

1. IDENTIFICATION

Product Name	Zinc Pyrithione, 50% Aqueous Dispersion
Other Names	Zinc Pyrithione, 48% Aqueous Dispersion
Uses	Preservative (fungistatic & bacteriostatic); Anti-dandruff & eczema/dermatitis/psoriasis treatments; Outdoor paints.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Zinc pyrithione, aqueous dispersion
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Schedule 6

Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Acute Toxicity (Oral) - Category 4
 Acute Toxicity (Inhalation) - Category 4
 Serious Eye Damage/Irritation - Category 1
 Specific Target Organ Toxicity (Single Exposure) - Category 3
 Specific Target Organ Toxicity (Repeated Exposure) - Category 1
 Acute Hazard To The Aquatic Environment - Category 1
 Long-term Hazard To The Aquatic Environment - Category 1

Pictograms



Signal Word Danger

Hazard Statements

H302 + H332	Harmful if swallowed or if inhaled.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention	P280	Wear eye protection/face protection.
	P261	Avoid breathing mist/vapours/spray.
	P273	Avoid release to the environment.
	P264	Wash hands thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
Response	P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.
	P312	Call a POISON CENTER or doctor/physician if you feel unwell.
	P391	Collect spillage.
	P330	Rinse mouth.
	P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
Storage	P405	Store locked up.
Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Water	H ₂ O	7732-18-5	48 - 52 %
Zinc pyrithione	C ₁₀ H ₈ N ₂ O ₂ S ₂ Zn	13463-41-7	48 - 52 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed

IF SWALLOWED: Rinse mouth, then drink plenty of water. Loosen tight clothing, such as a collar, tie, belt or waistband. Call a Poison Centre or doctor/physician for advice. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Eye

IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Call a Poison Centre or doctor/physician for advice. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes.

Skin

IF ON SKIN: Remove contaminated clothing and shoes immediately. Flush skin with running water for at least 15 minutes. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. If skin irritation occurs, get medical advice/attention. Cover irritated skin with an emollient or anti-bacterial cream. Wash contaminated clothing and shoes before reuse.

Inhaled

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Loosen tight clothing, such as a collar, tie, belt or waistband. Call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device; Administer oxygen if breathing is difficult.

Advice to Doctor

Treat symptomatically. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of identity and nature of product(s) involved, and take precautions to protect themselves.

Medical Conditions Aggravated by Exposure

No information available.

5. FIRE FIGHTING MEASURES

General Measures

If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.

Flammability Conditions

Non-combustible; However, following evaporation of aqueous component under fire conditions, the residual material may decompose and/or burn.

Extinguishing Media

If material is involved in a fire, use dry chemical, Carbon dioxide (CO₂), foam or water spray for extinction.

Fire and Explosion Hazard

Containers may explode when heated.

Hazardous Products of Combustion

Fire or heat may produce irritating, toxic and/or corrosive gases, including Carbon oxides, Nitrogen oxides, Sulfur oxides, Zinc oxides.

Special Fire Fighting Instructions

Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and may pollute waterways.

Personal Protective Equipment

Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.

Flash Point

No Data Available

Lower Explosion Limit

No Data Available

Upper Explosion Limit

No Data Available

Auto Ignition Temperature

No Data Available

Hazchem Code

No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to a suitable, properly labelled container for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8). Large spill: Wear SCBA and chemical splash suit.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Do not breathe mist/vapours/spray and avoid contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Keep away from heat and sources of ignition - No smoking. Avoid contact with incompatible materials (see SECTION 10). Avoid release to the environment - Collect spillage (see SECTION 6).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	<ul style="list-style-type: none">- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Organic vapour/particulate filter respirator (refer to AS/NZS 1715 & 1716).- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Goggles.- Hand protection: Handle with gloves. Recommended: Protective gloves.- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Long-sleeved clothing; Chemical-resistant apron.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Paste
Odour	Weak

Colour	Off-white to yellow-brown
pH	6 - 9 (5% soln.)
Vapour Pressure	<=2.3 kPa (Water) (@ 20 °C)
Relative Vapour Density	<=0.62 Air = 1
Boiling Point	>=100 °C (Water)
Melting Point	No Data Available
Freezing Point	No Data Available
Solubility	Soluble in cold water
Specific Gravity	1.27 (Water = 1)
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; However, following evaporation of aqueous component under fire conditions, the residual material may decompose and/or burn.
Reactions That Release Gases or Vapours	Fire or heat may produce irritating, toxic and/or corrosive gases, including Carbon oxides, Nitrogen oxides, Sulfur oxides, Zinc oxides.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	The product is stable under normal temperature and pressure.
Conditions to Avoid	Protect from heat and direct sunlight.
Materials to Avoid	Incompatible/reactive with oxidising agents, reducing agents, metals.
Hazardous Decomposition Products	Fire or heat may produce irritating, toxic and/or corrosive gases, including Carbon oxides, Nitrogen oxides, Sulfur oxides, Zinc oxides.

