Jubithione ZPT
Safety Data Sheet

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

Date of Compilation	: April 06, 2012
Date of Revision	: April 02, 2024
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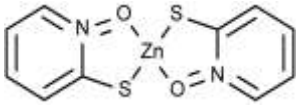
According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product Identifier

Product name	: Jubithione ZPT
CAS RN	: 13463-41-7
EC#	: 236-671-3
Synonyms	: Bis(1-hydroxy-2(1H)-pyridinethionato)zinc; Omadine Zinc; 2-Pyridinethiol-1-oxide, Zinc,bis(1-hydroxy- 2(1H)-pyridinethionato); Zinc pyridinethione., Zinc pyrithione, Jubithione-ZPT powder
Technical Name	: bis(2-pyridylthio)zinc 1,1'-dioxide, Zinc pyrithione
Molecular Formula	: $C_{10}H_8N_2O_2S_2Zn$
Structural Formula	



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

Relevant identified uses:

- Zinc pyrithione is used in treating dandruff and seborrrhoeic dermatitis as a cosmetic ingredient. It has antibacterial properties and is effective against many pathogens.
- Application as In-can and Dry-film Preservative in paint and coating applications. It also possess anti-bacterial properties and is effectively used for treatment of household sponges. It has its use in controlling growth of odour causing microorganisms in textiles, for dry film preservation of adhesives, caulks, sealants, non marine paints, foams and coatings, powder coatings, residential paints. It has also application for control of mildew and bacteria in styrene butadiene, natural rubber, resins. It has application to inhibit growth of bacteria and fungi in dry walls, ceilings, wall partitions.

1.3. Details of the supplier of the safety data sheet

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
Physical hazards: Not classified.

Health Hazards

Acute toxicity, Oral: Category 3	H301	Toxic if swallowed.
Acute toxicity, Inhalation: Category 3	H331	Toxic if inhalled.
Serious eye damage: Category 1	H318	Causes serious eye damage.
Acute toxicity (Dermal) Category-4	H312	Harmful in contact with skin.

Environmental hazards

Acute aquatic toxicity: Category 1	H400	Very toxic to aquatic life.
Chronic aquatic toxicity: Category 1	H410	Very toxic to aquatic life with long lasting effects

2.2 Label Elements

Hazard Pictogram: GHS 05, GHS 06, GHS 09

Signal Word: Danger!

2.3 Hazard and Precautionary Statements:

HAZARD STATEMENTS

H301: Toxic if swallowed.
H331: Toxic if inhalled.
H318: Causes serious eye damage.
H312 Harmful in contact with skin.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P271: Use only outdoors or in a ventilated area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P273: Avoid release to the environment.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330: Rinse mouth.
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.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P362: Wash Contaminated clothing before reuse.
P391: Collect spillage.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P501: Dispose of contents/container to local/regional/national/international regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS #	EC#	% w/w	GHS Classification
Zinc Pyrithione	13463-41-7	236-671-3	<= 100%	Acute toxicity, Oral: Category 3 Acute toxicity, Inhalation: Category 3 Serious eye damage: Category 1 Acute toxicity (Dermal) Category-4 Acute aquatic toxicity: Category 1 Chronic aquatic toxicity: Category 1

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

If in Eyes:

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a Poison Control Center or doctor for treatment advice.

If Swallowed:

- Call a Poison Control Center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to by a Poison Control Center or doctor.
- Do not give anything to an unconscious person.

If on Skin or Clothing:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a Poison Control Center or doctor for treatment advice.

If Inhaled:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
- Call a Poison Control Center or doctor for further treatment advice.

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

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage. Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Apply extinguishing media carefully to avoid creating airborne dust. Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.
Unsuitable extinguishing media: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

- Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

5.4 Fire-fighting equipment/instructions

- In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

5.5 General fire hazards

- Handling conditions may form dust clouds which are susceptible to ignition by electrical (static) discharge.
- Ground container and personnel before transferring material.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- Additional protective clothing must be worn to prevent personal contact with this material. Those items includes but not limited to boots, impervious gloves, hard hat, splash-proof goggles, impervious clothing i.e. chemically impermeable suit, self-contained breathing apparatus.
- Ensure adequate ventilation.
- Avoid contact with the skin and the eyes.
- Refer to protective measures listed in sections 7 and 8.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Take off contaminated clothing and shoes immediately.
- Wash contaminated clothing before re-use.

