

Safety Data Sheet (SDS) HYDROPONIC PRO MIX

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According to SANS 10234/UN GHS 9th edition

Revision Date: 2022/09/24

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Version: 1.3

SECTION 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY/UNDERTAKING

Product identifier:

Identification as on the label/Trade name: HYDROPONIC PRO MIX

Additional information: Product code HYDP SP/01

Relevant identification uses of the substance and uses advised against:

Identified uses: Fertilizer.

Uses advised against: Use only as directed.

Details of the supplier of the Safety Data Sheet:

AECI Limited
14 Field Road, LILANTON

Emergency telephone numbers:

Griffon Poison information centre: 082 446 8946
Poisons Information Helpline: 0861 555 777
AECI Limited: (011) 823 8000 (o/h) Spill Tech: 086 100 0366 (a/h)

SECTION 2. HAZARD IDENTIFICATION

Classification of the substances or mixture

The mixture is classified as hazardous.

SANS 10234:2019, Regulations for Hazardous Chemical Agents – 2021, Regulation EC 1272/2008 [EU-GHS/CLP]	
Hazard classes/Hazard categories	Hazard statement
Reproductive Toxicity Category 1B	H360FD

For full text of H statements see section 16

The most important adverse effects

The most important adverse physiochemical effects: None.

The most important adverse human health effects: Reproductive toxic.

Hazard pictograms:



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Signal Word: Danger.

Hazard Statements: H360FD: May damage fertility. May damage the unborn child.

Precautionary Statements:

Prevention – P203 Obtain, read, and follow all safety instructions before use. P264 Wash thoroughly after handling. P270 Do not eat, drink when using this product. P280 Wear impervious rubber gloves and boots, protective clothing, and chemical safety goggles.

Response – P318 If exposed or concerned, get medical advice.

Storage – P405 Store locked up.

Disposal – P501 Dispose of contents/container in accordance with local and national regulations.

Special labelling of certain mixtures: None.

Other hazards: None.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Ingredients: Hazardous

Substance name (IUPAC/EC)	CAS –No.	Concentration % by weight	GHS Classification
	EC-No.		
Boric Acid	11113-50-1	<1%	Reproductive Toxicity (Category 1B), H360FD.
	234-343-4		

Note 1: The oxidizing properties of the solid were tested for Hydroponic Pro Mix. Result - not classified.

Within the current knowledge of the supplier and in the applicable concentrations, there are no additional ingredients present in this fertilizer that are classified as hazardous to health or the environment that subsequently cause/contribute towards the classification, and that require reporting in terms of the South African Regulations for Hazardous Chemical Agents - 2021; Regulation 14(b).

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4. FIRST AID MEASURES

Description of first aid measures:

In case of inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep person at rest and warm. Treat symptomatically and supportively as and when required. Obtain medical advice if necessary.

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In case of skin contact: In case of contact, flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation occurs and persist.

In case of eye contact: Check for and remove any contact lenses. In case of contact, hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Cold water may be used. Obtain medical attention if irritation occurs and persists.

In case of ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If conscious, rinse mouth thoroughly with water. Loosen tight clothing such as a collar, tie, belt, or waistband. If vomiting occurs, lean patient forward or place on the left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Refer for medical attention if you feel unwell.

Most important symptoms and effects, both acute and delayed:

Inhalation: None known.

Ingestion: None known.

Skin contact: Prolonged contact may cause some irritation.

Eye contact: May cause eye irritation following contact.

Indication of any immediate medical attention and special treatment needed:

There is no specific antidote. Treat supportively and symptomatically.

SECTION 5. FIRE -FIGHTING MEASURE

Extinguisher media:

Suitable extinguisher media:

SMALL FIRE: Extinguish small fires with carbon dioxide, dry powder, or alcohol-resistant foam.

LARGE FIRE: Water spray can be used for larger fires or cooling of unaffected stock but avoid the accumulation of polluted run-off from the site

Unsuitable extinguishing media:

Do not use high volume water jet due to contamination risk.

Special hazards arising from the mixture:

Nitrogen oxides (NO_x), metal oxides, and oxides of carbon may form as combustion products.

Advice for fire-fighters:

Stay at a maximum distance and avoid inhaling hazardous vapours. Keep container cool by spraying with water.

Fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Be sure to use an approved/certified respirator or equivalent.

Act in accordance with the site's Internal Emergency Plan and the Workplace Specific Procedures for actions to be taken after an accident or other emergencies.

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SECTION 6. ACCIDENTAL RELEASE

Personal precautions, protective equipment, and emergency procedures:

For non-emergency personnel: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Avoid contact with skin, eyes, and clothing.

For emergency responders: Do not breathe in dust and avoid contact of the spilt material with eyes, skin, or clothes. Wear appropriate protective clothing recommended in Section 8 of the SDS.

Evacuate personnel to a safe area when necessary and limit the access to emergency responders only. Isolate and ventilate the area of the spill or leak, especially when in confined areas. Do not touch or walk through spilled material as this could cause contamination. Contain spills if it can be done without risk and clean-up immediately.

Environmental precautions:

Prevent spillage if safe to do so. Do not allow the spilt product to enter water courses and drains and avoid contact with soil. Do not allow the spilt product to spread to other areas - keep the spilt material contained and isolated. Report spills and releases as required to appropriate authorities if the spilt product has caused environmental pollution (sewers, water ways, soil, or air).

Methods for containment and cleaning up:

For small spills. Vacuum or sweep the spilt material. Scoop up with a shovel and place the spilt material into a labelled waste container. Cover for subsequent safe disposal. Dispose of collected spilt material as hazardous waste.

Clean the contaminated surface with water to remove any residues of the spilt product. Keep the wash water out of drains, sewers, and waterways.

For large spills. Prevent entry into sewers, water courses, basements, or confined areas. Ensure adequate ventilation and prevent dust cloud formation. Lightly mist the material with water to prevent it becoming airborne or cover the material with a tarpaulin. Collect the spilt product using non-sparking tools and place the material into suitable labelled containers for safe disposal.

Reference to other sections:

See section 1 for emergency contact information.

See section 7 for information on safe handling.

See section 8 for information on personal protection equipment.

See section 13 for information on disposal.

Additional information:

None known.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling:

Always provide good ventilation in the work area. Do not breathe in dust. Wear protective clothing and equipment during handling as described in Section 8 of the SDS. Wash the hands and face thoroughly with soap after handling. Keep containers closed when not in use. Do not permit smoking in use or storage areas. Locate emergency showers and eye-rinsing facility near the work/handling area.

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Remove contaminated clothing immediately if the product gets inside. Contaminated work clothing should not be allowed out of the workplace. Work clothes should be separately laundered. Launder contaminated clothing before re-use. Keep unprotected persons away from the area where the product is being applied.

Protective measures: Observe directions on label and instructions for use.

Advice on general occupational hygiene: Do not eat drink or smoke when handling this product.

Regular cleaning of work area and work clothing is recommended. Maintain good normal industrial hygiene and housekeeping practices in areas where the product is used/handled.

Conditions for safe storage, including incompatibilities:

Store product in a segregated and secured area below 35°C. The entrance to storage facilities should be granted only to appropriately trained personnel. Keep containers tightly closed when not in use. Store only in properly labelled containers. The product is stable if stored well ventilated, out of direct sunlight, cool and free of moisture and high humidity. Keep out of reach of children, uninformed persons, and animals. Protect containers from physical damage and check the condition of storage containers periodically (e.g., for leaks). Avoid cross contamination with other agricultural products. Store in accordance with national and local regulations.

Specific end uses:

Use as directed on the label. Use original container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Occupational exposure limits (OEL): The product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the South African Department of Labour and Employment. Occupational exposure limits have though been established for air borne and respirable dust as indicated below:

Component	Type	Control Parameter	Update	Basis
Total air borne dust	OEL- eight- hour TWA	10mg/m ³	2021	South African RELs*
Total respirable dust	OEL- eight- hour TWA	5mg/m ³	2021	South African RELs*
*REL:	Recommended Exposure Limit.			
OEL- eight-hour TWA:	Occupational Exposure Limit- Time Weighted Average. Calculated over an eight-hour working day, for a five-day working week.			

Biological exposure indices (BEI): None.

Additional exposure limits under the conditions of use: None known.

