



Safety Data Sheet: **Patulin**

Section 1. Identification of the substance/mixture and of the Company

Product identifiers			
Product name	Patulin	Formula	C7H6O4
Product Code	PAT	RTECS	LV2625000
CAS #	149-29-1	Molecular weight	154.10
EC Number #	205-735-2		
Intended uses of the substance or mixture and uses advised against			
Intended use		Uses advised against:	
For Research and/or Development For manufacturing of chemicals		Not for drug, Not to be used in humans or animals. Not food additive	
Details of the supplier of the safety data sheet		Emergency Telephone number	
FERMENTEK ltd 4 Yatziv street, POB 47120 Jerusalem 97800, Israel		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	
Tel: +972 2 5853953 Fax: +972 2 5853943 eMail: fermentek@fermentek.com Website: www.fermentek.com			
This company is the manufacturer of the product, and the supplier of the safety data sheet			
Reach: Pre-registration process			

Section 2. Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [GHS/CLP] and US OSHA 1910.1200)

Acute Toxicity, oral	Category 2	H300 Fatal if swallowed
Acute Toxicity dermal	Category 1	H310 Fatal in contact with skin
Acute toxicity - Inhalation	Category 1	H330- Fatal if inhaled
Carcinogenicity	Category 2	H351 - Suspected of causing cancer

Acute Toxicity, by inhalation - Category 2 H330 fatal if inhaled
 Carcinogenicity Category 2B H350 Probably carcinogenic to humans

GHS Label elements, including precautionary statements

Labeling according to Regulation (EC) No 1272/2008 [CLP]



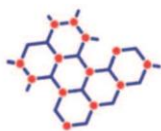
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Hazard statements

H300+H310+H330	Fatal if swallowed, inhaled or in contact with skin
H351	May cause cancer

Precautionary statements:

P201	Obtain special instructions before use
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P264	Wash hands thoroughly after handling



P280	Wear protective gloves/protective clothing/eye protection/face protection
P301+310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P302/P350	IF ON SKIN: Gently wash with plenty of soap and water.
P308+P313	IF exposed or concerned, get medical advice/attention
P310	Immediately call a POISON CENTER or doctor/physician
P304 + P340 -	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Section 3. *Composition/information on ingredients*

Substance	
Substance name:	Patulin
	CAS Registry #: 149-29-1 EC#: 205-735-2 Skin Irrit. 2 (H315) Acute Tox. 2 (H300)
	Molecular Formula: C7H6O4 Molecular weight 154.10
	Concentration: ≤ 100%
Mixture	Not mixture.

Section 4. *First Aid Measures*

Description of First Aid Measures

General advice:	If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Show this safety data sheet to the doctor.
Eye contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.
Skin Contact:	Remove contaminated clothing and shoes. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
Inhalation:	Remove to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting unless advised to do so by a physician or Poison Control Center. Seek medical attention
Self-protection of the first aider:	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

Section 5. *Fire-fighting measures*

Extinguishing media

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	None



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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
 Do not act without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas. Keep people away from and upwind of spill/leak.

Environmental precautions

Environmental precautions
 Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment:
 Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up:
 Cover liquid spill with sand, earth or other non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, and vermiculite). Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal.

Section 7. Handling and storage

Precautions for safe handling

Advice on safe handling:
 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.

Conditions for safe storage, including any incompatibilities

Storage Conditions:
 Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store at -20 °C, Protect from sunlight. Protect from moisture.

Incompatible materials:
 None known based on information available.

Section 8. Exposure Controls/Personal Protection

Control Parameters

No occupational exposure limits are listed for this material.

- | | |
|-------------------------------------|-------------------|
| • OSHA Permissible Exposure Limits | No Data Available |
| • NIOSH Recommended Exposure Limits | No Data Available |
| • ACGIH Threshold Limit Values | No Data Available |

Exposure controls

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

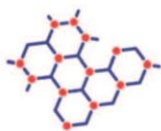
Appropriate engineering controls

Engineering Controls
 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.

