

## 1 Identification

- **Product identifier**
- **Trade name:** 1-Hydroxypyridine-2-thione Zinc Salt
- **Article number:** 157497
- **CAS Number:**  
13463-41-7
- **EC number:**  
236-671-3
- **Molecular Formula** C10 H8 N2 O2 S2 Zn
- **Molecular Weight** 317.7
- **Application of the substance / the mixture** For Research Use Only
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
MP Biomedicals, LLC  
29525 Fountain Parkway  
Solon, OH 44139  
United States  
www.mpbio.com
- **Information department:** Quality Control Department
- **Emergency telephone number:** CHEMTREC: 1-800-424-9300 (1-703-527-3887)

## 2 Hazard Identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 3      H301 Toxic if swallowed.

Acute Toxicity (Inhalation) - Category 3      H331 Toxic if inhaled.



GHS05 Corrosion

Serious Eye Damage - Category 1      H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05    GHS06

- **Signal word** Danger
- **Hazard-determining components of labeling:**  
1-Hydroxypyridine-2-thione Zinc Salt
- **Hazard statements**  
Toxic if swallowed or if inhaled.  
Causes serious eye damage.
- **Precautionary statements**  
If medical advice is needed, have product container or label at hand.

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Reviewed on 01/09/2018

**Trade name: 1-Hydroxypyridine-2-thione Zinc Salt**

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- Keep out of reach of children.  
 Read label before use.  
 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 Wash thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Use only outdoors or in a well-ventilated area.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 If swallowed: Immediately call a poison center/doctor.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Call a poison center/doctor.  
 Specific treatment (see on this label).  
 Rinse mouth.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Hazard description:**
  - **WHMIS-symbols:**  
 D1A - Very toxic material causing immediate and serious toxic effects  
 D2B - Toxic material causing other toxic effects



- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = 3
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

### 3 Composition/Information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
 13463-41-7 1-Hydroxypyridine-2-thione Zinc Salt
- **Identification number(s)**
- **EC number: 236-671-3**

### 4 First-aid Measures

- **Description of first aid measures**
- **General information:**  
 Consult your Doctor. Show the safety data sheet to the Doctor. Away from the dangerous area.  
 Remove breathing apparatus only after contaminated clothing have been completely removed.

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*In case of irregular breathing or respiratory arrest provide artificial respiration.*

**· After inhalation:**

*Supply fresh air or oxygen; call for doctor.*

*If breathed in, supply fresh air. If not breathing, give artificial respiration. Consult a Doctor.*

**· After skin contact:** *Wash off with soap and plenty of water. Consult a Doctor.*

**· After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*

**· After swallowing:** *Do not induce vomiting; immediately call for medical help.*

**· Information for doctor**

**· Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

**· Indication of any immediate medical attention and special treatment needed**

*No further relevant information available.*

## 5 Fire-fighting Measures

**· Extinguishing media**

**· Suitable extinguishing agents:** *Use fire fighting measures that suit the environment.*

**· Special hazards arising from the substance or mixture** *No further relevant information available.*

**· Advice for firefighters**

**· Protective equipment:** *Mouth respiratory protective device.*

## 6 Accidental Release Measures

**· Personal precautions, protective equipment and emergency procedures**

*Wear protective equipment. Keep unprotected persons away.*

**· Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*

**· Methods and material for containment and cleaning up:**

*Use neutralizing agent.*

*Pick up mechanically, dispose contaminated material as waste according to Section 13.*

*Ensure adequate ventilation.*

**· Reference to other sections**

*See Section 7 for information on safe handling.*

*See Section 8 for information on personal protection equipment.*

*See Section 13 for disposal information.*

## 7 Handling and Storage

**· Handling:**

**· Precautions for safe handling**

*Thorough dedusting.*

*Ensure good ventilation/exhaustion at the workplace. Avoid direct contact with skin and eyes.*

*Open and handle receptacle with care.*

**· Information about protection against explosions and fires:** *Keep respiratory protective device available.*

**· Conditions for safe storage, including any incompatibilities**

**· Storage:** *15-30°C*

**· Requirements to be met by storerooms and receptacles:** *No special requirements.*

**· Further information about storage conditions:**

*Protect from exposure to the light.*

*Desiccate.*

**· Specific end use(s)** *No further relevant information available.*

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## 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see Section 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Immediately remove all soiled and contaminated clothing.
  - Wash hands before breaks and at the end of work.
  - Store protective clothing separately.
  - Avoid contact with the eyes.
  - Avoid contact with the eyes and skin.
- **Breathing equipment:**
  - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
  - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
  - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

## 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Powder
<b>Color:</b>	White
<b>Odor:</b>	Indeterminate
<b>Odor threshold:</b>	Not determined.
- **pH-value:** Not applicable.

