

Satratoxin H Apollo Scientific

Part Number: **BIS1403** Version No: **2.2**

Safety Data Sheet (Conforms to Annex II of REACH (1907/2006) - Regulation 2020/878)

Chemwatch Hazard Alert Code: 4

Issue Date: **27/04/2023**Print Date: **31/07/2023**S.REACH.GBR.EN

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

1.1. Product Identifier

Product name	atratoxin H			
Chemical Name	satratoxin H			
Synonyms	ilable			
Proper shipping name	IS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.			
Chemical formula	Available			
Other means of identification	Available			
CAS number	53126-64-0*			

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Use according to manufacturer's directions.	
Uses advised against	No specific uses advised against are identified.	

1.3. Details of the manufacturer or supplier of the safety data sheet

Registered company name	pollo Scientific		
Address	Whitefield Road, Bredbury SK62QR United Kingdom		
Telephone	4060505		
Fax	61 406 0506		
Website	http://www.apolloscientific.co.uk/		
Email	sales@apolloscientific.co.uk		

1.4. Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 Hazards identification

2.1. Classification of the substance or mixture

Classification according to		
regulation (EC) No		
1272/2008 [CLP] and		
amendments [1]		

H300 - Acute Toxicity (Oral) Category 1, H310 - Acute Toxicity (Dermal) Category 1, H330 - Acute Toxicity (Inhalation) Category 1

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Legend:

1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

2.2. Label elements

Hazard pictogram(s)



Signal word

Danger

Hazard statement(s)

H300	atal if swallowed.	
H310	Fatal in contact with skin.	
H330	Fatal if inhaled.	

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

P260	o not breathe dust/fume.		
P262	Do not get in eyes, on skin, or on clothing.		
P264	Wash all exposed external body areas thoroughly after handling.		
P270	not eat, drink or smoke when using this product.		
P271	se only outdoors or in a well-ventilated area.		
P280	Wear protective gloves and protective clothing.		
P284	[In case of inadequate ventilation] wear respiratory protection.		

Precautionary statement(s) Response

P301+P310	SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.			
P304+P340	HALED: Remove person to fresh air and keep comfortable for breathing.			
P330	Rinse mouth.			
P361+P364	ake off immediately all contaminated clothing and wash it before reuse.			
P302+P352	IF ON SKIN: Wash with plenty of water.			

Precautionary statement(s) Storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Precautionary statement(s) Disposal

P501 Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

2.3. Other hazards

REACH - Art.57-59: The mixture does not contain Substances of Very High Concern (SVHC) at the SDS print date.

SECTION 3 Composition / information on ingredients

3.1.Substances

1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	SCL / M-Factor	Nanoform Particle Characteristics
1. 53126-64-0* 2.Not Available 3.Not Available	100	Satratoxin H	Acute Toxicity (Oral) Category 1, Acute Toxicity (Dermal) Category 1, Acute Toxicity (Inhalation) Category 1; H300, H310, H330 [1]	Not Available	Not Available

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1. CAS No 2.EC No 3.Index No 4.REACH No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	SCL / M-Factor	Nanoform Particle Characteristics
4.Not Available					

Legend:

1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available; [e] Substance identified as having endocrine disrupting properties

3.2.Mixtures

See 'Information on ingredients' in section 3.1

SECTION 4 First aid measures

4.1. Description of first aid measures If this product comes in contact with the eves: Immediately hold eyelids apart and flush the eye continuously with running water. • Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally **Eve Contact** lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. If skin or hair contact occurs: Immediately flush body and clothes with large amounts of water, using safety shower if available. Skin Contact Quickly remove all contaminated clothing, including footwear. Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ► Transport to hospital, or doctor. If fumes or combustion products are inhaled remove from contaminated area. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid Inhalation procedures Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay. IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. For advice, contact a Poisons Information Centre or a doctor. Urgent hospital treatment is likely to be needed. In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition. If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist. If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the Ingestion Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise: INDUCE vomiting with fingers down the back of the throat, ONLY IF CONSCIOUS. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11

4.3. Indication of any immediate medical attention and special treatment needed

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination).

NOTE: Wear a protective glove when inducing vomiting by mechanical means.

For poisons (where specific treatment regime is absent):

BASIC TREATMENT

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 L/min.
- Monitor and treat, where necessary, for pulmonary oedema.
- Monitor and treat, where necessary, for shock.

