



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD.

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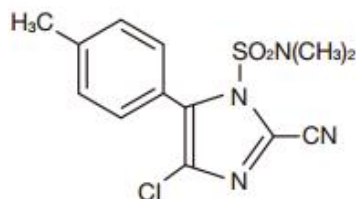
1. Chemical Product Identification

Product Name: Cyazofamid 16% SC

Molecular Formula: $C_{13}H_{13}ClN_4O_2S$

Molecular Weight: 324.8 g/mol

Structural Formula:



Chemical Name: 4-chloro-2-cyano-N,N-dimethyl-5-p-tolylimidazole-1-sulfonamide

Form: liquid

Color: Beige

Odor: Musty latex paint odour

CAS No.: 120116-88-3

2. Composition / Information on Ingredients

| Composition | CAS No. | Content % |
|-------------------|-------------|-----------|
| Cyazofamid | 120116-88-3 | 16% |
| Other ingredients | | 84% |

3. Hazards Identification

Potential health effect



Acute effects

Eyes: may cause slight irritation.

Skin: does not pose a potential of skin irritation and sensitization. Prolonged or repeated contact may dry skin and cause irritation.

Inhalation: may cause irritation of respiratory tract.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Hazards: Emits toxic fumes under fire conditions.

Chronic effect: no known effect based on information supplied.

Environment hazard: very toxic to aquatic organisms, may cause long-term adverse effect in the aquatic environment.

4. First Aid Measures

Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of soap and water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Eye Contact: 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.

Ingestion: 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 do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Inhalation: Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. Fire-Fighting Measures

Extinguishing Media:

SMALL FIRE: Use water spray, dry chemicals, foam or carbon dioxide.

LARGE FIRE: Use water spray, dry chemicals, foam or carbon dioxide.

DO NOT use water jet.

Unusual Fire and Explosion Hazards: May decompose under fire conditions emitting gases and vapors, which may be toxic and irritating to the respiratory tract.



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Fire Fighting Instructions: Wear full firefighting turn-out gear and self-contained breathing apparatus.

6. Accidental Release Measures

Precautionary Measures: Use protective equipment and engineering controls identified in section 8 of this document.

Containment and Clean-Up: Contain spill. Remove as much as possible and remove any contaminated soil. Place in closed, labeled container and store in a safe place to await proper disposal. Do not contaminate water while cleaning equipment or disposing of wastes.

7. Handling and Storage

Precautions: Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before use.

Storage: Store in original container, in a secure, dry place separate from food and feed. Keep out of reach of children and domestic animals.

8. Exposure Controls/Personal Protection

The recommendations in this section for exposure controls and Personal Protection are intended for industrial settings (such as formulation or packaging facilities) or for other non-application situations.

For commercial applications and/or on-farm applications of this product refer to the precautions/warnings on the product label. Always follow the label instructions when handling and applying this product.

Exposure Limits: Not established.

Engineering Controls: Ensure adequate ventilation, especially in confined areas.

Personal Protection:

Ingestion: Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Eye Contact: Where eye contact is likely, use protective eyewear (such as chemical splash goggles).

Skin Contact: Applicators and other handlers must wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves made of any waterproof material.



Inhalation: A respirator is not normally required when handling sealed containers. Use effective engineering controls to comply with facility occupational exposure limits.

In case of emergency spills, use a NIOSH approved respirator with any N, R, P or HE filter.

9. Physical and Chemical Properties

Appearance : Beige liquid

Odor: Musty latex paint odour

Persistent foamability: ≤ 25 mL after 1 min

PH: 4.5-7.5

Suspensibility: $\geq 85\%$

Finesses($45\mu\text{m}$): $\geq 98\%$

10. Stability and Reactivity

Reactivity: No evidence of reactivity.

Stability: This product is stable under normal use and storage conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Avoid contact with heat or open flame.

Incompatible Materials: Active ingredient degrades with iron, aluminum, iron acetate or aluminum acetate at 54°C .

Hazardous Decomposition Products: May decompose under fire conditions to release vapors or gases which are toxic and irritating to the respiratory tract.

11. Toxicological Information

Acute oral LD₅₀ (rat) : >5000 mg/kg

Acute dermal LD₅₀(rat) : >5000 mg/kg

Acute Inhalation LC₅₀(rat): >28.8 mg/L

Skin irritation: Non irritation to rabbit skin

Eye irritation: Non irritation to rabbit eyes

Skin Sensitization: Not a sensitizer (Guinea Pig)

12. Ecological And Ecotoxicological Information

Effect on fish:

LC₅₀ (96 h) for Rainbow Trout & Bluegill: >1.4 mg/L



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Effects on birds:

Acute LD₅₀ for Bobwhite quail: >2000 mg/kg.

Effects on aquatic invertebrates:

Acute LC₅₀ for Daphnia magna(48h): >1.1 mg/L.

Effects on bees:

Contact acute 48h LD₅₀: >100 µg/bee; oral acute 48h LD₅₀: >100 µg/bee.

Effects on Earthworm:

LC₅₀(14 days): > 1000 mg/kg d.w. soil.

13. Disposal Considerations

Waste Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your regional pesticide or environmental control agency for guidance.

Container Disposal: Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. (Since triple rinse instructions will vary slightly depending upon the size of the container, refer to the label of your container for specific instructions.)

14. Transport information

Not Applicable

15. Regulatory Information

Not Applicable



16.Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.