



MATERIAL SAFETY DATA SHEET

Material Safety Data Sheet according to Reg. (EU) No 2001/58

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

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1. Identification of the substance/preparation and the company/undertaking

1.1. Identification of the substance or preparation

Trade name	:	Tebufenpyrad 200 g/kg WP
Chemical description	:	Tebufenpyrad, 200 g/kg Wettable powder
Synonym	:	Pyranica; 1H-Pyrazole-5-carboxamide, 4-chloro-N-[[4-(1,1-dimethylethyl)phenyl]methyl]-3-ethyl-1-methyl-etc.
CAS number	:	119168-77-3
EC Number	:	601-585-0

1.2. Use of the substance/preparation

Use : Tebufenpyrad is a contact and stomach action acaricide used to control all stages of Tetranychus, Panonychus, Oligonychus and Eotetranychus spp. including red mite, fruit tree red spider mite and the two spotted spider mite, aphids on fruit trees including apples, pears, strawberries, Commercial greenhouses, Ornamentals including roses, hopsand other crops.

1.3. Company/undertaking identification

Company identification : ZHEJAING RAYFULL CHEMICAL CO.,LTD



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1.4. Emergency telephone

Emergency telephone : 114

2. Composition/Information on ingredients

2.1. Substance

The product is a mixture, not a substance.

Substance name	Value(s)	CAS RN / EC-No. / Index-No.	Classification (Dir.67/548)	Classification: REGULATION (EC) No 1272/2008	REACH No
Tebufenpyrad	≥200 g/kg	CAS RN 119168-77-3 EC-No. 601-585-0 Index-No. None	Hazard symbol(s): Xn, Xi, N R-phrases: 22, 36, 50	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Acute Tox. 4 (Inh Dust/Mist); H332 Tox. 3 (Oral); H301 Skin Sens. 1B; H317 STOT RE 2; H373 EUH208	no data available

For the full text of the R phrases mentioned in this Section, see Section 16

For the full text of the H-Statements mentioned in this Section, see Section 16

3. Hazards Identification

3.1. Classification of the substance or mixture

Hazard Class and Category Code Regulation EC 1272/2008 (CLP)

Acute Tox. 4 (Inhalation - dust)

Acute Tox. 4 (oral)

STOT SE 3 (irritating to respiratory system)

STOT RE (Gastrointestinal tract) 2 (oral)

Aquatic Acute 1

Aquatic Chronic 1


Classification EU 67/548/EEC or 1999/45/EC



Symbol(s) : Xn - Harmful
Xi- Irritating
N-Dangerous for the environment
R-code(s) : R22, R36, R50

3.2. Label elements

Labelling according to Regulation EC 1272/2008 (CLP)

Hazard pictograms : 

- Hazards pictograms -code : GHS02 ; GHS07 ; GHS08 ; GHS09
- Signal words : Warning
- Hazard statements : H332 Harmful if inhaled.
H302 Harmful if swallowed.
H335 May cause respiratory irritation.
H373 May cause damage to organs (Gastrointestinal tract) through prolonged or repeated exposure (oral).
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
- Precautionary statements
 - Prevention : P271 Use only outdoors or in a well-ventilated area.
P260 Do not breathe dust/gas/mist/vapours.
P270 Do not eat, drink or smoke when using this product.
P264 Wash contaminated body parts thoroughly after handling.
 - Response : P311 Call a POISON CENTER or doctor/physician.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301 + P330 IF SWALLOWED: rinse mouth.
P391 Collect spillage.
 - Storage : P403 + P233 Store in a well-ventilated place. Keep container tightly closed.



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- P405 Store locked up.
- Disposal : P501 Dispose of contents/container to hazardous or special waste collection point.

3.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

4. First Aid Measures

4.1. Description of first aid measures

First aid

- General advice : For advice, contact a Poisons Information Centre or a doctor (at once). Have this MSDS with you when you call.
- Ingestion : If swallowed, rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.
- Skin contact : Remove contaminated clothing and shoes immediately and wash with plenty of water and soap. If symptoms persist, seek medical attention.
- Eye contact : If in eyes, hold eyelids apart and flush the eye continuously with large amounts of water for at least 15 minutes. Seek medical attention if symptoms persist.
- Inhalation : Remove from exposure area to fresh air immediately, seek medical attention if symptoms develop or persist.

