



LUXEMBOURG

# SAFETY DATA SHEET

Revision date: 18/09/2023

## 1. Identification of the substance or mixture and of the supplier

Product: Potassium phosphite + copper oxychloride  
 Product commercial name: **HERCULES**  
 Recommended use: Fungicide  
 Supplier: Luxembourg Industries Ltd.  
 27 Hamered St., Tel Aviv, 6812509  
 ISRAEL  
 Emergency phone number: +972 3 796 4300

## 2. Hazards identification

### Classification of the product according to the Global Harmonized System of Classification and Labelling of Chemicals (GHS)

**Hazard classification:**

Acute toxicity-Oral	Category 5
Acute toxicity-Dermal	Category 5
Acute toxicity-Inhalation	Category 4
Eye damage/irritation	Category 2B
Hazardous to the aquatic environment	
Acute hazard	Category 1
Long-term hazard	Category 1

**Label elements:** Pictogram



Signal word: Warning

**Hazard statement(s):**

H303	May be harmful if swallowed.
H313	May be harmful in contact with skin.
H332	Harmful if inhaled.
H320	Causes eye irritation.
H410	Very toxic to aquatic life with long lasting effects.

### Precautionary statement(s):

**Prevention:**

P261	Avoid breathing mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash face and exposed skin thoroughly after handling.
P273	Avoid release to the environment.

**Response:**

P312	IF SWALLOWED/ON SKIN or INHALED: Call a POISON CENTER/doctor/physician if you feel unwell.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305+ P351+ P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

HERCULES SDS  
Page 1 of 6

# LUXEMBOURG INDUSTRIES LTD

27 Hamered St. Tel Aviv 6812509, P.O. Box 13 Tel Aviv 6100001, ISRAEL  
 Tel: +972 3 796 4300 ■ Fax: +972 3 510 0474 ■ E-mail: main@luxembourg.co.il ■ www.luxpam.com

	P391	Collect spillage.
Storage:	No storage statements.	
Disposal:	P501	Dispose of contents/container in accordance with national/international regulations.
<b>Other hazards:</b>	Not known	

### 3. Information on ingredients contributing to hazard

<b>Common name:</b>	Potassium phosphites	Copper oxychloride
<b>Chemical formula:</b>	$K_2HPO_3 + KH_2PO_3$	$ClCu_2H_3O_3$
<b>CAS No.:</b>	13977-65-6 and 13492-26-7	1332-40-7
<b>Content:</b>	285-315 g/L as phosphorous acid equivalent	190-210 g/L as copper equivalent
<b>Classification:</b>	Acute Tox. Cat. 4, H302 Eye Irrit. Cat. 2, H319 Skin Irrit. Cat. 2, H315	Acute Tox. Cat. 4, H302 Acute Tox. Cat. 4, H332 Aquatic Acute Cat. 1, H400 Aquatic Chronic Cat. 1, H410

### 4. First-aid measures

- Ingestion:** Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Do not give anything by mouth to an unconscious person.
- Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- Eyes:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- Skin:** Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs: Get medical advice/attention.

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

The main symptoms of copper compound poisoning due to ingestion in high doses are: gastrointestinal irritation: vomiting, burning pain in the epigastrium, abdominal pain, diarrhea, occasionally digestive hemorrhage, headache, sweating, weakness, and rarely shock. Hemolysis, anemia, methemoglobinemia, albuminuria, hemoglobinuria, jaundice, hepatomegaly and occasionally acute renal and hepatic failure.

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

Administration of Dimercaprol (BAL), EDTA or D-penicillamine may be useful. Treat symptomatically and give supportive therapy.

---

## 5. Fire-fighting measures

<b>Suitable extinguishing media:</b>	Water spray, carbon dioxide, dry chemical powder or appropriate foam, avoid using water jet. Move containers from fire area if you can do it without risk.
<b>Specific hazards arising from the chemical:</b>	Combustion or thermal decomposition may evolve toxic and irritant vapors. Runoff from fire control or dilution water may cause pollution.
<b>Special protective equipment and precautions for fire-fighters:</b>	Wear positive pressure self-contained breathing apparatus (SCBA) and chemical protective clothing. Dike fire-control water for later disposal; do not scatter the material.

---

## 6. Accidental release measures

<b>Personal precautions, protective equipment:</b>	Exercise appropriate precautions to minimize direct contact with skin and eyes and to prevent inhalation. Use personal protective clothing, gloves and eye/face protection. Ensure adequate ventilation.
<b>Environmental precautions:</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Prevent entry into waterways, sewers, basements or confined area.
<b>Methods and materials for containment and cleaning up</b>	Contain product with an inert diking material. Place reclaimed product in a closed and properly labeled waste drum. Store drum in separate area until proper disposal. Flash residue with water. Dispose of contents/container in accordance with national/ international regulations.