Personal protective equipment

The employer/end user, prior to use of this product should perform all recommendations below are advisory in nature and a risk assessment. The type of protective equipment must be selected based on the amount and concentration of the dangerous material being used in the workplace.

General Hygiene Considerations



Handle in accordance with good industrial hygiene and safety practice.

[PPE=Personal Protection Equipment]

PPE Eye/face protection

PPE Skin and Body Protection

PPE Respiratory Protection

Wear safety glasses with side shields (or goggles).

Wear protective gloves and protective clothing.

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations.

Respiratory protection must be provided in accordance with current local regulations.

Section 9. Physical and chemical properties

Physical / chemical properties

Physical State at room temperature	White Solid / powder
Solubility	
Melting/freezing point	105°C-113°C
No further safety relevant data are available	

Section 10. Stability and reactivity

Reactivity:

No information available.

Chemical stability:

Stable under normal conditions.

Conditions to avoid

Heat, flames and sparks. Direct Sunlight.

Incompatible materials

Strong reducers and oxidizers

Possibility of Hazardous Reactions

None under normal processing

Hazardous decomposition products:

Carbon oxides, Nitrogen oxides

Section 11. Toxicological information

Information on toxicological effects

The toxicological effects of this product have not been thoroughly studied.

Acute Toxicity	
Ingestion	Oral LD50 Rat – 27 mg/kg based on experimental data
Inhalation	No data available
Serious eye damage/eye irritation:	No data available
Skin corrosion/irritation:	No data available
Respiratory or skin sensitization:	No data available
Symptoms	Inhalation: Ingestion:
Germ cell mutagenicity:	No data available
Carcinogenicity:	(IARC) Group 3: Not classifiable as human carcinogene; source: IARC, Lyon, France. 40:83-98.
Reproductive toxicity	No data available
Teratogenicity	No data available
Aspiration hazard:	No data available
Additional information:	RTECS: LV2625000

Section 12. Ecological Information

Eco-Toxicity

No further relevant information available

Other adverse effects

No further relevant information available.





Section 13. Disposal Considerations

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

Section 14. Transport information

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

	US DOT	ADR/RID:	IMDG:	IATA
UN Number	UN3462	UN3462	UN3462	UN3462
UN proper shipping name	Toxins extracted from living sources, solid, N.O.S. (Patulin)	Toxins extracted from living sources, solid, N.O.S. (Patulin)	Toxins extracted from living sources, solid, N.O.S. (Patulin)	Toxins extracted from living sources, solid, N.O.S. (Patulin)
Transport Hazard Class & Packing Group	6.1 Pack. G. II	6.1 Pack. G. II	6.1 Pack. G. II	6.1 Pack. G. II

Section 15. Regulatory information

Safety, health and environmental regulations/legislation	
USA EPA / TSCA	This product is not listed on the USA EPA TSCA / "For research"
EU ECHA Status	REACH: This product is Pre registered. under # 205-735-2
CA: DSL/NDSL Status	This product is not listed on the Canadian DSL/NDSL

Section 16. Other information

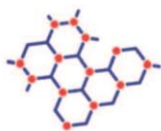
Date of revision: **Thursday, 12 December, 2019**

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.

End of SDS





Attachment: Data, glossary etc

Filename *H:\installed SDS\SDS Patulin v 12-19.docx*
Savedate *12-Dec-19 10:48:00*
CAS *149-29-1*
Prodcod *PAT*
Prodname *Patulin*
EC *205-735-2*
MW *154.10*
RTECS *LV2625000*
LD50 *Oral LD50 Rat – 27 mg/kg*
REACH *Pre-registration process*
Formula *C₇H₆O₄*
MP (Melting point) *105°C-113°C*
Cancer *(IARC) Group 3: Not classifiable as human carcinogene; source: IARC, Lyon, France. 40:83-98.*



Pictogram