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BIOHUB ENERGISE-P

Safety Data Sheet

Contents

Overview

BioHub Carbon+ has been assessed in accordance with model Work Health and Safety Regulations

1. Identification of the Material and Manufacturer

Product Name	BioHub Energise-P
Intended Use	Fertiliser and soil conditioner liquid
Details of Company	BioHub Pty Ltd 3/49 Donaldson Road Rocklea, Qld, 4106
Emergency Contact	Chemtrec +(61)-2 9037 2994
UN Number	N/A
D.G. Class	N/A
Subsidiary Risk	None
Hazchem Code	N/A
Packaging Group	N/A
Poisons Schedule	N/A

2. Hazards Identification

Hazardous according to the criteria of Worksafe Australia

Not classified as hazardous as according to Safe Work Australia criteria.

Precautionary Statements

P280. Wear eye protection and face protection.

P305, P351, P338. If contact with eyes. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310. Immediately call a Poison Centre or doctor/physician.

Other hazards which do not result in classification

Non-applicable.

3. Composition/Information on Ingredients

Substances presenting a health hazard within the meaning of the chemicals (Hazard Information and Packaging) Regulations 1993.

Substance Name	BioHub Energise-P
Chemical Description	Mixture of organic and inorganic substances
Components	CAS: 7320-34-5. Tetrapotassium Pyrophosphate. Concentration <10% CAS: 7722-76-1. Monoammonium Phosphate. Concentration 8-9% CAS: 7783-28-0. Diammonium Hydrogen Orthophosphate. Concentration 7-8% CAS: 7784-30-7. Aluminium Phosphate. Cpncentration 2-3% CAS: 68333-79-9. Polyphosphoric Acids. Concentration 30-35% Water

4. First Aid Measures

General	The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.
On Inhalation	This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.
On Eye Contact	Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the person uses contact lenses, these should be removed unless they are stuck onto the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quick as possible with the SDS of this product.
On Skin Contact	In case of contact it is recommended to clean the affected area thoroughly with water and neutral soap. In case of modifications on the skin (stinging, redness, rashes, blisters) seek medical advice with this SDS.
On Ingestion	In case of consumption, seek immediate medical assistance showing the SDS of this product.

5. Fire Fighting Measures

Suitable Extinguishing Equipment	Product in non-flammable under normal conditions of storage, manipulation and use. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems. IT IS NOT RECOMMENDED to use full jet water as an extinguishing agent.
Specific Hazards Arising From the Chemical	As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and consequently can present a serious health risk when heated to decomposition. May evolve nitrogen oxides and ammonia in this case.
Special Protective Equipment and Precautions for Fire Fighters	Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available.
Additional Provisions	Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation, explosive or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

6. Accidental Release Measures

Personal Precautions, Protective Equipment, and Emergency Procedures	Isolate leaks provided that there is no additional risk for the people performing the task. Personal protection equipment must be used against potential contact with the spilt product. Evacuate the area and keep out those who do not have protection.
Environmental Precautions	This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.
Methods and Materials for Contained and Cleaning Up	Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.
Reference to Other Sections	See sections 8 and 13.

7. Handling and Storage

Precautions for Safe Handling

1. Precaustions for safe manipulation.

Comply with current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe measures. Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

2. Technical recommendations for the prevention of fire and explosives

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

3. Technical recommendations to prevent ergonomic and toxicological risks

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

4. Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product.

Conditions for Safe Storage Including any Incompatibilities

General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food.

Specific End Use

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of the product.

8. Exposure Controls and Personal Protection

Exposure Control Measures

Substances whose occupational exposure limits have to be monitored in the workplace. There are no occupational exposure limits for the substances contained in the product.

Engineering Controls

1. Individual Protection Measures

As a preventative measure it is recommende to use basic Personal Protection Equipment. For more information on Personal Protection Equipment refer to the manufacturers website. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

2. Respiratory Protection

The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

3. Specific Protection for Hands

	Use protective gloves against minor risks. Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using chemical protection gloves. 4. Ocular and Facial Protection Use panoramic glasses against splash/projections. Clean daily and disinfect periodically according to the manufacturer's instructions. Use f there is a risk of splashing. 5. Bodily Protection Use work clothing and anti-slip work shoes
Environmental Exposure Controls	In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional informational see Section 7.

