



Copper Pyrithione (Powder)

Safety Data Sheet

According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

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SECTION 1: Identification

1.1. Identification

Product name : Copper pyrithione (powder)
CAS RN : 14915-37-8
EC# : 238-984-0
Molecular formula : $C_{10}H_8N_2O_2S_2Cu$

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

Copper pyrithione is Pyridinethione derivative, and it belong to a class of cyclic sulfur organo products containing sulfur atom (S) and often oxygen (O), nitrogen (N), hydrogen (H), as well as other elements, can find application for making biologically active agents such as antiviral, antibacterial, antifungal agents. Copper pyrithione is effective biocide used to control algae, fungi and bacteria. It is used in anti microbial formulation for antifouling paints and as biocide and preservator for textiles, rubber, leather and fiber.

1.3. Details of the supplier of the safety data sheet

Jubilant Ingrevia Limited

FACTORY & REGISTERED OFFICE: Jubilant Ingrevia Limited, Bhartiagram, Gajraula, District: Amroha, Uttar Pradesh-244223, India
T: +91-5924-267437, +91-5924-267438

HEAD OFFICE: Jubilant Ingrevia Limited, Plot 1-A, Sector 16-A, Institutional Area, Noida, Uttar Pradesh, 201301 - India
T +91-120-4361000 - F +91-120-4234881 / 84 / 85 / 87 / 95 / 96 support@jubl.com - www.jubilantingrevia.com

1.4. Emergency telephone number

For Chemical Emergency ONLY (in the case of fire, leak, spill, exposure or accident)

Call Chemtrec: 1-800-424-9300 (US), 1-703-527-3887 (Outside U.S.)

Chemtrec (India) : 000-800-100-7141

For ALL other emergencies call Emergency Control Room Gajraula at 99970 22412

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute tox. 2 (Inhalation)	H330	Fatal if inhaled
Acute tox. 4 (Oral)	H302	Harmful if swallowed
Skin irritation 2	H315	Causes skin irritation
Serious eye damage 1	H318	Causes serious eye damage
Specific target organ tox. 3 (Single exposure)	H335	May cause respiratory irritation
Acute aquatic tox. 1	H400	Very toxic to aquatic life

2.2. Label Elements

GHS-US labeling

Hazard Pictogram (GHS-US)



GHS 06

GHS 05

GHS 09

Signal Word: Danger!

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PRECAUTIONARY STATEMENTS:

- P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P271: Use only outdoors or in a well-ventilated area.
- P284: Wear respiratory protection.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P270: Do not eat, drink or smoke when using this product.
- P264: Wash hands thoroughly after handling.
- P273: Avoid release to the environment.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P310: Immediately call a POISON CENTER or doctor/physician.
- P311: Call a POISON CENTER or doctor/physician.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P330: Rinse mouth.
- P332+P313: If skin irritation occurs: Get medical advice/attention.
- P362: Take off contaminated clothing and wash before reuse.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P312: Call a POISON CENTER or doctor/physician if you feel unwell.
- P391: Collect spillage.
- P403+P233: Store in a well-ventilated place. Keep container tightly closed.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

Sr. No.	Chemical	CAS #	EC#	Purity
1	Copper Pyrithione	14915-37-8	238-984-0	100 %

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. Do not induce vomiting. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow breathing of fresh air. Allow the victim to rest. If you feel unwell, seek medical attention. In case of irregular breathing or respiratory arrest provide artificial respiration. Do not apply mouth-to-mouth resuscitation. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Immediately flush skin with plenty of water for at least 15 minutes. If skin irritation occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/injuries after inhalation : Inhalation may cause irritation, cough, shortness of breath.
- Symptoms/injuries after skin contact : May cause mild skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.
- Symptoms/injuries after ingestion : May cause nausea, vomiting and diarrhea.
- Chronic symptoms : Affects the kidneys & liver. Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects.

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

Treat symptomatically.



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SECTION 5 : FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- *Appropriate extinguishing media:* Dry chemical powder, chemical foam, and alcohol resistant foam. Water may also be used. Water sprays can be effective in cooling down the fire-exposed containers and knocking down the vapors. Water jets may be used to flush spills away and dilute the same to non-flammable mixtures.

