1. PRODUCT IDENTIFIER and CHEMICAL IDENTITY

Product Name: BioMAX Liquid Humate 26

LawrieCo Pty Ltd
A.B.N. 72 134 390 855
2A Capelli Road, Wingfield
SOUTH AUSTRALIA, 5013
Tel:  +61 8 8260 1134
Fax:  +61 8 8260 2263
Web:  www.lawrie.co.com.au
Email:  info@lawrie.co.com.au

Emergency Contact
24 hours
LawrieCo Technical Manager: 0408 268 058
Poisons Information Centre: 13 11 26 (Australia)

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Mixture</th>
<th>Product Code</th>
<th>BIOULLH26</th>
</tr>
</thead>
</table>

Product description, recommended use and restrictions on use: An aqueous potassium humate solution for increased fertiliser efficiency, soil conditioning and plant growth stimulant. For application by fertigation or foliar spray. Recommended use as a fertiliser application only.

2. HAZARD IDENTIFICATION

Classified as a Hazardous Substance in accordance with Safe Work Australia - Hazardous Substances Information System (HSIS) Australia, Global Harmonised System (GHS) documents. NOT a Scheduled Poison in accordance with the Standard for the Uniform Scheduling of Medicines and Poison (SUSMP). NOT classified as Dangerous Goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

GHS Hazardous
SUSMP Not Classified as a Scheduled Poison
ADG Not Classified as Dangerous Goods

GHS Classification of Hazardous Chemical

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin irritation</td>
<td>3</td>
</tr>
<tr>
<td>Eye damage/irritation</td>
<td>2B</td>
</tr>
</tbody>
</table>

GHS Label Elements

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>No symbol required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Word</td>
<td>Warning</td>
</tr>
<tr>
<td>Hazard Statements</td>
<td>H316 Causes mild skin irritation</td>
</tr>
<tr>
<td>Precautionary Statements</td>
<td>General, prevention, response, storage and disposal</td>
</tr>
<tr>
<td>P102 + P103</td>
<td>Keep out of reach of children. Read label before use.</td>
</tr>
<tr>
<td>P264</td>
<td>Wash hands and exposed skin thoroughly after handling.</td>
</tr>
<tr>
<td>P280</td>
<td>Wear protective gloves and eye protection.</td>
</tr>
<tr>
<td>P305 + P351 + P338</td>
<td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.</td>
</tr>
<tr>
<td>P332 + P313</td>
<td>If skin irritation occurs: Get medical attention.</td>
</tr>
<tr>
<td>P337 + P313</td>
<td>If eye irritation persists: Get medical attention.</td>
</tr>
<tr>
<td>P501</td>
<td>Dispose of contents/container to an approved waste disposal plant.</td>
</tr>
</tbody>
</table>
3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Name</th>
<th>CAS Number</th>
<th>Proportion w/w</th>
</tr>
</thead>
<tbody>
<tr>
<td>sp.gr.1.15 - 1.20</td>
<td>Water</td>
<td>7732-18-5</td>
<td>60.0-70.0%</td>
</tr>
<tr>
<td></td>
<td>Humic Acid, Potassium Salt</td>
<td>68514-28-3</td>
<td>25.0-35.0%</td>
</tr>
<tr>
<td></td>
<td>Potassium Hydroxide</td>
<td>1310-58-3</td>
<td>&lt;5.0%</td>
</tr>
<tr>
<td></td>
<td>Proprietary Ingredients (Non-Hazardous)</td>
<td>Mixture</td>
<td>&lt;5.0%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of necessary first aid measures

**Inhalation**
Unlikely route of exposure, but if applicator feels drowsy, dizzy, tired or experiencing headaches, remove oneself to fresh air. If symptoms develop or persist seek medical attention.

**Ingestion**
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth out with water and give plenty of water to drink. Consult a doctor if any symptoms occur.

**Eyes**
Rinse cautiously with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing until all contaminants are washed out completely. Consult a doctor if any irritation occurs.

**Skin**
If skin contact occurs, remove all contaminated clothing, wash skin and hair with soap and plenty of water. Wash contaminated clothing before reuse or discard. Consult a doctor if any skin irritation occurs.

**First aid facilities**
Clean water supply (preferably safety shower), soap or skin cleaner and eyewash.

**Advice to doctor**
If poisoning occurs, consult with the Poisons Information Centre (phone 13 11 26 Australia). Have a copy of this safety data sheet or label available. Treat symptomatically. Product is extremely alkaline.

Symptoms caused by exposure
May cause damage or irritation of the eyes. Irritation of skin, mucous membranes and abrasions.

**Medical attention and special treatment**
Wash exposed skin and hair with water and soap. If swallowed give plenty of water. If in eyes flush continuously with running water for at least 15 minutes.

