



SAFETY DATA SHEET
BIOSULPHUR

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name BIOSULPHUR
Product number 2

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

Identified uses Agriculture

1.3. Details of the supplier of the safety data sheet

Supplier Biotechnica Services Ltd.
11 Kings Cliffe Industrial Estate
Wansford,
Peterborough
PE8 6PB
+ 44 (0) 1780 784 206
+ 44 (0) 1780 781 398
info@biotechnica.co.uk

Contact person Regulatory Manager

1.4. Emergency telephone number

Emergency telephone +44 (0) 1780 784 206 Office Hours are 09:00 to 17:00 weekdays only

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards

Not Classified

Health hazards

Acute Tox. 4 - H302 Acute Tox. 3 - H331 Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335 STOT SE 3 - H335

Environmental hazards

Aquatic Acute 1 - H400

Classification (67/548/EEC or 1999/45/EC)

T; R23. Xn; R22. C; R34. Xi; R37. N; R50

BIOSULPHUR**2.2. Label elements****Pictogram****Signal word**

Danger

Hazard statements

H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H331 Toxic if inhaled.
 H335 May cause respiratory irritation.
 H400 Very toxic to aquatic life.

Precautionary statements

P260 Do not breathe vapour/spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Contains

AMMONIUM POLYSULPHIDES, CALCIUM POLYSULPHIDES

Supplementary precautionary statements

P261 Avoid breathing vapour/spray.
 P264 Wash contaminated skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P312 Call a POISON CENTER/doctor if you feel unwell.
 P321 Specific treatment (see medical advice on this label).
 P363 Wash contaminated clothing before reuse.
 P391 Collect spillage.
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/container in accordance with national regulations.

2.3. Other hazards**SECTION 3: Composition/information on ingredients****3.2. Mixtures**

AMMONIUM POLYSULPHIDES	10-30%
CAS number: 9080-17-5 EC number: 232-989-1	
M factor (Acute) = 1	
Classification	Classification (67/548/EEC or 1999/45/EC)
Skin Corr. 1B - H314	C; R34. N; R50. R31
Eye Dam. 1 - H318	
Aquatic Acute 1 - H400	

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CALCIUM POLYSULPHIDES	10-30%
CAS number: 1344-81-6 EC number: 215-709-2 M factor (Acute) = 100	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H335 STOT SE 3 - H335 Aquatic Acute 1 - H400	Classification (67/548/EEC or 1999/45/EC) Xi; R36/37/38. N; R50
HYDROGEN SULPHIDE	<1%
CAS number: 7783-06-4 EC number: 231-977-3 M factor (Acute) = 1	
Classification Flam. Gas 1 - H220 Press. Gas, Compressed - H280 Acute Tox. 2 - H330 Aquatic Acute 1 - H400	Classification (67/548/EEC or 1999/45/EC) F+; R12. T+; R26. N; R50

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation**

Move affected person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion

Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention immediately.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if symptoms are severe or persist after washing.

Eye contact

Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

4.2. Most important symptoms and effects, both acute and delayed**General information**

See Section 11 for additional information on health hazards.

Ingestion

The component substances form Hydrogen Sulphide in stomach. Specific treatment is necessary in case of poisoning with this product. Hydrogen Sulphide poisoning is similar in effects and mechanism to hydrogen cyanide poisoning. Consideration should be given to treating severe cases of poisoning with amyl nitrite and sodium nitrite as for cyanide poisoning but omitting the Sodium Thiosulphate injection.

4.3. Indication of any immediate medical attention and special treatment needed**Notes for the doctor**

No specific recommendations.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Extinguish with the following media: Foam, carbon dioxide or dry powder.

Unsuitable extinguishing media

Water.

5.2. Special hazards arising from the substance or mixture

Specific hazards

When heated and in case of fire, toxic vapours/gases may be formed. In case of fire, the following can be released: Hydrogen sulphide (H₂S).

5.3. Advice for firefighters

Protective actions during firefighting

Containers close to fire should be removed or cooled with water. When heated or diluted, Hydrogen Sulphide vapours will evolve. This gas may form explosive mixtures with air.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. No smoking, sparks, flames or other sources of ignition near spillage.

