

SAFETY DATA SHEET

Creation Date 01.December.2022
Revision Date 05.August.2023
Revision Number 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name Hoagland's Nutrient Salt (Micro and Macro nutrients)
Product code GMNB-HS01
Brand GMExpression

1.2 Other means of identification

Hoagland's Nutrient Solution

1.3 Relevant identified uses and uses advised against

Identified uses: For laboratory research use only.
Uses advised against: This product should not be used for pharmaceutical, household or other uses.

1.4 Details of the supplier of the safety data sheet

Company: General Molecular Expression Service Pty Ltd. Hannaford Building,
Waite Road, SA 5064 AUSTRALIA
E-mail: support@gmexpression.com

1.5 Emergency telephone

Emergency Phone Company emergency call (24/7): +61 481 192 170

SECTION 2: Hazards identification

2.1 GHS Classification

Oxidizing solids (Category 3), H272
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word Warning
Hazard statement(s)
H272 May intensify fire; oxidizer.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statement(s)

Prevention:	
P210	Keep away from heat.
P220	Keep/Store away from clothing/ combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P261	Avoid breathing dust.
P280	Wear protective gloves/ eye protection/ face protection.
Response:	
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312	IF INHALED: Move to fresh air and keep comfortable for breathing. Get Medical attention if feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Disposal:	
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substance/Mixture: Mixture

3.2 Mixtures

Hazardous ingredients

Component	Classification	Concentration
Calcium nitrate tetrahydrate		
CAS No. 13477-34-4 EC No. 233-332-1	Acute Tox. 4; Eye Dam./Irrit. 1; H302, H318	>= 30 - < 50%
Boric acid		
CAS No. 10043-35-3 EC No. 233-139-2 Index No. 005-007-00-2	Repr. 1B; H360	>= 0.1 - < 0.3%
Manganese dichloride tetrahydrate		
CAS No. 13446-34-9 EC No. 231-869-6	Acute Tox. 3; Eye Dam./Irrit. 1; H302, H318, H373	>= 0.1 - < 1%

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance.

In case of skin contact

Take off immediately all contaminated clothing. Rinse skin with water or shower.

In case of eye contact

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

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

If swallowed

Immediately make victim drink water (two glasses at most). Seek medical advice.

Notes to Physician

Treat symptomatically.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x)

Sulfur oxides

Oxides of phosphorus

Potassium oxides

Magnesium oxide

Calcium oxide

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, and consult an expert. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities Storage conditions

Store conditions

Keep container tightly closed. Do not store near combustible materials.

Store stability

Recommended storage temperature

2 - 8 °C

Storage class

Storage class (TRGS 510): 5.1B: Oxidizing hazardous materials.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.3 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

We are not aware of any national exposure limit.

8.2 Exposure controls

Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure
Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

A) Physical state	Powder
B) Colour	No data available
C) Odour	No data available
D) Melting point/freezing point	No data available
E) Initial boiling point and boiling range	No data available
F) Flammability (solid, gas)	The product is not flammable.
G) Upper/lower flammability or explosive limits	No data available
H) Flash point	No data available
I) Autoignition temperature	No data available
J) Decomposition temperature	No data available
K) PH	No data available
L) Viscosity	
Viscosity, kinematic:	No data available
Viscosity, dynamic:	No data available
M) Water solubility	No data available
N) Partition coefficient n-octanol/water:	No data available
O) Vapour pressure	No data available
P) Density	No data available
Relative density	No data available
Q) Relative vapour density	No data available
R) Particle characteristics	No data available
S) Explosive properties	Not classified as explosive.
T) Oxidizing properties	None

9.2 Other safety information

No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong reducing agents, Powdered metals, Strong acids, Organic materials

10.6 Hazardous decomposition products

In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1 Toxicity

LD₅₀ (Oral-Rat)(mg/Kg): No data available.

LD₅₀ (IP-Mouse)(mg/Kg): No data available.

LD₅₀ (Dermal-Rabbit)(mg/Kg): No data available.

Carcinogenicity

NTP: No

IARC: No

OSHA Reg: No

Reproductive Toxicity:

No data available.

Specific Target Organ Toxicity:

Single Exposure: No data available.

Repeated Exposure: No data available.

Target Organs: No data available.

Routes of entry: Inhalation, Ingestion, Skin and Eye contact.

NIOSH/RTECS NO: Not listed.

11.2 Additional Information

Absorption To the best of our knowledge, the toxicological properties of this product have not been thoroughly investigated.

SECTION 12: Ecological information

12.1 Toxicity

Mixture

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned

containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

14.1 Domestic:

Proper Shipping Name:	CHEMICALS, N.O.S (NON-REGULATED)
Hazard class:	N/A
UN/NA:	N/A
Labels:	N/A

14.2 International: IMDG

Proper Shipping Name:	CHEMICALS, N.O.S (NON-REGULATED)
Hazard class:	N/A
UN/NA:	N/A
Labels:	N/A

14.2 International: IATA

Proper Shipping Name:	CHEMICALS, N.O.S (NON-REGULATED)
Hazard class:	N/A
UN/NA:	N/A
Labels:	N/A

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation

Substance or mixture

Standard for the Uniform Scheduling of Medicines and Poisons : No poison schedule number allocated

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H272 May intensify fire; oxidizer.

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H360 May damage fertility or the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

General Molecular Expression Service Pty Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See shop.gmexpression.com for additional terms and conditions.