5. FIRE FIGHTING MEASURES

**Suitable extinguishing equipment**
AS 2444:2001

**Specific hazards arising from the**
Combustion may produce irritants and toxic gases. Heating may cause expansion and violent rupture of containers.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Increase ventilation if indoors. If product is dried, avoid creating and breathing dust. For personal protection see section 8. No emergency procedures required.

Environmental precautions

Prevent product from entering waterways, sewage and drains. Collect all residues immediately to prevent drying out and creating dust. If product does enter a waterway, advise the environmental protection authority or your local waste management. For any queries consult local statutory authorities.

Methods and materials for containment and cleaning up

Cover drains. Contain spills and absorb onto absorbent material, dry sand or earth. Sweep and shovel into suitably labelled, closed containers for disposal.

7. HANDLING and STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes. Use only in a well ventilated area. Ensure eyewash and clean water is available and ready for use. For personal protection see section 8. After use and before eating, drinking or smoking, wash all exposed skin and hair with soap and water. Keep out of reach of children.

Conditions of Safe Storage and Incompatibilities

Containers must be clearly labelled. Store at room temperature. Keep container tightly closed out of direct sunlight. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Ensure storage complies with local and national regulations.

Specific end uses

Apart from uses mentioned in section 1, no other specific uses are stipulated.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION

Occupational Exposure Standards

Exposure standards

TWA (8 hour)

There are no assigned exposure standards for this product.

For dried product - TWA = No data available for this mixture, however the HSIS specifies 10mg/m³ (for inspirable dust) and 3mg/m³ (for respirable dust).
Exposure standards

STEL (15 min)

There are no assigned exposure standards for this product. For dried product - STEL = No data available, however the HSIS specifies 10mg/m3 (for inspirable dust) and 3mg/m3 (for respirable dust).

Biological limited values

There are no known Biological Limited Values that have been assigned.

Engineering controls

Handle in accordance with good industrial hygiene and safety practices. Wash hands before breaks and at the end of the work day. Keep unused product in a sealed container. Reduce creation of dust. Use product outdoors or a system of local and/or general exhaust is recommended to keep employee exposures as low as possible.

Personal Protection

Inhalation

AS – NZS 1715/1716

If engineering controls are not effective, then an approved respirator with a replaceable vapour/mist filter should be used. Use respirators and components tested and approved under appropriate government standards.

Eye

AS – NZS 1336/1337

Safety glasses fitted with side shields should be worn at all times during the handling and application period. Do NOT wear contact lenses. Use equipment tested and approved under appropriate government standards.

Gloves

AS – NZS 2161

Handle with impervious gloves. Gloves must be inspected prior to use. Wash and dry hands after use.

Footwear

AS – NZS 2210

It is advisable to wear enclosed footwear during handling.

Clothing

AS – NZS 3765

It is advisable to wear protective clothing during handling. Suitable cotton overalls buttoned up at neck and wrists recommended. A chemical resistant apron is also recommended when handling large volumes.

Hearing

Hearing protection not required.

Other Requirements

The type of protective equipment must be selected according to the concentration and amount of substance at the specific workplace. Avoid unnecessary contact with eyes and skin. After application, wash exposed skin thoroughly with soap and water.

9. PHYSICAL and CHEMICAL PROPERTIES

**Appearance** (physical state, colour, etc)

- Black viscous liquid

**Odour**

- Black coal like odour

**Odour threshold**

- No data available

**pH** (@ 20°C)

- 10.5 – 11.0

**Melting point**

- No data available

**Freezing point**

- No data available

**Boiling point and boiling range**

- No data available

**Flash point**

- No data available

**Flammability (solid, gas)**

- No data available

**Upper/lower flammability or explosive limits**

- No data available

**Vapour pressure**

- No data available

**Vapour density**

- No data available

**Relative density** (@ 20°C)

- 1.15 – 1.20

**Solubility**

- 100% soluble

**Partition coefficient: n-octanal/water**

- No data available
10. STABILITY and REACTIVITY

Reactivity
Reacts with incompatible materials.

Chemical stability
Stable under normal conditions of use, storage and temperature.

Possibility of hazardous reactions
Hazardous polymerisation will not occur. Possible combustion in contact with strong oxidisers.

Conditions to avoid
Extreme heat. Keep in a sealed container.

Incompatible materials
Incompatible with strong oxidising agents like peroxides, chlorates and nitrates.

Hazardous decomposition products
In the event of combustion or high temperatures toxic and/or irritating fumes of carbon oxides (CO₂) may be formed. In the event of fire see section 5- Fire Fighting Measures.