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- Anticipate seizures.
- DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- F Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ► Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

BRONSTEIN, A.C. and CURRANCE, P.L.

EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994

SECTION 5 Firefighting measures

5.1. Extinguishing media

- ▶ There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

5.2. Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

5.3. Advice for firefighters

<u></u>	 Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves in the event of a fire.
Fire Fighting	 Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire. Equipment should be thoroughly decontaminated after use.
Fire/Explosion Hazard	 Non combustible. Not considered a significant fire risk, however containers may burn. May emit poisonous fumes.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8

6.2. Environmental precautions

See section 12

6.3. Methods and material for containment and cleaning up

Minor Spills	 Avoid breathing dust and contact with skin and eyes. Wear protective clothing, gloves, safety glasses and dust respirator. Use dry clean up procedures and avoid generating dust. Vacuum up or sweep up. NOTE: Vacuum cleaner must be fitted with an exhaust micro filter (H-Class HEPA type) (consider explosion-proof machines designed to be grounded during storage and use). H-Class HEPA filtered industrial vacuum cleaners should NOT be used on wet materials or surfaces. Dampen with water to prevent dusting before sweeping. Place in suitable containers for disposal.
	Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus.

Major Spills

- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- ► Collect recoverable product into labelled containers for recycling.

Clean up waste regularly and abnormal spills immediately.

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- ▶ Neutralise/decontaminate residue (see Section 13 for specific agent).
- ▶ Collect solid residues and seal in labelled drums for disposal.
- ▶ Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- If contamination of drains or waterways occurs, advise emergency services.

6.4. Reference to other sections

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

7.1. Precautions for safe	handling
Safe handling	 Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
Fire and explosion protection	See section 5
Other information	 Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS.

7.2. Conditions for safe storage, including any incompatibilities

► Store at-20°c

	torage, including any incompatibilities
	Lined metal can, lined metal pail/ can. Plastic pail.
	Polyliner drum.
	Packing as recommended by manufacturer.
	Check all containers are clearly labelled and free from leaks.
	For low viscosity materials
	,
	Drums and jerricans must be of the non-removable head type.
	Where a can is to be used as an inner package, the can must have a screwed enclosure.
	For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):
	Removable head packaging;
	Cans with friction closures and
Suitable container	low pressure tubes and cartridges
	may be used.
	<u> </u>
	Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in
	contact with inner and outer packages *.
	In addition, where inner packagings are glass and contain liquids of packing group I and II there must be sufficient inert
	absorbent to absorb any spillage *.
	* unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.
	All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation
	toxicity criteria, must be hermetically sealed.
	None known
	► Hygroscopic
Storage incompatibility	► Light sensitive
	▶ Moisture sensitive

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Hazard categories in accordance with Regulation (EC) No 1272/2008	H1: Acute Toxic
Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of	H1 Lower- / Upper-tier requirements: 5 / 20

7.3. Specific end use(s)

See section 1.2

SECTION 8 Exposure controls / personal protection

8.1. Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Not Available	Not Available	Not Available

^{*} Values for General Population

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Not Available						

Not Applicable

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Satratoxin H	0.0046 mg/m3	0.051 mg/m3	0.3 mg/m3

Ingredient	Original IDLH	Revised IDLH
Satratoxin H	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit	
Satratoxin H	E	≤ 0.01 mg/m³	
Notes:	Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.		

8.2. Exposure controls

Unless written procedures, specific to the workplace are available, the following is intended as a guide:

- For Laboratory-scale handling of Substances assessed to be toxic by inhalation. Quantities of up to 25 grams may be handled in Class II biological safety cabinets *; Quantities of 25 grams to 1 kilogram may be handled in Class II biological safety cabinets* or equivalent containment systems; Quantities exceeding 1 kg may be handled either using specific containment, a hood or Class II biological safety cabinet*,
- ▶ HEPA terminated local exhaust ventilation should be considered at point of generation of dust, fumes or vapours.
- The need for respiratory protection should also be assessed where incidental or accidental exposure is anticipated. Dependent on levels of contamination, PAPR, full face air purifying devices with P2 or P3 filters or air supplied respirators should be evaluated. When handling: Quantities of up to 25 grams, an approved respirator with HEPA filters or cartridges should be considered; Quantities of 25 grams to 1 kilogram, a half-face negative pressure, full negative pressure, or powered helmet-type air purifying respirator should be considered. Quantities in excess of 1 kilogram, a full face negative pressure, helmet-type air purifying, or supplied air respirator should be considered.