Exposure control: Use only in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. A Risk Assessment should be conducted before handling is to commence to determine specific exposure controls.

Appropriate engineering controls: Use local exhaust ventilation or other engineering controls to maintain airborne levels as low as possible.

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Hygiene measures: Wash hands, forearms, and face thoroughly after handling the product, before eating, smoking, and using the lavatory, and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location and are easily accessible. Handle the product in accordance with good industrial hygiene and safety practice. Keep the product away from food, drink, and animal feeding stuffs.

Eye/face protection: Safety glasses is recommended when a full-face respirator is not used. If there is a potential for exposure to dust/particles which could cause eye discomfort, wear chemical goggles.

Hand protection: Use chemical resistant gloves. Examples of preferred glove barrier materials include Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, Polyvinyl alcohol, Polyvinyl chloride.

Body protection: Wear appropriate impervious clothing e.g., overalls, aprons, shoes, and socks to prevent skin contact and contamination of personal clothing. Keep working clothes separately.

Respiratory protection: Respiratory protection is required when there is a potential to exceed the exposure limit requirements, when ventilation is inadequate (very dusty areas), or when discomfort is experienced; use an approved air-purifying respirator.

Environmental exposure controls: Prevent product from entry into sewers and water courses.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (form): Powder.

Colour: Off-white.

Odour: No information available.

Odour threshold: No information available.

pH (1% solution in water): 4.6-5.1 (1%).

Melting point/range (°C): No information available.

Boiling point/range (°C): No information available.

Flash point (°C): No information.

Evaporation rate: No information available.

Flammability (solid, gas): Not flammable.

Ignition temperature (°C): No information available.

Upper/lower flammability/explosive limits: No information available.

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Vapour pressure (20°C): No information available.

Vapour density: No information available.

Water solubility (g/L) at 20°C: Soluble.

n-Octanol/Water partition coefficient: No information available.

Auto-ignition temperature: No information available.

Decomposition temperature: No information available.

Viscosity, dynamic (mPa s): No information available.

Bulk density: 1.05-1.17 g/cm³.

Physical hazards:

Explosive properties: None.

Oxidising properties: Not classified as an oxidising solid (tested).

Other information:

Fat solubility (solvent-oil to be specified): No information available.

Bulk density: No information available.

Dissociation constant in water (p Ka): No information available.

Oxidation-reduction potential: No information available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity:

The product is stable under normal conditions.

Chemical stability:

Stable under normal storage conditions for 2 years.

Possibility of hazardous reactions:

No information available.

Conditions to avoid:

Heat and high temperatures.

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Incompatible materials:

Strong reducing agents, powdered metals, strong acids, and organic materials.

Hazardous decomposition products:

Nitrogen oxides (NO_x), metal oxides, and oxides of carbon.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution:

Non-human toxicological data: No Information available for the product.

Information on toxicological effects:

Routes of exposure:

The product may be absorbed into the body by inhalation of dust. The product may come into contact with the skin or eyes.

Acute toxicity:

The product is of low acute toxicity. Specific test data for the product is not available. None of the ingredients are classified for Acute Toxicity.

Chronic toxicity: No information available.

Skin corrosion/irritation: Based on available data for the ingredients in the product, the classification criteria are not met for skin corrosion or irritation.

Serious eye damage/irritation: Based on available data for the ingredients in the product, the classification criteria are not met for eye damage or irritation.

Respiratory or skin sensitization: No information available for the product. Based on available data for the ingredients in the product, the classification criteria are not met for Respiratory/Skin Sensitization.

Germ cell mutagenicity: No information available for the product. Based on available data for the ingredients in the product, the classification criteria are not met for Germ Cell Mutagenicity.

Carcinogenicity: No information available for the product. Based on available data for the ingredients in the product, the classification criteria are not met for Carcinogenicity.

Note: Potassium nitrate – IARC Group 2A: Probably carcinogenic to humans.

Reproductive toxicity: No information available for the product.

Based on available data for the ingredients in the product, the classification criteria are met for Reproductive Toxicity.

Boric Acid: Based on the adverse developmental and fertility effects of borates in rats and rabbits, boric acid may damage fertility or the unborn child.

STOT- Single Exposure: No information available for the product. Based on available data for the ingredients in the product, the classification criteria are not met for STOT – Single Exposure.

