



Safety Data Sheet: HT2 toxin

1. Identification of the Substance and the Manufacturer

1.1. Product identifiers

Product name	HT2 toxin	Formula	C ₂₂ H ₃₂ O ₈
Product Code	HT	RTECS	YD0050000
CAS #	26934-87-2	Molecular weight	424.48
EC Number #	621-720-7	Substance? Mixture?	Substance
Synonyms	Trichothec-9-ene-3alpha,4beta,8alpha,15-tetrol, 12,13-epoxy-, 15-acetate 8-isovalerate		
Source	Synthetic	Date of version	5 December, 2022

1.2. Intended uses of the substance or mixture and uses advised against

1.2.1. Intended use:	1.2.2. Uses advised against:
Research and development. Laboratory reagent. Reference material. Manufacturing of substances. To be used by professionals only	Not for drugs Not to be used in humans or animals. Not food additive

1.3. Details of the supplier of the SDS

FERMENTEK ltd 4 Yatziv street, POB 47120 Jerusalem 97800, Israel	Tel: +972 2 5853953 Fax: +972 2 5853943 eMail: Fermentek@Fermentek.com Safety@Fermentek.com Website: www.Fermentek.com
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1.4. Emergency Telephone number

For chemical emergency spill, leak, fire, exposure, or accident calls CHEMTREC day or night:

Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887

This company is the manufacturer of the product, and the supplier of the safety data sheet

2. Hazards' identification

2.1. Classification of the substance or mixture

2.1.1. GHS Classification: According to EU Reg. 1272/2008 and US OSHA 1910.1200)

Ingestion	Category 2	H300	Fatal if swallowed
Inhalation	Category 2	H330	Fatal if inhaled
Dermal contact	Category 2	H310	Fatal in contact with skin
Carcinogenicity	Category 1B	H350	May cause cancer
Germ cell mutagenicity (Category 1B	H340	May cause genetic defects



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2.2. GHS Label elements, including precautionary statements

2.2.1. Pictogram: {  } Signal word: {**Danger**}

2.2.2. Hazard Statements

Acute toxicity Oral	Cat 2	H300	Fatal if swallowed, in contact with skin or if inhaled.
Acute toxicity Inhalation	Cat 1	H330	Fatal if inhaled.
Acute toxicity Dermal	Cat 2	H310	Fatal if in contact with skin
Skin irritation	Cat 2	H315	Causes skin irritation
Serious Eye Damage / Eye Irritation	Cat 2	H319	Causes serious eye irritation

2.2.3. GHS Precautionary Statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P262	Do not get in eyes, on skin, or on clothing
P264	Wash face, hands and any exposed skin thoroughly after handling
P270	Do not eat, drink or smoke when using this product
P271	Use only outdoors or in a well-ventilated area
P280	Wear protective gloves/protective clothing/eye protection/face protection
P284	Wear respiratory protection

2.2.4. GHS Response Statements

P301+P310+P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P302+P352+P310	IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/doctor.
P304+P340+P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P308+313	If exposed or concerned: Get medical advice/attention
P362	Take off contaminated clothing and wash before reuse.
P332+P313	If skin irritation occurs: Get medical advice/ attention.

3. Composition/information on ingredients

Substance	
Substance name:	HT2 toxin
Concentration	<=100%
CAS Registry#:	26934-87-2
EC#:	621-720-7
Molecular Formula:	C ₂₂ H ₃₂ O ₈
Molecular Weight:	424.48
Classification	Skin Irrit. 2 (H315) ; acute ingest 1 (H310); acute derm 1 (H310); skin irrit 2 (H315)
Mixture?	Substance.



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4. First Aid Measures

4.1. Description of First Aid Measures

<i>General advice:</i>	<i>Consult a physician. Show this safety data sheet to the doctor in attendance.</i>
<i>Eye contact:</i>	<i>Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.</i>
<i>Skin Contact:</i>	<i>Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. Wash off immediately with plenty of water. If skin irritation persists, call a physician.</i>
<i>Ingestion:</i>	<i>Do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water and drink afterwards plenty of water. Call a physician.</i>
<i>Inhalation:</i>	<i>Consult a physician. Show this safety data sheet to the doctor in attendance.</i>

4.2. Most important symptoms and effects, both acute and delayed

<i>General symptoms</i>	<i>None known</i>
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4.3. Indication of any immediate medical attention and special treatment needed

<i>Note to physicians</i>	<i>No data available</i>
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5. Fire-fighting measures