Written procedures, specific to a particular work-place, may replace these recommendations

* For Class II Biological Safety Cabinets, Types B2 or B3 should be considered. Where only Class I, open fronted Cabinets are available, glove panels may be added, Laminar flow cabinets do not provide sufficient protection when handling these materials unless especially designed to do so.

Pilot Plant and Production

Wear appropriate gloves; lab coat, nylon coveralls or disposable Tyvek suit; safety glasses, safety shoes, and disposable

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8.2.1. Appropriate engineering controls

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booties. Use good manufacturing practices (i.e., cGMPs).

- ▶ Protective garment (coveralls, Tyvek, lab coat) is not to be worn outside the work area.
- Clean/dirty/decontamination areas are to be established.
- Negative/positive air pressure relationships and buffer zones required (i.e., ante-room/degowning room/airlock).
- Area access is to be restricted.
- High-energy operations such as milling, particle sizing, spraying or fluidising should be done within an approved emission control or containment system.
- ▶ Develop cleaning procedures and techniques that limit potential exposure

Air should be supplied by an independent system.

8.2.2. Individual protection measures, such as personal protective equipment

Eve and face protection









• Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.

- Chemical goggles. Whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted. [AS/NZS 1337.1, EN166 or national equivalent]
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

Skin protection

See Hand protection below

► Elbow length PVC gloves

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- · frequency and duration of contact,
- · chemical resistance of glove material,
- · glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- · When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- · When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- · Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- · Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- · Excellent when breakthrough time > 480 min
- · Good when breakthrough time > 20 min
- · Fair when breakthrough time < 20 min
- · Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task. Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- · Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Body protection

Hands/feet protection

See Other protection below

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- Other protection
- Overalls ▶ Eyewash unit.
- ▶ Barrier cream.
- Skin cleansing cream.
- Handle extremely poisonous natural toxins in closed systems such as glove bags or other enclosures, to avoid accidental contact. Workers should wear complete disposable clothing including shoe covers, gloves and mask with an independent air supply.

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	-	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- The use of a disposable filtering facepiece respirator is required when working with toxins in solution if there is a concern for aerosol generation.
- · Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- · The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- · Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- · Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- · Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- · Use approved positive flow mask if significant quantities of dust becomes airborne.
- \cdot Try to avoid creating dust conditions.

8.2.3. Environmental exposure controls

See section 12

SECTION 9 Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Not Available		
Physical state	Solid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available

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Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Not Available	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	1.369	VOC g/L	Not Available
Nanoform Solubility	Not Available	Nanoform Particle Characteristics	Not Available
Particle Size	Not Available		

9.2. Other information

Not Available

SECTION 10 Stability and reactivity

10.1.Reactivity	See section 7.2	
10.2. Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur. 	
10.3. Possibility of hazardous reactions	See section 7.2	
10.4. Conditions to avoid	See section 7.2	
10.5. Incompatible materials	See section 7.2	
10.6. Hazardous decomposition products	See section 5.3	

SECTION 11 Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 Information on toxicological effects

Inhaled	Inhalation of dusts, generated by the material, during the course of normal handling, may produce severely toxic effects; these may be fatal. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
Ingestion	Severely toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of les than 5 gram may be fatal or may produce serious damage to the health of the individual.
Skin Contact	Skin contact with the material may produce severely toxic effects; systemic effects may result following absorption and these material. The material is not thought to be a skin irritant (as classified by EC Directives using animal models). Abrasive damage however, may result from prolonged exposures. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Еуе	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS.
	Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

Acute Toxicity	~	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×
Serious Eye Damage/Irritation	×	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

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Legend:

🗶 – Data either not available or does not fill the criteria for classification

✓ – Data available to make classification

11.2 Information on other hazards

11.2.1. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

11.2.2. Other information

See Section 11.1

SECTION 12 Ecological information

12.1. Toxicity

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

DO NOT discharge into sewer or waterways.

12.2. Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air		
	No Data available for all ingredients	No Data available for all ingredients		

12.3. Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

12.4. Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

12.5. Results of PBT and vPvB assessment

	P	В	Т	
Relevant available data	Not Available	Not Available	Not Availal	ble
PBT	×	×	×	
vPvB	x	×	×	
PBT Criteria fulfilled?			N	lo
vPvB				lo

12.6. Endocrine disrupting properties

No evidence of endocrine disrupting properties were found in the current literature.