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

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.



5. Fire-fighting measures

5.1. Extinguishing media

Extinguishing media : Suitable extinguishing media: dry powder, foam, water spray.
Unsuitable extinguishing media for safety reasons: carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Special hazards arising from the chemical : carbon monoxide, hydrogen chloride, Carbon dioxide, nitrogen oxides, organochloric compounds The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus and chemical-protective clothing.

Further information : In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Avoid dust formation.

6.2. Environmental precautions

Environmental precautions : Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Do not allow contamination of public drains or surface or ground waters. Inform local water plc if spillage enters drains and the Environmental Protection Agency if it enters surface or ground waters. Keep people and animals away.

6.3. Methods and material for containment and cleaning up



After spillage and/or leakage : It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping.

If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be swept up or preferably vacuumed up using equipment with high efficiency final filter. Transfer to suitable containers. Clean area with strong industrial detergent and much water. Absorb wash liquid onto a suitable absorbent such as hydrated lime, universal binder, bentonite or other absorbent clays and transfer to suitable containers. The used containers should be properly closed and labelled.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

6.4. Reference to other sections

See subsection 8.2. for personal protection.

See section 13 for disposal.

7. Handling and storage

7.1. Handling

Handling : No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Protection against fire and explosion: Dust can form an explosive mixture with air. Avoid dust formation. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Storage

Storage : Segregate from foods and animal feeds. Further information on



storage conditions: Protect against moisture. Keep away from heat. Protect from direct sunlight. Protect from temperatures above: 30 °C Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

7.3. Specific use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

8. Exposure controls personal protection

8.1. Exposure limit values

1332-58-7: Kaolin

TWA value 2.0 mg/m³ (OEL (IE)), Respirable dust

7631-86-9: Silicon dioxide

TWA value 6 mg/m³ (OEL (IE)), Total inhalable dust

TWA value 2.4 mg/m³ (OEL (IE)), Respirable dust

Refer to the current schedule of occupational exposure standards published by the Irish HSA. For normal use and handling refer to the product label/leaflet. In all other cases the following apply.

8.2. Exposure controls

Exposure controls : When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems nonhazardous before opening.

The precautions mentioned below are primarily meant for handling of the undiluted product and for preparing the spray solution, but can be recommended for spraying as well.

In cases of incidental high exposure, maximal personal protection may be necessary, such as respirator, face mask, chemical resistant coveralls.

-Respiratory protection : The product is not likely to present an airborne exposure concern



during normal handling, but in the event of an accidental discharge of the material which produces a heavy vapour or dust, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.

- Skin protection : Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.
- Hand protection : Wear heavy duty, natural rubber gloves. The breakthrough times of these gloves for Tebufenpyrad are unknown, but it is expected that they will give adequate protection. It is recommended to limit the work to be done manually.
- Eye protection : Wear safety glasses, goggles or face shield. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.

9. Physical And Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	:	Powder
Colour	:	White
Odor	:	Faint odour
pH	:	6.0-8.0
Melting point	:	>460°C
Flammability	:	Not self-igniting
Vapour pressure	:	The product has not been tested.
Partition Coefficient (log Kow)	:	Not applicable
Autoignition temperature	:	Not applicable



Decomposition temperature	:	No decomposition if stored and handled as prescribed/indicated.
Explosive properties	:	Not explosive
Oxidising properties	:	Not oxidising
Solubility	:	Dispersible

10. Stability And Reactivity

10.1. Conditions to avoid

Conditions to avoid : This product should be kept in a cool place, preferably below 30°C. Containers should be kept dry. Keep isolated from combustible materials. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. See MSDS section 7 - Handling and storage.

10.2. Materials to avoid

Materials to avoid : strong acids, strong bases, strong oxidizing agents.

10.3. Hazardous decomposition products

Hazardous decomposition products : No hazardous reactions if stored and handled as prescribed/indicated.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity:

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. Of moderate toxicity after short-term inhalation. Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact.