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STOT-Repeated Exposure: No information available for the product. Based on available data for the ingredients in the product, the classification criteria are not met for STOT – Repeated Exposure.

Aspiration hazard: No information available for the product. Based on available data for the ingredients in the product, the classification criteria are not met for aspiration toxicity.

Additional information: None available for the product.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity:

No ecotoxicological information is available for the product. Based on the properties of the ingredients, the product is of low toxicity to aquatic organisms.

Information on toxicological effects:

No eco-toxicological data is available for the formulated product.

Persistence and degradability:

No information available for the product.

Bioaccumulative potential:

No information available for the product.

Mobility in soil

Very soluble in water.

Other adverse effects:

None known.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Treat as hazardous waste and do not dispose of the product as general waste. Dispose product related waste and packaging in accordance with all local, provincial, and national regulations e.g., the Waste Classification and Management Regulations (GN 634 of 2013), R634 Waste Classification & Management Regulations, R635 National Norms & Standards for the Assessment of Waste for Landfill Disposal and R636 National Norms & Standards for Disposal of Waste to Landfill. Prevent the contamination of water, food, or feed by storage or disposal of the waste. Do not use empty containers for any other purpose. Special help is available for the disposal of Agricultural Chemicals. The product label will supply general advice regarding disposal of small quantities, and how to cleanse containers. Avoid and minimize the generation of waste.

Product/ packaging disposal:

Treat contaminated packaging as hazardous waste as dispose of as required by the legislation. Do not reuse or refill containers. Triple rinse container (or equivalent) promptly after emptying and offer for recycling - if an available option. Recondition if appropriate, or puncture and dispose of in a hazardous waste landfill, or by other procedures approved by the local authorities.

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SECTION 14. TRANSPORT INFORMATION

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	Not required	Not required	Not required
UN Proper shipping name:	Not required	Not required	Not required
Transport hazard class:	Not required	Not required	Not required
Packaging group:	Not required	Not required	Not required
Marine pollutant:	No	No	No
Special precautions for user:	Not required	Not required	Not required
Transport in bulk according to MARPOL 73/78 Annex II and the IBC code	Not required	Not required	Not required

Inland waterways: Not required.

Emergency response information: Not required.

Dangerous goods "Single Packaging" GHS pictogram requirements (e.g., drums and IBCs):

No dangerous good pictograms are required.

GHS hazard warning label that includes the following pictogram is required:



SECTION 15. REGULATORY INFORMATION

Safety, health, and environmental regulations/legislation for the mixture:

Relevant information regarding authorization: Occupational Health and Safety Act 1993. Regulation for Hazardous Chemical Agents, 2021. UN Recommendations on the Transport of Dangerous Goods Model Regulations Rev. 21 (2019), Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Rev 9, 2021.

ACGIH: American Conference of Governmental Industrial Hygienists (ACGIH).

Relevant information regarding restrictions:

EU regulations: Regulation EC 1272/2008 [EU-GHS/CLP].

Other National regulations: National Road Traffic Act, 1996 (ACT NO. 93 of 1996).

SANS 10228:2012- The identification and classification of dangerous goods for transport by road and rail modes.

National Environmental Management: Waste Act 59 of 2008.

Chemical Safety Assessment carried out? No.

SECTION 16. OTHER INFORMATION

Indication of changes:

GHS aligned.

Relevant classification and H statements (number and full text:

H360FD: May damage fertility. May damage the unborn child.

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Training instructions:

Use as indicated on the label, special training may be required for application.

Key Abbreviations:

AND	European Provisions concerning the International Carriage of Dangerous Goods by inland Waterways
ADR	The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
CAS Nr.	Chemical Abstracts Service Number
COD	Chemical Oxygen Demand
EC ₅₀	Half Maximal Effective Concentration
GHS	Globally Harmonised System of Classification and Labelling of Chemicals
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IMDG	International Maritime Dangerous Goods
LD ₅₀	Lethal Dose 50
LC ₅₀	Lethal Concentration 50
RID	The Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
TWA	Time Weighted Average
UN	United Nations

Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

Notice to readers:

Employers should use this information only as a supplement to other information gathered by them and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees.

This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.