9. Physical and Chemical Properties

Physical state at 20°C	Liquid
Appearance	Black or Dark Brown Liquid
Odour	Slight odour
Odour Threshold	Non-applicable
Boiling Point	100°C at sea level
Vapour Pressure at 25°C	Non-applicable
Vapour Pressure at 50°C	Non-applicable
Evaporation Rate at 25°C	Non-applicable
Specific Gravity at 25°C	1.4
Relative Density at 25°C	
Dynamic Viscosity at 25°C	<10cP
Kinematic Viscosity at 25°C	Non-applicable
Kinematic Viscosity at 40°C	Non-applicable
Concentration	Non-applicable
pH (neat)	6-7
Vapour Density at 25°C	Non-applicable
Partition Co-Efficient n-octonol/water at 25°C	Non-applicable
Solubility in Water at 25°C	Non-applicable
Solubility Properties	Non-applicable
Decomposition Temperature	Non-applicable
Melting Point/Freezing Point	Non-applicable
Explosive Properties	Non-applicable
Oxidising Properties	Non-applicable
Flash Point	Non Flammable (>93°C)
Flammability (solid/gas)	Non-applicable
Auto-ignition Temperature	Non-applicable
Lower Flammability Limit	Non-applicable

Upper Flammability Limit	Non-applicable
Lower Explosive Limit	Non-applicable
Upper Explosive Limit	Non-applicable
Surface Tension at 25°C	Non-applicable
Refraction Index	Non-applicable

10. Stability and Reactivity

Reactivity	Some of the compnents can act with acids and alkalis.
Chemical Stability	Chemically stable under the conditions of storage, handling, and use.
Possibility of Hazardous Reactions	Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.
Incompatible Materials	Acids. Avoid strong acids. Water. Not applicable. Oxidising materials. Not applicable. Combustible materials. Not applicable. Others. Not applicable.
Hazardous Decomposition Products	Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide, carbon monoxide and other organic compounds.

11. Toxicological Information

The experimental information related to the toxicological properties of the product itself is not available.

Incase of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure

Ingestion (acute effect)	Acute toxitcity. Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for consumption. Corrosivity/Irritability. Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect.
Inhalation (acute effect)	Acute toxitcity. Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for consumption. Corrosivity/Irritability. Based on available data, the classification criteria are not met, as it does not contain substances classified as dangerous for this effect.
Contact with the skin and eyes (acute effect)	Contact with the skin. The product is not an irritant or corrosive to the skin. Contact with the eyes. Produces serious eye damage after contact.
CMR effects	Carcinogenicity. Does not contain substances classified as dangerous for the effects mentioned. Mutagenicity. Does not contain substances classified as dangerous for the effects mentioned.

	Reproductive toxicity. Does not contain substances classified as dangerous for the effects mentioned.
Sensitising effects	Respiratory. Does not contain substances classified as dangerous with sensitising effects.
	Cutaneous. Does not contain substances classified as dangerous for the effects mentioned.
Specific target organ toxicity	Single exposure.
(STOT)	Does not contain substances classified as dangerous for the effects mentioned.
	Repeated exposure.
	Does not contain substances classified as dangerous for the effects mentioned.
Aspiration hazard	Does not contain substances classified as dangerous for the effects mentioned.

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
Monoammonium Phosphate	5750 mg/kg (rat)	>7940 mg/kg (rabbit)	-
Diammonium Hydrogen Orthophosphate	>6500 mg/kg (rat)	<7950 (rabbit)	-
Aluminium Phosphate	>5000 mg/kg (mouse)	>4640 mg/kg (rabbit)	-
Ammonium sulphate	4250 mg/kg (rat)	>2000 mg/kg (rat)	-

12. Ecological Information

The experimental information related to the eco-toxicological properties of the product itself is not available. Contains phosphates. Excessive discharge may cause eutrophication.