11. TOXICOLOGICAL INFORMATION

**Ingredient:** Humic Acid, potassium salt (68514-28-3)  
**Information Sources:** CDC NIOSH – Registry of Toxic Effects of Chemical Substances (RTECS) - # MT6550000 humic acid, sodium salt.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration</td>
<td>25 - 35% by weight</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td>LD₅₀ intraperitoneal (mouse) - 1,176mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD₅₀ intraperitoneal (rat) - 502mg/kg</td>
</tr>
<tr>
<td>Acute oral toxicity</td>
<td>LD₅₀ oral (rat) - 10,480mg/kg</td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td>OECD Test Guidline 402 - no data available</td>
</tr>
<tr>
<td></td>
<td>LD₅₀ dermal - No data available</td>
</tr>
<tr>
<td>Acute inhalation toxicity</td>
<td>OECD Test Guidline 403, 436 - no data available</td>
</tr>
<tr>
<td></td>
<td>Threshold Limit Value-ceiling concentration - 2mg/m³</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity</td>
<td>No data available</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td></td>
</tr>
<tr>
<td>Specific Target Organ Toxicity</td>
<td>Single exposure (category 3) – GHS</td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td>Inhalation - may cause respiratory irritation</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Skin damage/irritation (category 2) - GHS</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Eye damage/irritation (category 2) - GHS</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>No data available. Not expected to be a skin sensitiser.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>OECD Test Guideline 474 - no data available</td>
</tr>
</tbody>
</table>
Carcinogenicity

Not identified as a probable, possible or confirmed human carcinogen by IARC. OECD Test Guideline 451 - no data available

Reproductive Toxicity

TLD<sub>0</sub> Intraperitoneal (rat) – 250mg/kg

Toxic Effects: Fertility post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Aspiration hazard

No data available

Possible routes of exposure

Inhalation, dermal/eye contact and ingestion.

Signs and Symptoms of exposure

No data available

Other information

No data available

To the best of our knowledge, the chemical, physical and toxicological properties of this mixture have not been thoroughly investigated.

**Ingredient:** Potassium Hydroxide (1310-58-3)

| Information Sources: CDC NIOSH – Registry of Toxic Effects of Chemical Substances (RTECS) - # TT2100000. OECD – SIDS Initial Assessment Profile ID 1310-58-3 |

| Concentration | < 5% by weight. |
| Acute oral toxicity | Acute toxicity, oral (Category 4)  
LD<sub>50</sub> oral (rat) - 273mg/kg |
| Acute dermal toxicity | OECD Test Guideline 402 - no data available  
LD<sub>50</sub> dermal - No data available |
| Acute inhalation toxicity | OECD Test Guideline 403, 406 - no data available  
Irritating to eyes, nose and throat. |
| Specific Target Organ Toxicity STOT - repeated exposure | No data available |
| Specific Target Organ Toxicity STOT - single exposure | No data available |
| Skin corrosion/irritation | Skin corrosion/irritation (category 1) – GHS  
Skin – rabbit  
Result: Severe skin irritation - 24 hour |
| Serious eye damage/irritation | Serious eye damage/irritation (category 1) – GHS  
OECD Test Guideline 405  
Eyes - rabbit  
Result: Corrosive to eyes |
| Respiratory or skin sensitisation | No data available |
| Germ cell mutagenicity | OECD Test Guideline 474 - data available |
| Carcinogenicity | Not identified as a probable, possible or confirmed human carcinogen by IARC. OECD Test Guideline 451 - no data available |
| Reproductive Toxicity | No data available |
| Aspiration hazard | No data available |
| Possible routes of exposure | Inhalation, dermal/eye contact and ingestion. |
| Signs and Symptoms of exposure | Acute poisoning: ingestion of alkali is followed by severe pain, vomiting, diarrhea and collapse. |
| Other information | No data available |

To the best of our knowledge, the chemical, physical and toxicological properties of this mixture have not been thoroughly investigated.

**12. ECOLOGICAL INFORMATION**

Ecotoxicity

No data available. Material is unlikely to be dangerous to aquatic organisms.

Persistence and Degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

**13. DISPOSAL CONSIDERATIONS**

Spills

Prevent spills from entering drains, surface water and ground water. Collect all residues with absorbent material. Disposal must be carried out in accordance with Local Statutory Authorities. For personal protection see section 8.
Material
Handle and dispose of in compliance with current environmental waste legislation. If in doubt contact Local Statutory Authorities.

Contaminated Material
Empty containers may be suitable for reuse or recycling after cleaning and appropriate disposal of the cleaning agents. Disposal method dependent upon degree and nature of contaminated material. Disposal must be carried out in compliance with current environmental waste legislation. If in doubt seek professional advice or contact Local Statutory Authorities.