5.1. Extinguishing media

<i>Suitable extinguishing media</i>	<i>Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.</i>
<i>Unsuitable extinguishing media</i>	<i>None known</i>

5.2. Other information

<i>Hazardous combustion products</i>	<i>Carbon oxides</i>
<i>Advice for firefighters</i>	<i>Wear self-contained breathing apparatus for fire fighting if necessary. Wear a protective suit.</i>

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

<i>Personal precautions</i>	<i>Use personal protective equipment as required. Keep people away from and upwind of spill/leak.</i>
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6.2. Environmental precautions

<i>Environmental precautions</i>	<i>Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.</i>
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6.3. Methods and material for containment and cleaning up

<i>Methods for containment:</i>	<i>Prevent further leakage or spillage if safe to do so. Cover the powder spill with a plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.</i>
<i>Methods for cleaning up:</i>	<i>Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Cover liquid spill with sand, earth, or other non-combustible absorbent material (e.g., sand, earth, diatomaceous earth, and vermiculite). Cover powder spill with</i>



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	<i>plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.</i>
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7. Handling and storage

7.1. Precautions for safe handling

<i>Advice on safe handling:</i>	<i>Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.</i>
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7.2. Conditions for safe storage, including any incompatibilities

<i>Storage Conditions:</i>	<i>Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store at -20 °C.</i>
<i>Suitable packaging</i>	<i>Must only be kept in original packaging.</i>
<i>Incompatible materials:</i>	<i>None known based on information available.</i>

8. Exposure Controls/Personal Protection

8.1. Control parameters

<i>Control parameters</i>	<i>Components with workplace control parameters</i>
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8.2. Exposure controls

<i>Appropriate engineering controls</i>	<i>Showers, Eyewash stations, Ventilation systems Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Use fumehood for routine work.</i>
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8.3. Personal protective equipment

<i>[PPE=Personal Protection Equipment]</i>	
<i>PPE: Respiratory protection</i>	<i>Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).</i>
<i>PPE: Hand Protection:</i>	<i>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands</i>
<i>PPE: Eye Protection:</i>	<i>Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)</i>



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<i>PPE: Skin and Body Protection:</i>	<i>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.</i>
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9. Physical and chemical properties

9.1. Physical / chemical properties

<i>Physical State at room temperature</i>	<i>Solid / powder</i>
<i>Color</i>	
<i>Melting/freezing point</i>	
<i>No further safety relevant data are available</i>	

10. Stability and reactivity

<i>Reactivity:</i>	<i>No information available.</i>
<i>Chemical stability:</i>	<i>Stable under normal conditions.</i>
<i>Conditions to avoid</i>	<i>Heat, flames and sparks. Sunlight.</i>
<i>Incompatible materials</i>	<i>Strong reducers and oxidizers</i>
<i>Possibility of Hazardous Reactions</i>	<i>None under normal processing</i>
<i>Hazardous decomposition products</i>	<i>Hazardous decomposition products formed under fire conditions.: Carbon oxides.</i>

11. Toxicological information

11.1. Information on toxicological effects

To the best of our knowledge, the toxicological effects of this product have not been thoroughly studied yet.

11.1.1. Acute Toxicity

<i>Oral toxicity:</i>	<i>TDL0 (oral - mouse): 3.8 mg/kg LD50 (oral - rat) : 2.7 mg/kg</i>
<i>Toxicity by Inhalation</i>	<i>LC50 (inhalation, rat): 20 mg/m³/10min.</i>
<i>Subcutaneous toxicity</i>	<i>LD50: (on skin, rat) 2.5 mg/kg</i>
<i>Serious eye damage</i>	<i>No quantitative data available.</i>
<i>Respiratory or skin sensitization/corrosion:</i>	<i>No quantitative data available.</i>

11.1.2. CRM (Carcinogene, Mutagene, Reproductive hazards)

<i>Germ cell mutagenicity:</i>	<i>DNA inhibition. DNA damage in animals.</i>
<i>Carcinogenicity:</i>	<i>IARC Cancer Review : Limited evidence for carcinogenicity in animals Tumorigenic - neoplastic by RTECS criteria Lungs, Thorax, or Respiration - tumors Liver - tumors</i>
<i>Reproductive toxicity / Teratogenicity:</i>	<i>TDL0 : 0.5 mg/kg fed to a female mouse 11 days after conception. Effects: Fetal teeth, specific development abnormalities in musculoskeletal system - , eye/ear, craniofacial,</i>



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11.2. Additional information

RTECS number	YD0050000
General symptoms	Behavioral - somnolence (general depressed activity, tremor; ataxia Lungs, Thorax, or Respiration - cyanosis Gastrointestinal - ulceration or bleeding from the stomach or bleeding from the small intestine Liver - other changes Gastrointestinal - nausea or vomiting

12. Ecological Information

Eco-Toxicity	This product is not classified as environmentally hazardous according to the UN Model Regulations, nor a marine pollutant according to the IMDG Code.
Other adverse effects	No further relevant information available.