The acute toxicity of the product is measured as:

Acute oral LD ₅₀ for rats	:	1278 mg/kg
Acute dermal LD ₅₀ for rats	:	>2000 mg/kg
Inhalation LD ₅₀ for rats	:	2.1 mg/L 4h
Skin irritation	:	Non irritating to skin
Eye irritation	:	Non irritating to eyes



Skin sensitization	:	Not sensitising
Reproductive effects	:	This product is not expected to cause reproductive or developmental effects.
Mutagenic effects	:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenic effects	:	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Organ toxicity	:	Assessment of STOT single: Causes temporary irritation of the respiratory tract.
Aspiration hazard	:	The product does not present an aspiration hazard.

12. Ecological information

12.1. Ecotoxicity

Assessment of aquatic toxicity	:	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
Effects on fish	:	LC ₅₀ (96 h) for <i>Oncorhynchus mykiss</i> is 0.019 mg/L
Effects on invertebrates	on	LC ₅₀ (48 h) for <i>Daphnia magna</i> is 0.277 mg/L
Effects on plant	:	EC ₅₀ (72h) for <i>Pseudokirchneriella subcapitata</i> is 6.6 mg/L

12.2. Mobility

Assessment transport between environmental compartments:

Adsorption in soil:	:	In the environment Tebufenpyrad is not mobile, but is rapidly deactivated by adsorption to clay particles. Tebufenpyrad binds strongly to soil.
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Information on: Tebufenpyrad

Assessment transport between environmental compartments:

Adsorption in soil:	:	Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.
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12.3. Persistence and degradability

Persistence and degradability	:	Assessment biodegradation and elimination (H ₂ O): Not readily biodegradable (by OECD criteria).
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12.4. Bioaccumulative potential



Bioaccumulative : Bioconcentration factor: 33 (OECD Guideline 305E) Does not
potential accumulate in organisms.

12.5. Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

13. Disposal Considerations

13.1. Waste treatment methods

Waste from Residues / Unused Products : Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal of product : According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not feasible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Disposal of packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

ADR/RID/IMDG/IATA/ICAO classification

- UN No. : 3077 (Tebufenpyrad)
- UN proper shipping name : Environmentally hazardous substances, solid, n.o.s. (Tebufenpyrad),
MARINE POLLUTANT
- Transport hazard class : 9 (bulk shipments)
- Packing group : III
- Environmental Hazards : Marine Pollutant
- Special precautions : Avoid any unnecessary contact with the product. Do not discharge to



for user: the environment. Read safety instructions, SDS and emergency procedures before handling

Hazchem : 2Z (bulk shipments)

ADG Code : NOT considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. Regulatory Information

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

For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2) This product may be subject to the Seveso II Directive and amendments if specific threshold tonnages are exceeded. For further medical advice Doctors should contact the National Poisons Information Centre at Beaumont Hospital, Dublin.

15.2. Chemical Safety Assessment

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

16. Other Information

Full text of R-phrases referred to under sections 2 and 3

Xn Harmful.

N Dangerous for the environment.

F Highly flammable.

Xi Irritant.

20/22 Harmful by inhalation and if swallowed.

43 May cause sensitization by skin contact.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

41 Risk of serious damage to eyes.

11 Highly flammable.

37/38 Irritating to respiratory system and skin.

22 Harmful if swallowed.

38 Irritating to skin.

51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic



environment.

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of H-Statements referred to under sections 2 and 3

Acute Tox. Acute toxicity

STOT SE Specific target organ toxicity — single exposure

STOT RE Specific target organ toxicity — repeated exposure

Aquatic Acute Hazardous to the aquatic environment - acute

Aquatic Chronic Hazardous to the aquatic environment - chronic

Skin Sens. Skin sensitization

Flam. Sol. Flammable solids

Skin Corr./Irrit.

Skin corrosion/irritation

Eye Dam./Irrit. Serious eye damage/eye irritation

H332 Harmful if inhaled.

H301 Toxic if swallowed.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs (Gastrointestinal tract) through prolonged or repeated exposure (oral).

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H228 Flammable solid.

H318 Causes serious eye damage.

H315 Causes skin irritation.

H302 Harmful if swallowed.

H335 May cause respiratory irritation.

H412 Harmful to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to



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ensure any proprietary rights and existing laws and legislation are observed.