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>UN number</th>
<th>Not required under ADG Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name</td>
<td>NOT CONSIDERED DANGEROUS GOODS</td>
</tr>
<tr>
<td>Transport Hazard Class</td>
<td>Not required under ADG Code</td>
</tr>
<tr>
<td>Subsidiary Risk</td>
<td>Not required under ADG Code</td>
</tr>
<tr>
<td>Packing Group</td>
<td>Not required under ADG Code</td>
</tr>
<tr>
<td>Environmental hazards for transport purposes</td>
<td>Not a known marine pollutant according to IMDG Code. Not an Annexe I chemical according to MARPOL.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>No data available</td>
</tr>
<tr>
<td>Additional Information</td>
<td>No additional information required by overseas regulatory agencies or regulations for the transport of goods by other modes.</td>
</tr>
<tr>
<td>HAZCHEM</td>
<td>Not required according to ADG Code.</td>
</tr>
<tr>
<td>IMDG</td>
<td>Not required according to IMDG Code.</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

Hazard Category
The product is classified as a Hazardous Substance in accordance with Safe Work Australia in accordance with Hazardous Substances Information System (HSIS) Australia and Global Harmonised System (GHS)

Montreal Protocol
Not an ozone depleting substance.

The Stockholm Convention
Not a persistent organic pollutant.

The Rotterdam Convention
Not a banned pesticide or industrial chemical.

Basal Convention
Not a hazardous waste.

International Convention for the Prevention of Pollution from Ships (MARPOL)
Not subject to Annexe III – not a harmful substance carried in packed form or a noxious liquid substance.

Safety, health and environmental regulations
SUSMP Classification Not Classified as a Schedule Poison
NICNAS No data available
This Safety Data Sheet conforms with the "PREPARATION OF SAFETY DATA SHEETS FOR HAZARDOUS CHEMICALS Code of Practice, DECEMBER 2011" by Safe Work Australia. To meet the GHS requirements under the WHS regulations in relation to the preparation of safety data sheets for hazardous chemicals.

SDS prepared September, 2016 version number 1.

Legend of Abbreviations and Acronyms

ADG - Australian Dangerous Goods Code for the Transport of Dangerous Goods by Road or Rail
AS/NZS - Australian Standards and New Zealand Standards
BCF - Bioconcentration Factor
CAS Number - Chemical Abstract Service Number
GHS - Globally Harmonised System
HSIS - Hazardous Substances Information System
IARC - International Agency for Research on Cancer
IERG - Initial Emergency Response Guide
IMDG - International Maritime Dangerous Goods
MARPOL - International Convention for the Prevention of Pollution from Ships
OECD - Organisation for Economic Co-operation and development (guidelines for testing of chemicals)
OEL - Occupational Exposure Limit
SCBA - Self-contained
SDS - Safety Data Sheet
STEL - Short Term Exposure Limit
STOT - Specific Target Organ Toxicity
SUSMP - Standards for the Uniform Scheduling of Medicines and Poisons
UN Number - United Nations Number
°C - Degrees Celsius
EC50 - Half maximal effective concentration
LD50 - Median lethal dose; is the median dosage per unit bodyweight required to kill half the members of a tested population after specified test duration
LDL0 - Lethal dose low, is the lowest dosage per unit of bodyweight known to have resulted in a fatality in a particular animal species
LC50 - Median lethal concentration; is the median dosage per unit body weight required to kill half the members of a tested population after a specified test duration.
TLDLo - Lowest published toxic dose.
mg/kg - Milligrams per kilogram
mg/L - Milligrams per litre
mg/m³ - Milligrams per cubic metre
pH - Potential of hydrogen (numeric scale to specify the acidity or basicity of an aqueous solution)
w/w - Weight per weight
% - Percent or percentage
< - Less than
> - Greater than
@ - at

Emergency Contact
24 hours
LawrieCo Technical Manager: 0408 268 058
Poisons Information Centre: 13 11 26 (Australia)

Disclaimer
The data provided is to best of LAWRIECO’s knowledge and is believed to be accurate and reliable as of the date of issue. However no expressed or implied warranties are given. LAWRIECO cannot anticipate or control the conditions under which this information may be used. Therefore, it is the user’s responsibility to satisfy themselves as to the suitability and completeness of such information for their particular use. It is the responsibility of the user to ensure that the issue is current. This information given is a non-controlled document.

Related Product Codes

BIOLLH26/L
BIOLLH26-1000
BIOLLH26-200
BIOLLH26-20

Safety Data Sheet Revision

Issue Date: September, 2016
Revision Number: Not applicable
Version Number: 1
Preceding Versions: Not applicable
Next Revision Due: September, 2021
Reason for Revision: Not applicable

End of Safety Data Sheet