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· <b>Change in condition</b> <b>Boiling point/Boiling range:</b>	Undetermined.
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Product is not flammable.
· <b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Not determined.
· <b>Danger of explosion:</b>	See section 10
· <b>Explosion limits:</b> <b>Lower:</b> <b>Upper:</b>	Not Applicable Not Applicable
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density:</b> · <b>Relative density</b> · <b>Vapor density</b> · <b>Evaporation rate</b>	Not Applicable Not determined. Not applicable. Not applicable.
· <b>Solubility in / Miscibility with</b> · <b>Water:</b>	Not Determined Not determined.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b> <b>Dynamic:</b> <b>Kinematic:</b> · <b>Other information</b>	Not applicable. Not applicable. No further relevant information available.

## 10 Stability and Reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**ATE (Acute Toxicity Estimate)**

Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	0.84 mg/L (rat)

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Oral	LD50	269 mg/kg (rat)
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Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	0.84 mg/L (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

## 12 Ecological Information

- **Toxicity**

- **Aquatic toxicity:**

**ATE (Acute Toxicity Estimate)**

Oral LC50 / 96 h 0.0026 mg/L (Pimephales promelas)

**13463-41-7 1-Hydroxypyridine-2-thione Zinc Salt**

Oral LC50 / 96 h 0.0026 mg/L (Pimephales promelas)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
  - Water hazard class 3 (Assessment by list): extremely hazardous for water
  - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
  - Must not reach bodies of water or drainage ditch undiluted or unneutralized.
  - Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal Considerations

- **Waste treatment methods**
- **Recommendation:**
  - Can not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Discard must be made according to official regulations.

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## 14 Transport Information

<b>· UN-Number</b>	UN2811
<b>· DOT, TDG, IMDG, IATA</b>	
<b>· UN proper shipping name</b>	Toxic solids, organic, n.o.s. (1-Hydroxypyridine-2-thione Zinc Salt)
<b>· DOT</b>	2811 Toxic solids, organic, n.o.s. (1-Hydroxypyridine-2-thione Zinc Salt), ENVIRONMENTALLY HAZARDOUS
<b>· TDG</b>	TOXIC SOLID, ORGANIC, N.O.S. (1-Hydroxypyridine-2-thione Zinc Salt), MARINE POLLUTANT
<b>· IMDG</b>	TOXIC SOLID, ORGANIC, N.O.S. (1-Hydroxypyridine-2-thione Zinc Salt)
<b>· IATA</b>	TOXIC SOLID, ORGANIC, N.O.S. (1-Hydroxypyridine-2-thione Zinc Salt)
<b>· Transport hazard class(es)</b>	
<b>· DOT</b>	
	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1
<b>· TDG, IMDG</b>	
	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1
<b>· IATA</b>	
	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1
<b>· Packing group</b>	II
<b>· DOT, TDG, IMDG, IATA</b>	
<b>· Environmental hazards:</b>	
<b>· Marine pollutant:</b>	Yes (DOT) Symbol (fish and tree)
<b>· Special marking (TDG):</b>	Symbol (fish and tree)
<b>· Special precautions for user</b>	Warning: Toxic substances
<b>· EMS Number:</b>	F-A,S-A
<b>· Stowage Category</b>	B
<b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

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· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 25 kg

On cargo aircraft only: 100 kg

· **Remarks:**

Special marking with the symbol (fish and tree).

· **TDG**

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **IMDG**

· **Limited quantities (LQ)**

500 g

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **UN "Model Regulation":**

UN 2811 TOXIC SOLIDS, ORGANIC, N.O.S. (1-HYDROXYPYRIDINE-2-THIONE ZINC SALT), 6.1, II, ENVIRONMENTALLY HAZARDOUS

## 15 Regulatory Information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is listed.

· **TSCA (Toxic Substances Control Act):**

Substance is listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

Substance is listed.

· **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS05 GHS06

· **Signal word** Danger

· **Hazard-determining components of labeling:**

1-Hydroxypyridine-2-thione Zinc Salt

· **Hazard statements**

Toxic if swallowed or if inhaled.

Causes serious eye damage.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.

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**Trade name: 1-Hydroxypyridine-2-thione Zinc Salt**

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*Keep out of reach of children.*

*Read label before use.*

*Avoid breathing dust/fume/gas/mist/vapours/spray.*

*Wash thoroughly after handling.*

*Do not eat, drink or smoke when using this product.*

*Use only outdoors or in a well-ventilated area.*

*Wear protective gloves/protective clothing/eye protection/face protection.*

*If swallowed: Immediately call a poison center/doctor.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Call a poison center/doctor.*

*Specific treatment (see on this label).*

*Rinse mouth.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other Information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Department issuing SDS:** Quality Control Dept.

· **Date of preparation / last revision** 01/09/2018 / -

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*WHMIS: Workplace Hazardous Materials Information System (Canada)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*