods
IMDG Not dangerous goods IATA Not dangerous goods

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable

15. Regulatory information

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

Ozone depleting substance (EC No 2037/2000):	Not applicable
Persistent organic pollutants (EC No 850/2004)	Not applicable
Export and import of dangerous chemicals (EC No 689/2008)	Not applicable
COMAH/ Seveso II categories or named substance	Not applicable
REACH Authorisations and/or Restrictions	Not applicable
Any other relevant Safety, health and environmental regulations:	Not applicable

15.2. Chemical safety assessment A chemical safety assessment has not been carried out for this product

16: Other information

a) Changes made to SDS:

New product SDS

b) Key (or legend)

LD50 Lethal Dosage affecting 50% of sample population

EC50 Effective Concentration affecting 50% of sample population

c) Literature references

Data gathered for raw materials from European Chemicals Agency:

<http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances> The

Chemical Incident Management Handbook:

<http://www.shpir.hps.scot.nhs.uk/htm/hps/documents/cirs/26093.htm>

Last accessed (21/01/2015)

Some physical properties reported from direct laboratory testing performed at Grotech Production Ltd Some properties gathered from supplier SDS of constituent components

d) Details of relevant hazard information

H272 May intensify fire; oxidiser (Ox. Sol. 3)

H302 Harmful if swallowed (Acute Tox. 4)

H314 Causes severe skin burns and eye damage (Skin Corr. 1)

H315 Causes skin irritation (Skin Irrit. 2)



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H318	Causes serious eye damage (Eye Dam. 1)
H319	Causes serious eye irritation (Eye Irrit. 2)
H335	May cause respiratory irritation (Resp. Irrit. 3)
P221	Take any precaution to avoid mixing with combustibles
P264	Wash thoroughly after handling
P280	Wear protective gloves/protective clothing/eye protection
P302+P352	IF ON SKIN: Wash with plenty of soap and water
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P321	Specific treatment
P332+P313	If skin irritation occurs: Get medical advice/attention
P337+P313	If eye irritation persists: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse
R8	Contact with combustible material may cause fire
R22	Harmful if swallowed
R35	Causes severe burns
R36	Irritating to eyes
R37	Irritating to respiratory system
R38	Irritating to skin
R41	Risk of serious damage to eyes
S2	Keep out of the reach of children
S17	Keep away from combustible material
S24	Avoid contact with skin
S25	Avoid contact with eyes
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S28	After contact with skin, wash immediately with plenty of water
S29	Do not empty into drains
S37	Wear suitable gloves
S39	Wear eye/face protection
S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)
S50	Do not mix with combustible materials
e)	Appropriate training for workers Training for spillage handling and chemical handling is recommended
f)	Classification method: CLP classification, CHIP classification

Disclaimer

The information in this SDS was obtained from sources which we believe to be reliable. Symbio provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate handling of the product by properly trained and qualified personnel. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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