---

## 7. Handling and storage

<b>Precautions for safe handling:</b>	Avoid contact with eyes, skin and clothing. Wash hands and exposed skin thoroughly after handling. Wear suitable protective clothing. Do not eat, drink or smoke when using this product.
<b>Conditions for safe storage, including any incompatibilities:</b>	Keep container in a well ventilated place. Keep cool. Keep away from food, drink and animal feedstuffs. Store in original containers only. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

---

## 8. Exposure controls / personal protection

<b>Occupational exposure limits:</b>	Copper (TWA) Fume: 0.2 mg/m <sup>3</sup> Dust and mists, as Cu 1 mg/m <sup>3</sup>
<b>Appropriate engineering controls:</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations low. Ensure that eyewash

stations and safety showers are in proximity to the work-station location.

**Personal protective equipment:** Long sleeve shirt, long pants, boots, chemical resistant gloves, dust or mist respirator, and protective eyewear.

---

## 9. Physical and chemical properties

<b>Appearance:</b>	Liquid
<b>Colour:</b>	Green
<b>Odour:</b>	Characteristic
<b>pH:</b>	9-10
<b>Melting point/freezing point:</b>	Not available
<b>Boiling point:</b>	Not available
<b>Evaporation rate:</b>	Not available
<b>Flash point:</b>	> 100 °C
<b>Flammability:</b>	Not flammable
<b>Vapour pressure:</b>	Not available
<b>Vapour density:</b>	Not available
<b>Density:</b>	1.7 g/mL
<b>Solubility in water:</b>	Copper oxychloride - insoluble Potassium phosphite - very soluble
<b>Partition coefficient n-octanol/water:</b>	Not relevant
<b>Ignition temperature:</b>	Not available
<b>Decomposition temperature:</b>	Not available
<b>Viscosity:</b>	1800-2500 cP

---

## 10. Stability and reactivity

<b>Reactivity:</b>	Stable under normal conditions. Not corrosive to aluminum, copper and polyethylene. Slightly corrosive to zinc.
<b>Chemical stability:</b>	Stable under normal temperatures and pressure.
<b>Possibility of hazardous reactions:</b>	None known. Hazardous polymerization does not occur.
<b>Conditions to avoid:</b>	No data available.
<b>Incompatible materials:</b>	The product is incompatible with acids, ammonium salts, strong bases and oxidizing materials.
<b>Hazardous decomposition products:</b>	No data available.

---

## 11. Toxicological information

### Acute toxicity

Oral LD <sub>50</sub> (rat):	>3000 mg/kg
Dermal LD <sub>50</sub> (rabbit):	>4000 mg/kg
Inhalation LC <sub>50</sub> (4h, rat):	>1.35 mg/L

### Skin corrosion/irritation

Skin irritation (rabbit):	Not irritant
---------------------------	--------------

**Serious eye damage/irritation**

Eye irritation (rabbit): Irritant

**Respiratory or skin sensitization**

Dermal sensitization (guinea pig): Not a skin sensitizer

**Genotoxicity:**

No data available

**Carcinogenicity:**

IARC: None of its components it's listed as carcinogenic.

**Reproductive toxicity:**

Available reproductive and developmental studies by the oral route of exposure generally indicate that the main concern in animals for reproductive and teratogenic effects of copper has usually been associated with the deficiency rather than the excess of copper.

**STOT\* single exposure:**

No data available

**STOT repeated exposure:**

No data available

**Aspiration hazard:**

Non hazardous

\*STOT = Specific Target Organ Toxicity

---

**12. Ecological information****Ecotoxicity:**Birds:

Japanese quail LD<sub>50</sub>: >2000 mg/kg

Fish:

*Poecilia reticulata* LC<sub>50</sub> (96h): 0.535 mg/L

Bees:

*Apis mellifera* (oral): 100 µg/bee

**Persistence and degradability:**

Copper naturally occurs in the environment, and continuously cycles through natural geothermodynamic processes that binds or releases copper ions. Because copper is an element, it cannot break down any further via hydrolysis, metabolism, or any other degradation processes.

Potassium phosphite is not biodegradable.

**Bioaccumulative potential:**

No data available.

**Mobility in soil:**

The free cupric ion has a high sorption affinity for soil, sediments and organic matter, and copper applied to the surface is not expected to readily move into groundwater. Potassium phosphite has a low mobility in soil.

**Other adverse effects:**

Not data available.

---

---

### 13. Disposal considerations

Do not reuse empty containers. Wash empty containers three times with water and pour the washing water into the tank sprayer. Then offer for recycling or reconditioning, or puncture and dispose of in accordance with local regulations.

---

### 14. Transport information

UN No.:	3082
Class:	9
Packaging group:	III
Proper shipping name:	Environmentally Hazardous Substance, Liquid, N.O.S. (copper oxychloride)
Marine pollutant:	Yes

---

### 15. Regulatory information

This data sheet complies with the requirements of the Global Harmonized System of Classification and Labelling of chemicals (GHS).

---

### 16. Other information

*The information contained herein is applicable solely to the indicated product, and does not relate to any other use of this product as described. Its use is intended by persons having technical skill and at their own discretion and risk. The information has been developed from sources reliable. This information is furnished without warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose is made with respect to the information contained herein.*

Issue date: 07/01/2018 (EA)  
Revision date: 18/09/2023 (EA)  
Version: 2  
Replaces version: from: 25/02/2014