6.2 Environmental precautions

This substances is toxic to fish. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or other waters unless in accordance with local or national regulations. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority.

6.3 Methods and materials for containment and cleaning up

- Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.
- **Large Spills:** Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water.
- **Small Spills:** Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
- Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

- Minimize dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Explosion-proof general and local exhaust ventilation. Do not re-use empty containers. Do not get this material in contact with eyes. Do not taste or swallow. Avoid breathing dust. When using, do not eat, drink or smoke. Use only

outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

- Keep container tightly closed when not in use. Do not store above 130ºF. Do not store with strong oxidizing agents or strong (concentrated) acids.
- Store locked up.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Chemical name	CAS No.	Value type (from of exposure)	Control parameter permissible concentration
Zinc pyrithione	13463-41-7	TWA	0.35 mg/m^3

8.2 Exposure controls

Appropriate Engineering Controls:

- Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Provide eyewash station.

8.3 Individual protection measures, such as personal protective equipment

- **Eye/face protection**: Users must wear protective eyewear (goggles, safety glasses, or face shield).
- **Skin protection/ Hand protection:** Users must wear appropriate chemical resistant gloves, long sleeved shirt and long pants, socks, chemical resistant gloves and chemical resistant footwear. When mixing and loading, or cleaning equipment, wear a chemical resistant apron.
- **Respiratory protection:** Users must wear a fit tested, NIOSH approved full face respirator equipped with a combination organic vapor/P-100 pre-filter.

8.4 General hygiene considerations

- Avoid contact with skin, eyes and clothing.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- When using do not eat, drink or smoke.

8.5 Additional Information

- When mixing and loading, or cleaning equipment, wear a chemical resistant apron.
- Wash thoroughly with soap and water after handling, and before eating, chewing gum, drinking, using tobacco, or using the toilet.
- Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

8.6 Control of environmental exposure

- Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- Information on basic physical and chemical properties.

Sr. No.	Parameter	Typical value
1.	Appearance	Off-white to tan solid powder
2.	Odor	Mild
3.	Odor Threshold	Not available
4.	pH	6.5 – 9.50 (10% slurry in neutral, distilled water at 25°C)
5.	Melting point/Freezing point	240 °C, decomposes
6.	Boiling Point	decomposes
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	Not available
12.	Vapor density (air=1)	Not available
13.	Density	1.78 g /cm3
14.	Solubility	0.008 g /L at 20°C
15.	Partition coefficient : n-(Octonol / water)	0.9
16.	Auto-ignition temperature	Not available
17.	Decomposition temperature	Not available
18.	Viscosity	Not available
19.	Explosive property	No
20.	Oxidizing property	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

- The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 Chemical stability

- Material is stable under normal conditions.

10.3 Possibility of hazardous reactions

- Hazardous polymerization does not occur.

10.4 Conditions to avoid

- Keep away from heat, sparks and open flame. Sunlight. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials. Minimize dust generation and accumulation.

10.5 Incompatible materials

- Do not store with strong oxidizing agents or strong (concentrated) acids.