5.2. Special Protective Equipment and Precautions for Fire Fighter

- This material is extremely hazardous to health, but fire fighters may enter areas with extreme care. Full protective clothing including a self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed
- Evacuate the area and fight fires from a safe distance.
- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions or as per locally valid procedures.
- Fire fighters must wear Self Contained Breathing Apparatus (SCBA) and full protective clothing. The chemical is harmful in contact with skin.
- Report any run-off of fire waters contaminated with this chemical as per local and federal procedures applicable.

Unusual fire and explosion hazard:

- Toxic vapors may be released on thermal decomposition including Nitrogen Oxides, Carbon Monoxide and Sulfur Oxide and Zinc Oxide.
- High vapor concentration may result in an explosion hazard.
- When heated to decomposition, it emits highly toxic fumes of Sulfur.
- Vapors are heavier than air. May travel considerable distance from source and flashback.
- Material may be ignited only if preheated to high temperatures, for example in a fire. Dust may be ignitable if mixed with air in the presence of an ignition source.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Minor Spills

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Wipe up.
- Decontaminate all equipment.

Major Spill

- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Clear area of personnel and move upwind.
- Stop leaks if possible.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
- Collect recoverable product into labeled containers for recycling, recovery or disposal.
- Contain spill with sand, earth or vermiculite.
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.
- Clean up all tools and equipment.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Do not breathe vapor or mist.
- Wear protective gloves/clothing and eye/face protection.
- Wash thoroughly after handling.
- Ground and secure containers when dispensing or pouring product.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Launder contaminated clothing before re-use.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
- Use in a well-ventilated place/Use protective clothing commensurate with exposure levels.

7.2. Conditions for safe storage, including any incompatibilities

- Store at ambient temperature in a dry and well ventilated place.
- Do not store at above 54 °C.



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- Store away from incompatible materials (Strong oxidizer).
- Keep only in original container.
- Keep securely closed when not in use.

SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

• Exposure Limits Values

Chemical Name	STEL (ppm)	NIOSH	ACGIH	OSHA
Copper pyrithione	None available	None available	None available	None available

- **Exposure Limits (International)**
 - Not available.
- **Derived No-Effect-Levels (DNEL) / Predicted No-effect-concentration (PNEC)**
 - DNEL and PNEC data not available.

8.2. Exposure controls

- **Appropriate Engineering Controls:**
 - Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Local ventilation is usually preferred. Ensure that eyewash stations and safety showers are close to the workstation location.
- **Personal Protection:**
 - Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.
 - **Hands:** Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls as needed in areas of unusual exposure to prevent skin contact.
 - **Eyes:** Safety goggles/ Chemical Safety glasses and Face shield.
 - **Clothing:** Boots and clothing to prevent contact.
 - **Respirator:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
For emergency situations, wear a positive pressure, pressure-demand, full face piece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA,1998).

General Hygiene and general comments:

- Wash hands and face after working with substance.
- Immediately change contaminated clothing.
- Apply skin protective barrier cream.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

• Information on basic physical and chemical properties.

Sr. No.	Parameter	Typical value
1.	Appearance	Olive green powder
2.	Odor	Odourless
3.	Odor Threshold	Not available
4.	pH	6 - 9 (5% slurry in PH 7 water)
5.	Melting point/Freezing point	NLT 280°C
6.	Boiling Point	Not available
7.	Flash point	Not available
8.	Evaporation rate (n-BuAc=1)	Not available
9.	Flammability (Liquid)	Not available
10.	Upper/lower flammability or Explosive limits	Not available
11.	Vapor pressure	2.67E-007 Pa (2E-009 mm Hg)(Estimated)
12.	Vapor density (air=1)	Not available



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Sr. No.	Parameter	Typical value
13.	Relative density	0.34 – 0.38
14.	Bulk density	0.34 – 0.38
15.	Solubility	Solubility in water is < 1 ppm
16.	Partition coefficient : n-(Octanol / water)	-1.08(Estimated)
17.	Auto-ignition temperature	Not available
18.	Decomposition temperature	Not available
19.	Viscosity	Not available
20.	Explosive property	Not available
21.	Oxidizing property	Not available