Hazardous Polymerisation

Will not occur.

11. TOXICOLOGICAL INFORMATION**General Information**

- Acute toxicity: Harmful if swallowed and if inhaled. COMPONENT: Zinc pyrithione is toxic if swallowed and if inhaled. May be harmful in contact with skin; However, is not readily absorbed by dermal exposure [NICNAS].
- Skin corrosion/irritation: May cause skin irritation. COMPONENT: Zinc pyrithione is considered to cause only slight skin irritation [NICNAS].
- Eye damage/irritation: Causes serious eye damage. COMPONENT: Zinc pyrithione caused severe and irreversible corneal lesions, severe redness and swelling (Rabbit) [OECD TG 405; ECHA].
- Respiratory/skin sensitisation: Zinc pyrithione is not considered to be a skin sensitiser [NICNAS].
- Germ cell mutagenicity: Zinc pyrithione is not considered to be genotoxic [NICNAS].
- Carcinogenicity: Zinc pyrithione is not considered to be carcinogenic [NICNAS].
- Reproductive toxicity: Zinc pyrithione is not considered to cause reproductive or developmental toxicity; and is not considered to be a teratogen; Reproductive organs were not significantly affected, and the increased incidence of foetal malformations occurred at doses that were maternally toxic [NICNAS].
- STOT (single exposure): May cause respiratory irritation (dyspnea, acute pulmonary edema). COMPONENT: Zinc pyrithione is considered to be a severe respiratory (mucous membrane) irritant [NICNAS]. May affect behaviour (somnolence or general depressed activity), nervous system (peripheral nerve and sensation), sense organs and metabolism (weight loss).
- STOT (repeated exposure): Causes damage to organs through prolonged or repeated exposure. COMPONENT: Zinc pyrithione is considered to cause severe systemic effects from repeated oral and inhalation exposure [NICNAS]. May cause hypermotility, diarrhoea, generalised skeletal muscle wasting and weakness, somnolence, weight loss; May affect behaviour/central nervous system/peripheral nervous system, metabolism, eyes, retinal changes (pigmentation changes, retinitis, etc); and may cause spastic paralysis with or without sensory change.
- Aspiration toxicity: No information available.

Acute**Ingestion**

Acute toxicity (Oral):
- LD50, Mouse: 1,600 mg/kg [Calculated value for the mixture].

Other

Acute toxicity (Dermal):
- LD50, Rabbit: 1,770 mg/kg [Calculated value for the mixture].

Inhalation

Acute toxicity (Inhalation):
- LC50, Rabbit: 1,550 mg/m3 or 1.55 mg/L (4 h) [Calculated value for the mixture].

Carcinogen Category

None

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Aquatic toxicity:
COMPONENT: Zinc pyrithione (CAS No. 13463-41-7):
- M-factor, acute: 100 [ECHA].
- M-factor, chronic: 10 [ECHA].

Persistence/Degradability

No information available.

Mobility

No information available.

Environmental Fate

Very toxic to aquatic life with long lasting effects - Prevent entry into drains and waterways.

Bioaccumulation Potential

No information available.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

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

Special Precautions for Land Fill

No information available.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Zinc Pyrithione, 50% Aqueous Dispersion
Class	No Data Available
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	AU01
Comments	UN#3082: Not regulated as DG when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg(L) or IBCs.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Pyrithione Zinc)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Pyrithione Zinc)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
EPG	47 Low To Moderate Hazard Substances
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Pyrithione Zinc)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
ERG	171 Substances (Low to Moderate Hazard)
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Pyrethione Zinc)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-F
Marine Pollutant	Yes

Air Transport

IATA DGR

Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Pyrethione Zinc)
Class	9 Miscellaneous Dangerous Goods and Articles
Subsidiary Risk(s)	No Data Available
UN Number	3082
Hazchem	3Z
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information No Data Available

Poisons Schedule (Aust) Schedule 6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code Not Assessed

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined

Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Not Determined
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	ZIPYRI1000, ZIPYRI1001, ZIPYRI1002, ZIPYRI1003, ZIPYRI2000, ZIPYRI3000, ZIPYRI4000
Revision	1
Revision Date	10 Oct 2015
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre m³ Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m³ Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre mmH₂O Millimetres of Water mPa.s Millipascals per Second N/A Not Applicable</p>

NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight