

1. PRODUCT IDENTIFIER and CHEMICAL IDENTITY

Product Name: BioMAX Liquid Humate 26

LawrieCo Pty Ltd

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Emergency Contact
24 hours

LawrieCo Technical Manager:
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Poisons Information Centre:
13 11 26 (Australia)

CAS Number	Mixture	Product Code	BIOLLH26
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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 Poisons (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

<u>Hazard Class</u>	<u>Hazard Category</u>
Skin irritation	3
Eye damage/irritation	2B

GHS Label Elements

Pictogram No symbol required

Signal Word **Warning**

<u>Hazard Statements</u>	H316 Causes mild skin irritation	H320 Causes eye irritation
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<u>Precautionary Statements</u>	General, prevention, response, storage and disposal
P102 + P103	Keep out of reach of children. Read label before use.
P264	Wash hands and exposed skin thoroughly after handling.
P280	Wear protective gloves and eye protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical attention.
P337 + P313	If eye irritation persists: Get medical attention.
P501	Dispose of contents/ container to an approved waste disposal plant.

Additional Non-GHS Hazard Statements

None

3. COMPOSITION / INFORMATION ON INGREDIENTS

Product name BioMAX Liquid Humate 26 **CAS Number** Mixture **Product Code** BIOLLH26

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

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 Appropriate extinguishing media includes water, water spray, foam, dry chemical or carbon dioxide. Use extinguishing media suitable for the surrounding fire and environment.

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



chemical fire

Special protective equipment and precautions for fire fighters Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).

Further information Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.

Flash Point	No data available
Lower Explosion Limit	No data available
Upper Explosion Limit	No data available
Auto Ignition Temperature	No data available

Hazchem Code No Hazchem code assigned.

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/m ³ (for inspirable dust) and 3mg/m ³ (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.
<u>Personal Protection</u>	
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 (<i>physical state, colour, etc</i>)	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
Evaporation rate	No data available
Flammability (<i>solid, gas</i>)	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-octonal/water	No data available

Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Specific heat value	No data available
Saturated vapour concentration	No data available
Release of invisible flammable vapours and gases	No data available
Particle size (average and range)	<5µm, no other data available
Size Distribution	No data available
Shape and aspect ratio	No data available
Crystallinity	No data available
Dustiness	No data available
Surface area	No data available
Degree of aggregation or agglomeration, and dispersibility	No data available
Redox Potential	No data available
Biodurability or biopersistence	No data available
Surface coating or chemistry	No data available
Volatile organic compounds	No data available
% volatile	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 (CO _x) 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.
Concentration	25 - 35% by weight.	
Acute toxicity	LD ₅₀ intraperitoneal (mouse) - 1,176mg/kg LD ₅₀ intraperitoneal (rat) - 502mg/kg	
Acute oral toxicity	LD ₅₀ oral (rat) - 10,480mg/kg	
Acute dermal toxicity	OECD Test Guideline 402 - no data available LD ₅₀ dermal - No data available	
Acute inhalation toxicity	OECD Test Guideline 403, 436 - no data available Threshold Limit Value-ceiling concentration - 2mg/m ³	
Specific Target Organ Toxicity STOT - repeated exposure	No data available	
Specific Target Organ Toxicity STOT - single exposure	Single exposure (category 3) – GHS Inhalation - may cause respiratory irritation	
Skin corrosion/irritation	Skin damage/irritation (category 2) - GHS	
Serious eye damage/irritation	Eye damage/irritation (category 2) - GHS	
Respiratory or skin sensitisation	No data available. Not expected to be a skin sensitiser.	
Germ cell mutagenicity	OECD Test Guideline 474 - no data available	

Carcinogenicity	Not identified as a probable, possible or confirmed human carcinogen by IARC. OECD Test Guideline 451 - no data available
Reproductive Toxicity	TLD _{LO} Intra-peritoneal (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 ₅₀ oral (rat) - 273mg/kg	
Acute dermal toxicity	OECD Test Guideline 402 - no data available LD ₅₀ dermal - No data available	
Acute inhalation toxicity	OECD Test Guideline 403, 436 - 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 Statuary 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 Statuary Authorities.

14. TRANSPORT INFORMATION

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



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

16. OTHER INFORMATION

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
EC ₅₀ -	Half maximal effective concentration
LD ₅₀ -	Median lethal dose; is the median dosage per unit bodyweight required to kill half the members of a tested population after specified test duration
LD _{Lo} -	Lethal dose low, is the lowest dosage per unit of bodyweight known to have resulted in a fatality in a particular animal species
LC ₅₀ -	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.
TLD _{Lo} -	Lowest published toxic dose.
mg/kg -	Milligrams per kilogram
mg/L -	Milligrams per litre
mg/m ³ -	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

24/01/2017