10.6 Hazardous decomposition products

- Carbon oxides. Nitrogen oxides (NOx). Sulphur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity-Oral: LD50 =269 mg/kg bw in rat.
Acute Toxicity: inhalation: LC50 = 1.03 mg/l air (4 hours exposure) in rat.
Acute Toxicity: dermal: LD50 = >2000 mg/kg bw in rat.
Skin irritation / corrosion: Not irritating.
Eye irritation: May cause irreversible eye damage.
Skin sensitisation: Not considered to be a skin sensitizer.
Repeated dose toxicity: oral: NOAEL 0.5 mg/kg bw/day (nominal) male and female rat.
Repeated dose toxicity: inhalation: NOAEL= 2.0 mg/m^3 in Rat.
Repeated dose toxicity: dermal: NOAEL=100 mg/kg bw/day in Rat.
Genetic toxicity: Not considered mutagenic
Carcinogenicity: Not considered carcinogenic
Reproductive and Developmental toxicity: Reproduction and/or Developmental toxicity was only seen in laboratory animals at doses that were toxic to the dam.
STOT-single exposure: May cause irritation to respiratory system.
STOT- repeated exposure: In animal studies, repeated exposure to high concentrations causes skeletal muscle atrophy and peripheral nerve damage.
Aspiration Hazards: Not likely, due to the form of the product.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Ecological Toxicity Values for: Zinc Pyrithione
Rainbow trout (Salmo gairdneri): (measured, flow-through) 96 h LC50 = 0.0032 mg/l
Pimephales promelas (fathead minnow): (measured, flow-through) 96 h LC50 = 0.0026 mg/l
Sheepshead minnow: (measured, static) 96 h LC50 = 0.4 mg/l
Daphnia magna: (measured, flow-through) 48 h LC50= 0.0082 mg/l
Daphnia magna: (measured, flow-through) 48 h EC50= 0.034 mg/l
Daphnia magna: (measured, flow-through) 21 day EC50 (chronic toxicity) = 0.029 mg/l
Selenastrum capricornutum (freshwater algae): (measured, static) 120 h EC50 = 0.028 mg/l
Lemna gibba G3 (Duckweed): (measured, flow-through) 7 day EC50 = 0.0096 mg/l

12.2 Persistence and degradability

Biodegradation in water: screening tests: Zinc pyrithione is not readily biodegradable.
Biodegradation in soil: The leaching behavior of zinc pyrithione in four soils shows pyrithione to be immobile, which is consistent with the results from the adsorption/desorption study in two soils and two sediments. Pyrithione degraded to varying extents during the leaching period. Only the degradants were found to be mobile in the soils.
Mode of degradation in actual use: No data available

12.3 Bio accumulative potential

Zinc Pyrithione (13463-41-7)	
Log Pow	0.9

Bioaccumulation: terrestrial: No data available

12.4 Mobility in Soil

Zinc Pyrithione (13463-41-7)	
Mobility in soil	The adsorption coefficients on soil and sediments, determined with the batch equilibrium method, were found to range from 11.4 to 98.7

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 : Waste treatment methods

- **Disposal instructions**: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Local disposal regulations:** Dispose in accordance with all applicable regulations.

Container Handling:

- Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
- Triple rinse as follows: Empty remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

SECTION 14: TRANSPORT INFORMATION

- This substance is considered to be Hazardous for transport by Air/Rail/Road and Sea and thus regulated by TDG/ US DOT/ IATA/ ICAO/ IMO/ IMDG.

	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. (zinc pyrithione)	TOXIC SOLID, ORGANIC, N.O.S. (zinc pyrithione)	Toxic solid, organic, N.O.S. (zinc pyrithione)
14.3	**Transport hazard class(es)**		
	6(6.1)	6(6.1)	6(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

International regulations Zinc Pyrithione (13463-41-7)

Listed in United States TSCA (Toxic Substances Control Act) inventory
Listed on the Canadian DSL (Domestic Substances List)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the Canadian IDL (Ingredient Disclosure List)
Listed on INSQ (Mexican national Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)

US information

- CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):
- Zinc Pyrithione is not listed
- SARA 302/304 : Zinc Pyrithione is not listed
- SARA 311/312 : See section 2 for more information
- California Prop. 65: Zinc Pyrithione is not listed
- CAA (Clean Air Act): Zinc Pyrithione is not listed
- CWA (Clean Water Act): Zinc 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: Zinc Pyrithione is not listed

a) : Compilation information of safety data sheet

Date of Compilation	: April 06, 2012
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Supersedes date	: January 02, 2024
Supersedes version	: 0672Gj Ghs10 Div.3 sds Zinc pyrithione

b) 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.
- CERCLA= Comprehensive Environmental Response, Compensation, and Liability Act.
- SARA= Superfund Amendments and Reauthorization Act.
- NFPA= National Fire Protection Association.
- WHIMS= Workplace Hazardous Materials Information System.
- DSL/NDSL= Domestic/Non-Domestic Substances List.
- 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, Labeling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- IMDG-Code = International Maritime Code for Dangerous Goods.
- EmS = Emergency measures on Sea.
- ICAO = International Civil Aviation Organization.
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation.

c) Key Literature reference and sources for data

Biographical reference and data sources

- Globally Harmonized System of Classification and Labelling of Chemicals.

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.

(End of Safety Data Sheet)