6.2. Environmental precautions

Environmental precautions

Do not allow product to reach sewage system or any water course.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Keep combustible materials away from spillage. Eliminate all sources of ignition. Provide adequate ventilation. Contain and absorb spillage with sand, earth or other non-combustible material. The contaminated absorbent may pose the same hazard as the spilled material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions

Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Open containers slowly and carefully and in a well ventilated area. Consider the head space as a potential explosive atmosphere - keep ignition sources away, no smoking.

Advice on general occupational hygiene

Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame. Protect from freezing and direct sunlight. Store separated from: Acids. Store away from incompatible materials (see Section 10).

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7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

HYDROGEN SULPHIDE

Long-term exposure limit (8-hour TWA): WEL 5 ppm 7 mg/m³

Short-term exposure limit (15-minute): WEL 10 ppm 14 mg/m³

WEL = Workplace Exposure Limit

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact. Wear apron or protective clothing in case of contact.

Hygiene measures

No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.

Respiratory protection

No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

Environmental exposure controls

Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Liquid.

Colour

Red.

Odour

Rotten eggs.

Odour threshold

Ammonia. 37 ppb Hydrogen sulphide (H₂S). 4.7 ppb

pH

pH (concentrated solution): 12.0 - 12.5

Vapour pressure

314 mm Hg @ 21°C

Relative density

1.13 - 1.15

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Solubility(ies)

Dissolves with precipitation of elemental Sulphur.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

10.2. Chemical stability

Stability

Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Strong oxidisers can cause explosive mixtures if heated to dryness. Acids, acidic materials and dilution with water will cause the release of highly toxic Hydrogen Sulphide vapours.

10.4. Conditions to avoid

Avoid contact with acids and oxidising substances. Will form Hydrogen sulphide (H₂S).

10.5. Incompatible materials

Materials to avoid

Not compatible with copper, zinc or their alloys.

10.6. Hazardous decomposition products

Ammonia or amines. Hydrogen sulphide (H₂S).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects

See section-2

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg)

350.0

Species

Rat

ATE oral (mg/kg)

350.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ gases ppmV)

2000.0

Species

Rat

ATE inhalation (gases ppm)

2000.0

SECTION 12: Ecological Information

12.1. Toxicity

12.2. Persistence and degradability

Persistence and degradability

The product is moderately biodegradable.

12.3. Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

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12.4. Mobility in soil

Mobility

The product is soluble in water.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information

The generation of waste should be minimised or avoided wherever possible.

Disposal methods

Dispose of waste product or used containers in accordance with local regulations

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1760
UN No. (IMDG)	1760
UN No. (ICAO)	1760
UN No. (ADN)	1760

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	CORROSIVE LIQUID, N.O.S. (AMMONIUM POLYSULPHIDES)
Proper shipping name (IMDG)	CORROSIVE LIQUID, N.O.S. (AMMONIUM POLYSULPHIDES)
Proper shipping name (ICAO)	CORROSIVE LIQUID, N.O.S. (AMMONIUM POLYSULPHIDES)
Proper shipping name (ADN)	CORROSIVE LIQUID, N.O.S. (AMMONIUM POLYSULPHIDES)

14.3. Transport hazard class(es)

ADR/RID class	8
ADR/RID classification code	C9
ADR/RID label	8
IMDG class	8
ICAO class/division	8
ADN class	8

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

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14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-A, S-B
ADR transport category	2
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

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

SECTION 15: Regulatory information

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

EU legislation

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Guidance

Workplace Exposure Limits EH40.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

BIOSULPHUR**SECTION 16: Other information****Key literature references and sources for data**

European Chemicals Agency, <http://echa.europa.eu/>

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Revision 0

Risk phrases in full

R12 Extremely flammable.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R26 Very toxic by inhalation.
R31 Contact with acids liberates toxic gas.
R34 Causes burns.
R36/37/38 Irritating to eyes, respiratory system and skin.
R37 Irritating to respiratory system.
R50 Very toxic to aquatic organisms.

Hazard statements in full

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.