Hygroben™

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

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Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Hygroben™

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Increases yield through nitrogen fixation, phosphate solubilization, and improves iron availability.

1.3. Supplier

Manufacturer
Sipco Innovations Inc.
Unit 107 - 7717 Beedie Way
Delta, BC V4G 0A5
T (604) 940-9922 (8:00 am – 4:00 pm)

Supplier
Mariner Industries Ltd.
Unit 2, Mariner House
Omega Business Park, 6 Estate Road, South Humberside Industrial Estate
Grimsby DN31 2TG, United Kingdom

1.4. Emergency telephone number

Emergency number : CANUTEC (613) 996-6666 (Transport Only)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS classification

Flam. Liq. 3
Eye Irrit. 2
Repr. 1B

2.2. GHS Label elements, including precautionary statements

GHS labelling

Hazard pictograms (GHS) :

Signal word (GHS) : Danger
Hazard statements (GHS) : Flammable liquid and vapour.
Causes serious eye irritation.
May damage fertility or the unborn child.
Precautionary statements (GHS) : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Take precautionary measures against static discharge.
Wash hands, forearms and face thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If exposed or concerned: Get medical advice/attention.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%
Aliphatic alcohol	Aliphatic alcohol	CAS-No.: Trade Secret	3 – 7
Borax	Borax	CAS-No.: Trade Secret	0.5 - 1.5
Alpha Hydroxy Acid	Alpha Hydroxy Acid	CAS-No.: Trade Secret	0.5 - 1.5
***The exact chemical identity and/or exact percentage (concentration) of each ingredient may be held as confidential business information (CBI). Any ingredient not disclosed in this section may have been determined not to be hazardous to health or the environment, or it may be present at a level below its disclosure threshold.**			
Other ingredients not required to be disclosed according to the criteria of section 3.2 of WHMIS 2015: Note: Previous Taxonomic Classification are in brackets.			
Bacillus paralicheniformis (*Bacillus licheniformis*)			
Bacillus subtilis (N/A)			
Bacillus velezensis (*Bacillus amyloliquefaciens*)			
Priestia megaterium (*Bacillus Megaterium*)			
Bacillus safensis (*Bacillus pumilis*)			

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash clothing before re-using. Get medical attention if irritation develops and persists.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.
Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media : Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapour. Products of combustion may include, and are not limited to: oxides of carbon. irritating vapours.
Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Move containers away from the fire area if this can be done without risk. Cool closed containers exposed to fire with water spray.
Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Use special care to avoid static electric charges. Remove all sources of ignition.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Absorb and/or contain spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. Do not flush into surface water or sewer system. Wear recommended personal protective equipment.
Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not swallow. Avoid contact with skin, eyes and clothing. When using do not eat, drink or smoke. Handle and open container with care. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed.

Storage conditions : Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Store locked up.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Hygroben

No additional information available

Alpha Hydroxy Acid (Trade Secret)

No additional information available

Aliphatic alcohol (Trade Secret)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL STEL [ppm]	1000 ppm
ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA [1]	1900 mg/m³
OSHA PEL TWA [2]	1000 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	3300 ppm (10% LEL)
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	1900 mg/m³
NIOSH REL TWA [ppm]	1000 ppm

Borax (Trade Secret)

USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	2 mg/m³ (inhalable particulate matter (Borate compounds, inorganic)
ACGIH OEL STEL	6 mg/m³ (inhalable particulate matter (Borate compounds, inorganic)

Borax (Trade Secret)	
ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	1 mg/m³

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Provide readily accessible eye wash stations and safety showers.

Environmental exposure controls : None necessary under normal conditions of use.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear suitable gloves

Eye protection:
Wear eye/face protection

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:
Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Liquid (Suspension)
Colour	:	No data available
Odour	:	No data available
Odour threshold	:	No data available
pH	:	3.3 – 3.8
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	57.5 °C / 135.5 °F (ASTM D93)
Relative evaporation rate (butylacetate=1)	:	No data available
Flammability	:	Flammable liquid and vapour. Does not sustain combustion (UN Test L.2)
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available

Viscosity, dynamic : No data available
Explosive limits : No data available
Explosive properties : No data available
Oxidising properties : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Incompatible materials. Sources of ignition. Direct sunlight.

10.5. Incompatible materials

Strong oxidizers. Strong bases.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified.
Acute toxicity (dermal) : Not classified.
Acute toxicity (inhalation) : Not classified.

Alpha Hydroxy Acid (Trade Secret)	
LD50 oral rat	3730 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 7.94 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
ATE CA (oral)	3730 mg/kg bodyweight

Aliphatic alcohol (Trade Secret)	
LD50 oral rat	15010 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 14450 - 15560
LC50 inhalation rat	133.8 mg/l/4h
ATE CA (oral)	8300 mg/kg bodyweight
ATE CA (vapours)	133.8 mg/l/4h
ATE CA (dust,mist)	133.8 mg/l/4h

Borax (Trade Secret)	
LD50 oral rat	2403 mg/kg
ATE CA (oral)	2403 mg/kg bodyweight

Skin corrosion/irritation : Not classified.
pH: 3.3 – 3.8

Serious eye damage/irritation : Causes serious eye irritation.
pH: 3.3 – 3.8

Respiratory or skin sensitisation : Not classified.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified.

Reproductive toxicity : May damage fertility or the unborn child.

STOT-single exposure : Not classified.

STOT-repeated exposure : Not classified.

Aliphatic alcohol (Trade Secret)	
LOAEL (oral, rat, 90 days)	3200 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
NOAEL (oral, rat, 90 days)	1730 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Remarks on results: other:
NOAEL (subchronic, oral, animal/male, 90 days)	< 9700 mg/kg bodyweight Animal: mouse, Animal sex: male, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)
NOAEL (subchronic, oral, animal/female, 90 days)	> 9400 mg/kg bodyweight Animal: mouse, Animal sex: female, Guideline: EPA OPPTS 870.3100 (90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified.

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Alpha Hydroxy Acid (Trade Secret)	
LC50 - Fish [1]	320 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])
EC50 - Crustacea [1]	240 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	100 – 180 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 - Crustacea [2]	180 – 320 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Aliphatic alcohol (Trade Secret)	
LC50 - Fish [1]	14.2 g/l Test organisms (species): Pimephales promelas
EC50 - Crustacea [1]	9268 – 14221 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	> 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Aliphatic alcohol (Trade Secret)	
EC50 - Crustacea [2]	2 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
ErC50 algae	1000 mg/l
NOEC (chronic)	9.6 mg/l Test organisms (species): Daphnia magna Duration: '9 d'
NOEC chronic crustacea	9.6 mg/l

12.2. Persistence and degradability

Hygroben	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Hygroben	
Bioaccumulative potential	Not established.

Alpha Hydroxy Acid (Trade Secret)	
Partition coefficient n-octanol/water	-0.62

Aliphatic alcohol (Trade Secret)	
Partition coefficient n-octanol/water	-0.32

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT / TDG

14.1. UN number

DOT NA No : Not applicable
UN-No. (TDG) : Not applicable

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

14.3. Transport hazard class(es)

DOT
Transport hazard class(es) (DOT) : Not applicable

TDG

Transport hazard class(es) (TDG) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (TDG) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

DOT
No data available

TDG
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

Canada WHMIS Confidential Business Information (CBI): The HMIRA number issued for this CBI claim is #03488985. The date of filing is 2022-10-12.

15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015
Revision date : 01/24/2025
Other information : None.
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com

Full text of H-statements	
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B

SDS HazCom 2012 - WHMIS 2015 (Nexreg) 2021

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