Ecotoxicity

Short-term toxicity to fish:

MAP. LC50 for freshwater fish Oncorhynchus mykiss (96 h): > 85.9 mg/L

OECD Guideline 203 (Fish, Acute Toxicity Test)

DAP. LC50 for freshwater fish Cirrhinus mrigala/Labeo rohita (96 h): 1700 mg/L

Standard Methods for the Examination of Water and wastewater (APHA-1985)

Long-term toxicity to fish. No long term toxicity testing is proposed, as the chemical safety assessment does not indicate a need to further investigate the effects on fish. All data available on MAP(DAP) itself and on the other phosphates show a very low toxicity of the substance.

Short-term toxicity to aquatic invertebrates. EC50/LC50 for freshwater invertebrates Daphnia carinata (water flea): 1790 mg/L. Standard methods for the examination of water and wastewater. 14th ed., American Public Health Association, New York (1975)

Long-term toxicity to aquatic invertebrates. No long term toxicity testing is proposed as the chemical safety assessment does not indicate a need to further

	investigate the effects on aquatic invertebrates. All data available on MAP(DAP) itself and on the other phosphates show a very low toxicity of the substance. Algae and aquatic plants. EC50/LC50 for freshwater algae: >100 mg/L EC10/LC10 or NOEC for freshwater algae: 100 mg/L. Pseudokirchnerella subcapitata (reported as Selenastrum capricornutum) (algae) OECD Guideline 201 (Algae, Growth Inhibition Test)
Persistence and degradability	Not available
Bioaccumulative potential	Not available
Mobility in soil	Not available
Results of PBT and vPvB assessment	Non-applicable
Other adverse effects	Plant nutrients may be beneficial to plants at low levels, however high levels may cause reduced growth or burns in sensitive species. Excess may be washed through soil to waterways. Nutrients released to waterways may cause algal blooms, with potential for toxic effects on aquatic organisms.

13. Disposal Considerations

Waste management (disposal and evaluation)	Consult the authorised waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise it will be processed as non-dangerous residue. We do not recommend disposal down the drain.
Regulations related to waste management	Basel convention (hazardous waste) Hazardous Waste (Regulation ofExports and Imports) Act 1989 and Amendments

Always dispose of in accordance with local, state, and federal regulations.

14. Transport Information

Transport of dangerous goods by land

UN Number	Non-applicable
Proper shipping name or Technical name	Non-applicable
Transport hazard class	Non-applicable
Packing group	Non-applicable
Environmental hazards for transport purposes	No
Special precautions for user	See section 9
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Non-applicable

Transport of dangerous goods by sea

UN Number	Non-applicable
Proper shipping name or Technical name	Non-applicable
Transport hazard class	Non-applicable
Packing group	Non-applicable
Environmental hazards for transport purposes	No
Special precautions for user	See section 9
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Non-applicable

Transport of dangerous goods by air

UN Number	Non-applicable
Proper shipping name or Technical name	Non-applicable
Transport hazard class	Non-applicable
Packing group	Non-applicable
Environmental hazards for transport purposes	No
Special precautions for user	See section 9
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	Non-applicable

15. Regulatory Information

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage, and disposal of this product.

16. Other Information

SDS Creation Date	1/11/2024
Issue Number	001. This issue number replaces all previous issues.
Customer Service	1300 064 020
Australian Poisons Info Centre	13 11 26

The product should not be used for purposes other than shown in Section 1 without first referring to the supplier and obtaining written instructions. As specific conditions of use of the product are outside of the suppliers' control, the user is responsible for ensuring that the requirements of the relevant legislation are complied with. The information in this Safety Data Sheet is based on the present knowledge and current national legislation. It provides guidance on health, safety, and environmental aspects of the product and should not be construed as a guarantee of technical performance or suitability for particular applications. This SDS will be revised and updated as requirements occur. Should further information and relevant advice be required, contact BioHub Solutions Pty Ltd.