13. Disposal Considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations
Contaminated packaging	Dispose of as unused product

14. Transport information

14.1. UN number, Proper Shipping Name, Transport Hazard Class, packing group

	US DOT	US DOT	US DOT	US DOT
UN Number	UN 2811 Toxic	UN 2811 Toxic	UN 2811 Toxic	UN 2811 Toxic
UN proper shipping name	Solid, Organic, (HT2 toxin)	Solid, Organic, (HT2 toxin)	Solid, Organic, (HT2 toxin)	Solid, Organic, (HT2 toxin)
Transport Hazard Class & Packing Group	6.1, I	6.1, I	6.1, I	6.1, I
Additional information			Not marine pollutant	
Excepted quantities	When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore, packaging does not have to be labeled as Dangerous Goods/Excepted Quantity			

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation

USA EPA / TSCA	This product is not listed on the USA EPA TSCA (it is for research)
SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.
SARA 311/312 Hazard Categories	No SARA Hazards



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<i>California Proposition 65</i>	<i>This product does not contain any Proposition 65 chemicals.</i>
<i>EU ECHA Status</i>	<i>This product is REGISTERED with the EU ECHA, Number 621-720-7 ANNEX III (criteria for 1 - 10 tonne registered substances): Listed REACH: Preregistered as of Dec 2022</i>
<i>Canada, DSL/NDSL</i>	<i>On DSL</i>

16. Other information

16.1. Department issuing this SDS

Quality systems and regulatory affairs

16.2. General 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 here is designed only as 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.

16.3. The users'/employers' responsibility:

- A risk assessment should be performed by the employer/user prior to the use of this product.
- All recommendations included in this document, are advisory in nature.
- The type of protective equipment must be selected based on the amount and concentration of all dangerous materials being used in the workplace.

16.4. No-Copyright statement

- Fermentek_Ltd does not claim copyright on this document. Fermentek_Ltd believes that no one can claim copyright on an MSDS. This sort of document is but a compendium of common knowledge and published facts. Fermentek explicitly releases this document into the public domain

16.5. Abbreviations and acronyms:

<i>Acute Tox.:</i>	<i>Acute toxicity</i>
<i>CAS:</i>	<i>Chemical Abstracts Service (a division of the American Chemical Society)</i>
<i>DOT:</i>	<i>US Department of Transportation</i>
<i>EINECS:</i>	<i>European Inventory of Existing Commercial Chemical Substances</i>
<i>Eye Dam.:</i>	<i>Serious eye damage/eye irritation</i>
<i>HMIS:</i>	<i>Hazardous Materials Identification System (USA)</i>
<i>IATA:</i>	<i>International Air Transport Association</i>
<i>IMDG:</i>	<i>International Maritime Code for Dangerous Goods</i>
<i>LC50:</i>	<i>Lethal concentration, Median</i>
<i>LD50:</i>	<i>Lethal dose, Median</i>
<i>NFPA:</i>	<i>National Fire Protection Association (USA)</i>
<i>NIOSH:</i>	<i>National Institute for Occupational Safety</i>
<i>OSHA:</i>	<i>Occupational Safety & Health</i>
<i>PBT:</i>	<i>Persistent, Bioaccumulative, and Toxic</i>
<i>PEL:</i>	<i>Permissible Exposure Limit</i>
<i>REL:</i>	<i>Recommended Exposure Limit</i>
<i>Repr.:</i>	<i>Reproductive toxicity</i>
<i>RTECS:</i>	<i>Registry of Toxic Effects of Chemical Substances</i>
<i>Skin Irrit:</i>	<i>Skin corrosion/irritation</i>
<i>STOT RE:</i>	<i>Specific target organ toxicity (repeated exposure)</i>
<i>TLV:</i>	<i>Threshold Limit Value</i>



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vPvB: *Very Persistent and Very Bioaccumulative*

16.6. End of SDS