12.7. Other adverse effects

No evidence of ozone depleting properties were found in the current literature.

SECTION 13 Disposal considerations

13.1. Waste treatment methods

Product / Packaging disposal

There is conflicting evidence as to which methods are most effective for the inactivation of non-proteinaceous biotoxins.

The following disposal instructions have been developed to ensure all the non-proteinaceous biotoxin wastes are disposed in a manner that is consistent and safe for all personnel involved.

Note: Additional instructions may apply to biotoxins regulated as "select agents"... A biotoxin is regulated as a select agent only if the aggregate amount of the biotoxin under the control of a principal investigator exceeds a certain predefined amount.

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For biotoxins containing non-proteinaceous biotoxins (includes biotoxin contaminated debris) Solid waste:

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(Debris includes disposable items such as gloves, labcoats, absorbent paper, plastic pipette tips and empty containers)

- Do NOT add bleach or any other chemical to deactivate.
- Place the contaminated items directly in a puncture-resistant bag, no larger than 40 litre in size (small trash can size) and keep weight below 10 kg. The bag must be labeled with the contents - e.g. aflatoxin contaminated debris.
- ▶ Do not use biohazard bags or anything marked with a biohazard symbol. You will be required to repackage the waste if there are any biohazard symbols visible or covered.

Liquid waste:

- Do NOT add bleach or any other chemical to deactivate.
- ▶ Collect waste in glass or plastic containers with screw cap lids.
- Label containers as to the contents list all chemicals in the liquid waste including the biotoxin. Do NOT label with a biohazard symbol. You will be required to repackage the waste if there are any biohazard symbols visible or covered.

For all wastes:

- Submit a chemical waste pickup request form to the appropriate department/ administrator (before working with biotoxins identify all agents responsible for administering work-flow).
- Indicate the maximum amount of toxin present in the waste on the form (this is to verify that quantities do not qualify for regulation as select agents.

Some labs have found it useful to place a bag in a container that has a lid to minimise exposure. The container holding the bag should be clearly marked so that janitorial/ custodial staff does not mistake it for regular trash.

- When full, seal bag and confirm the label on the bag is accurate.
- Submit a chemical waste pickup request form to the appropriate department/ administrator (before working with biotoxins identify all agents responsible for administering work-flow)
- Indicate the maximum amount of toxin present in the waste on the chemical waste form (this is to verify that quantities do not qualify for regulation as select agents, e.g. tetrodotoxin < 100 mg.).

Handling of sharps:

Sharps are generally agreed to be the most hazardous items in the waste stream. A high degree of precaution must always be taken with any sharp item, contaminated or not. All sharps (hypodermic, intravenous, or other medical needles and syringes; Pasteur pipettes; scalpel or razor blades; blood vials; glass microscope slides and cover slips; and any other laboratory glassware in contact with the biotoxin must be placed immediately upon disposal into a sharps disposal container.

Sharps disposal containers are closable, puncture resistant, leak-proof on the sides and bottoms, and available in (typically) 1-litre, 8-litre, and 25-litre sizes

Sharps disposal containers are closable, puncture resistant, leak-proof on the sides and bottoms, and available in (typically) 1-litre, 8-litre, and 25-litre sizes. When discarding sharps:

- Place the item into the sharps disposal container, immediately following use.
- ▶ Never empty the contents of the sharps disposal container into another container.
- Never remove the lid from the container.
- ▶ Never overfill a sharps disposal container; no materials should be sticking out the top.
- Never force materials into a sharps disposal container
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

Waste treatment options

Not Available

Sewage disposal options

Not Available

SECTION 14 Transport information

Labels Required



Marine Pollutant

NO

HAZCHEM

2X

Land transport (ADR-RID)

14.1. UN number or ID number	3462	3462		
14.2. UN proper shipping name	TOXINS, EXTRAC	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.		
14.3. Transport hazard	Class	6.1		
class(es)	Subsidiary risk	Not Applicable		
14.4. Packing group	I			

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14.5. Environmental hazard	Not Applicable		
	Hazard identification (Kemler)	66	
14.6. Special precautions for user	Classification code	T2	
	Hazard Label	6.1	
	Special provisions	210 274	
	Limited quantity	0	
	Tunnel Restriction Code	1 (C/E)	

Air transport (ICAO-IATA / DGR)