SECTION 10: STABILITY AND REACTIVITY

- **Stability:** The product is stable under normal conditions.
- **Conditions to avoid:** Keep away from heat, sparks, open flame, high temperature and incompatible chemicals. Avoid creating dusts as an explosive dust air mixture can be created at high concentrations. If dusts are created, ensure no sources of ignition are present. Take precautionary measures to prevent electrostatic discharges. Product is not sensitive to mechanical shock or impact.
- **Incompatible materials:** Strong Oxidizing agents.
- **Hazardous decomposition products:** Thermal decomposition may produce very toxic Copper containing fumes of Sulphur, Carbon monoxide, Sulphur dioxide.
- **Possibility of hazardous reactions:** Hazardous Polymerization: Not reported.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

a) Acute toxicity

- **Eyes:** Severe irritation and/or burns can occur following exposure. Direct contact may cause impairment of vision and corneal damage. Rinsing of the eye should take place immediately.
- **Skin:** No significant adverse effects to health would be expected to occur from dermal contact. May be absorbed through skin, but it is unlikely that harmful effects will occur unless contact is prolonged, repeated, and extensive. Dermal contact may cause irritation consisting of transient redness. This irritant effect would not be expected to result in permanent damage.
- **Ingestion:** May be harmful if swallowed. If small quantities are ingested, vomiting will normally occur (usually within 5 to 10 minutes). Copper Pyrithione is also an emetic; due to this property it is unlikely that significant quantities of material would be absorbed across the gastrointestinal tract to produce serious toxic effects. However, ingestion may produce gastrointestinal irritation with nausea, vomiting, lethargy and diarrhea. Chronic toxicity via ingestion is unlikely due to its emetic effect.
- **Inhalation:** Moderately toxic by inhalation. High concentrations may be slightly irritating to the eyes, nose, throat, and lungs. Over exposure to dust may be harmful. Acute exposure to dust may be harmful. Acute exposure may cause transient irritation to the respiratory tract. Symptoms may include tremors, ataxia and convulsions. Chronic exposure may cause respiratory irritation. Skeletal muscle atrophy may cause reparatory irritation. Skeletal muscle atrophy and peripheral nerve damage characterized by general muscle weakness has been reported in animal studies after repeated exposure to high concentrations.
- **Chronic effects:** To the best of our knowledge chronic effects of Copper pyrithione have not been fully investigated.

TOXICITY:

- **Additional Information:** This compound is Nervous system toxin.
- **RTECS#:** GL6487800

Oral Rodent Rat, LD50:	1075 mg/kg
Inhalation Rodent Rat, LC50:	70 mg/m ³ /4H

b) Skin corrosion/irritation

- Causes skin irritation.

c) Serious eye damage/irritation

- Causes serious eye damage.



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- d) **Respiratory or skin sensitization**
 - Causes irritation to respiratory system.
- e) **Germ cell Mutagenicity**
 - This chemical has been shown to be non-mutagenic.
- f) **Carcinogenicity**
 - Not listed by NTP, IARC and OSHA.
 - Not present on the EU CMR list.
 - According to information presently available Copper pyrithione is not found to be carcinogenic.
- g) **Reproductive toxicity**
 - It is not expected to cause adverse reproductive or embryonic effects.
- h) **STOT-single exposure**
 - May cause respiratory irritation.
- i) **STOT-repeated exposure**
 - No data available.
- j) **Aspiration Hazards**
 - No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity:

- Freshwater algae : (120 hrs) 0.035 mg/l
- Based on the estimated values it is expected that this material is very toxic to the aquatic life. Efforts must be undertaken to prevent its entry into environmental bodies, especially aquatic bodies. Local regulations must be consulted in event of any release and appropriate authorities must be informed.

12.2. Persistence and degradability

- Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
- **Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself. Due to rapid degradation from sunlight, its presence in the environment is very short lived.

12.3. Bioaccumulative potential

- Log Kow = -1.08 (Estimated). Very Low bioaccumulation is expected.
- BCF = 3.162

Based on the Log Kow and Bioconcentration factor value it is expected to have low potential to concentrate in fatty tissue of fish and aquatic organisms relative to its surroundings.

12.4. Mobility in soil

- Log Koc = 2.572 (predicted). Moderate absorption in soil.
- Henry's Law Constant = 1.176E-015 atm-m³/mole. It is expected to be volatile from aqueous phase.
- Log Kow = -1.08 Low potential to bio accumulate.