14.1. UN number	3462					
	3402					
14.2. UN proper shipping name	Toxins, extracted from li	ving sources, solid, n.o.s. *				
	ICAO/IATA Class	6.1				
14.3. Transport hazard class(es)	ICAO / IATA Subrisk Not Applicable					
Class(es)	ERG Code 6L					
14.4. Packing group	I	I				
14.5. Environmental hazard	Not Applicable					
	Special provisions	A3 A43				
	Cargo Only Packing Ir	673				
	Cargo Only Maximum	50 kg				
14.6. Special precautions for user	Passenger and Cargo	666				
101 4361	Passenger and Cargo Maximum Qty / Pack		5 kg			
	Passenger and Cargo Limited Quantity Packing Instructions		Forbidden			
	Passenger and Cargo	Limited Maximum Qty / Pack	Forbidden			

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	3462	3462		
14.2. UN proper shipping name	TOXINS, EXTRACT	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.		
14.3. Transport hazard	IMDG Class	6.1		
class(es)	IMDG Subrisk	Not Applicable		
14.4. Packing group	T. C.			
14.5. Environmental hazard	Not Applicable			
	EMS Number	F-A, S-A		
14.6. Special precautions for user	Special provisions	210 274		
101 4001	Limited Quantities	0		

Inland waterways transport (ADN)

14.1. UN number	3462
14.2. UN proper shipping name	TOXINS, EXTRACTED FROM LIVING SOURCES, SOLID, N.O.S.
14.3. Transport hazard class(es)	6.1 Not Applicable
14.4. Packing group	I
14.5. Environmental hazard	Not Applicable

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	Classification code	T2
	Special provisions	210; 274; 802
14.6. Special precautions for user	Limited quantity	0
10. 400.	Equipment required	PP, EP
	Fire cones number	2

14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
Satratoxin H	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
Satratoxin H	Not Available

SECTION 15 Regulatory information

15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture

Satratoxin H is found on the following regulatory lists

Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - as far as applicable -: Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

Information according to 2012/18/EU (Seveso III):

Seveso Category	H1
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15.2. Chemical safety assessment

For further information please look at the Chemical Safety Assessment and Exposure Scenarios prepared by your Supply Chain if available.

ECHA SUMMARY

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (Satratoxin H)
Canada - DSL	No (Satratoxin H)
Canada - NDSL	No (Satratoxin H)
China - IECSC	No (Satratoxin H)
Europe - EINEC / ELINCS / NLP	No (Satratoxin H)
Japan - ENCS	No (Satratoxin H)
Korea - KECI	No (Satratoxin H)
New Zealand - NZIoC	No (Satratoxin H)
Philippines - PICCS	No (Satratoxin H)
USA - TSCA	No (Satratoxin H)
Taiwan - TCSI	No (Satratoxin H)
Mexico - INSQ	No (Satratoxin H)
Vietnam - NCI	No (Satratoxin H)
Russia - FBEPH	No (Satratoxin H)

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National Inventory Status Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require Legend: registration.

SECTION 16 Other information

Revision Date	27/04/2023
Initial Date	23/02/2023

Full text Risk and Hazard codes

H301 Toxic if swallowed.

SDS Version Summary

Version	Date of Update	Sections Updated
1.2	27/04/2023	Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), First Aid measures - Advice to Doctor, Hazards identification - Classification, Exposure controls / personal protection - Engineering Control, Ecological Information - Environmental, First Aid measures - First Aid (eye), First Aid measures - First Aid (skin), First Aid measures - First Aid (swallowed), Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (eye), Exposure controls / personal protection - Personal Protection (hands/feet), Accidental release measures - Spills (minor), Handling and storage - Storage (suitable container), Transport Information

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 166 Personal eve-protection

EN 340 Protective clothing

EN 374 Protective gloves against chemicals and micro-organisms

EN 13832 Footwear protecting against chemicals

EN 133 Respiratory protective devices

Definitions and abbreviations

PC - TWA: Permissible Concentration-Time Weighted Average

PC - STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit,

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index

AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

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ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act TCSI: Taiwan Chemical Substance Inventory INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to regulation (EC) No 1272/2008 [CLP] and amendments	Classification Procedure
Acute Toxicity (Oral) Category 1, H300	Expert judgement
Acute Toxicity (Dermal) Category 1, H310	Expert judgement
Acute Toxicity (Inhalation) Category 1, H330	Expert judgement

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