12.5. Other adverse effects

- **Environment Fate:**
Based on the environmental modeling, this material has a low potential to get absorbed in the organic matter of soil and is expected to be volatile from aqueous bodies. Since this is an estimated result it is recommended that the material should not be disposed into the environment. The material should never be disposed into the sewage.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

ADR/ RID/ DOT	IMDG	IATA
14.1 UN number		
UN 2811	UN 2811	UN 2811
14.2 UN proper shipping name		
Toxic, solid, organic, N.O.S	Toxic, solid, organic, N.O.S	Toxic, solid, organic, N.O.S
14.3 Transport hazard class(es)		
6.1	6.1	6.1
14.4 Packing group		
III	III	III
14.5 Environmental hazards		
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes
No supplementary information available		

SECTION 15: REGULATORY INFORMATION

European Union Information

Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** *Acute toxicity Inhalation Cat 2; Acute toxicity Oral category 4, Skin irrit Cat 2; Eye Dam. Cat 1; STOT SE Cat 3, acute aquatic toxicity Category 1*
- **Hazard Statements:** H330; H302; H315; H318; H335; H400

International Inventories

Chemical Inventory Lists:	Status
TSCA:	Not Listed
EC Inventory	Listed
Canada(DSL/NDSL):	Not Listed
Taiwan Chemical Substance Inventory (TCSI)	Listed
New Zealand Inventory of Chemicals (NZIoC)	Listed
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Listed
Inventory of Existing and New Chemical Substances (ENCS)	Listed



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Japan ISHL Existing Substances List (ISHL)	Listed
China: IECSC	Listed
Existing Chemicals List (KECI)	Listed
Australian Inventory of Chemical Substances (AICS)	Not Listed

US information

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

Copper Pyrithione is not listed

SARA 302/304 : Copper Pyrithione is not listed

SARA 311/312 : See section 2 for more information

California Prop. 65: Copper Pyrithione is not listed

CAA (Clean Air Act): Copper Pyrithione is not listed

CWA (Clean Water Act): Copper Pyrithione is not listed

EU Information

Water hazard class (WGK): WGK 3 (Severely hazardous to water)

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006: Copper Pyrithione is not listed

SECTION 16: OTHER INFORMATION

Compilation information of safety data sheet

Chemical: Copper pyrithione

CAS #: 14915-37-8

File Name: 0675Gj Ghs08 Div.3 sds Copper pyrithione (Powder)

Revision Number: 08

Date of Issue: February 26, 2024

Revision Due Date: January, 2027

(a) A key or legend to aberrations and acronyms used in the safety data sheet;

- PBT =Persistent Bio accumulative and Toxic.
- vPvB= Very Persistent and Very Bio accumulative.
- SCBA= Self Contained Breathing Apparatus.
- NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit.
- OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit.

- OELTWA= Occupational Exposure Limit Time Weighted Averages.
- IDLH= Immediately Dangerous to Life or Health.
- UEL= Upper Explosive Limit.
- LEL= Lower Explosive Limit.
- RTECS= Registry of Toxic Effects of Chemical Substances.
- NTP=National Toxicology Program
- IARC= International Agency for Research on Cancer.
- EPA=Environmental Protection Agency.
- TSCA= Toxic Substances Control Act.
- CSR=Chemical Safety Report.
- BCF = Bio Concentration Factor.
- DNEL = Derived No Effect Level.
- PNEC = Predicted No Effect Concentration.
- TLV = Threshold Limit Value.
- ACGIH = American Conference of Governmental Industrial Hygienists.
- REACH = Registration, Evaluation .Authorization and Restriction of Chemicals.
- CLP = Classification, Labelling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- ADR = Accord europeen relative au transport international de marchandises.
- IMDG-Code = International Maritime Code for Dangerous Goods.
- EmS = Emergency measures on Sea.



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- ICAO = International Civil Aviation Organization.
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation.

(b) Key Literature reference and sources for data

Biographical reference and data sources

- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- DIR 67/548/EWG, last modification by DIR 2009/2/EC
- REG (EC) no. 1907/2006, last modification by REG (EC) Nr. 453/2009

Internet

- RTECS

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
