



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

ADD: NO.52 PUCHANG ROAD, PUZHOU INDUSTRIAL PARK, LONGWAN DISTRICT,  
WENZHOU ZHEJIANG P.R. CHINA

Tel: +86-577-88905587

Fax: +86-577-88905567

Email: info@rayfull.com

sales@rayfull.com

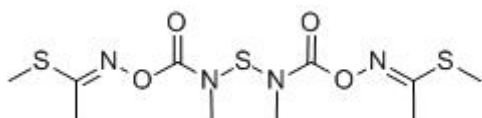
### 1. Chemical Product Identification

Product Name: Thiodicarb 96% TC

Molecular Formula: C<sub>10</sub>H<sub>18</sub>N<sub>4</sub>O<sub>4</sub>S<sub>3</sub>

Molecular Weight: 354.47 g/mol

Structural Formula:



Chemical Name: (3EZ,12EZ)-3,7,9,13-tetramethyl-5,11-dioxa-2,8,14-trithia-4,7,9,12-tetraazapentadeca-3,12-diene-6,10-dione

Form: Powder

Colour: Yellow-brown

CAS No.: 59669-26-0

### 2. Composition / Information On Ingredients

| Composition       | Chemical name | Content (% w/w) |
|-------------------|---------------|-----------------|
| Active ingredient | Thiodicarb    | 96%             |
| Other ingredient  | -----         | 4%              |

### 3. Hazards Identification

May be harmful if ingested, inhaled, or absorbed through the skin. May cause irritation. To the best of our knowledge, the toxicological properties of this compound have not been fully investigated. Exercise appropriate precautions to prevent opportunities for inhalation, and to



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prevent direct contact with skin and eyes. All uncharacterized chemicals should be treated as suspected toxins.

#### **4. First Aid Measures**

**Eye:** Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention.

**Skin:** In case of contact, immediately wash plenty of soap and water for at least 15 minutes. Seek medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned.

**Ingestion:** If victim is conscious and alert, give 2-3 glasses of water to drink and induce vomiting by touching back of throat with a finger. Do not induce vomiting or give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

#### **5. Fire-Fighting Measures**

**Flash Point:** Not applicable.

**Fire and Explosion Hazards:** Not combustible.

**Suitable Extinguishing Media:** Use extinguishing method suitable for surrounding fire.

**Fire Fighting Instructions:** Firefighters should wear self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

#### **6. Accidental Release Measures**

**General and Disposal:** Evacuation Procedures and Safety: Evacuate and isolate spill area.

**Clean up and Disposal of Spill:** Recover material, if possible. Pump any free liquid into an appropriate closed container. Absorb with vermiculite or other inert absorbent. Shovel up



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into an appropriate closed container. Decontaminate tools and equipment following clean up.

Land Spill or Leaks: Containment of spill: Dike spill using absorbent or impervious materials such as earth, sand or clay. Follow procedure under Cleanup and Disposal of Spill. Collect and contain contaminated absorbent and dike material for disposal.

## 7. Handling And Storage

Handling: Avoid direct or prolonged contact with skin and eyes. Do not breathe vapors and mists.

Storing: Store in original container. Store unused product in a cool, ventilated, dry, locked area. Keep out of reach of children and domestic animals. Store in an area that is away from food, feedstuffs, fertilizers and seed, away from the home to home garden.

## 8. Exposure Controls/personal protection

Engineering Controls: Where engineering controls are indicated by use conditions of a potential for excessive exposure exists, the following traditional exposure control techniques ventilation at the point of generation.

Eye/Face Protection: Eye and face protection requirement will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material. Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Body Protection: Skin contact should be prevented through use of suitable protective clothing, gloves and footwear, selected with regard of use conditions and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Respiratory Protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. Under normal conditions, in the absence of other airborne contaminants, the following should provide protection from this material up to the conditions following should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridge/canister approved for use against pesticides. Under conditions immediately dangerous to life or health, or emergency conditions with unknown concentrations, use a full-face positive pressure



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air-supplied respirator equipped with an emergency escape air supply unit or use a self-contained breathing.

## 9. Physical And Chemical Properties

Appearance: Yellow-brown powder

Density: 1.47 g/ml

pH: 5.8-6.6

Melting Point: 158-163°C

Boiling point: Decomposes before boiling

Partition Coefficient: log P= 1.62 ( at pH 7, 20°C)

Vapour pressure: 2.7mPa (25°C)

Solubility: 22.2 mg/L in water (20°C); In organic solvents: acetone 5330, toluene 920, n-hexane 320, ethanol 970 (all in mg/l,20°C).

## 10. Stability And Reactivity

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

Substances to avoid: None known.

Incompatibility with other materials: None known.

Hazardous decomposition products: Can decompose at high temperatures forming toxic gases.

Hazardous polymerization: Will not occur.

## 11. Toxicological Information

Acute oral LD<sub>50</sub> (rat): 66 mg/kg

Acute dermal LD<sub>50</sub> for rats: >1600 mg/kg

Acute inhalation toxicity:LC<sub>50</sub> (4h) for rat: 1.51 mg/l.

Skin irritation:Non irritating for rabbits.

Eye irritation: Slight irritating for rabbits

Skin Sensitization: Non-sensitive (Guinea Pig)

## 12. Ecological And Ecotoxicological Information

Effects on bees:

Oral acute 48 hour LD<sub>50</sub> is 0.153 µg/bee.



# ZHEJIANG RAYFULL CHEMICALS CO., LTD

Tel: +86-577-88905587,88908857

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Effects on fish:

Acute 96 hour LC<sub>50</sub> for Rainbow trout is 2.55 mg/l.

Effect on Aquatic invertebrates:

Acute 48 hour EC<sub>50</sub> for Daphnia magna: 0.29 mg/l

Effects on birds:

Acute oral LD<sub>50</sub> for Japanese quail is 2023 mg/kg

Effect on Algal:

Acute 72 hour EC<sub>50</sub> is 8.3 mg/l

## 13. Disposal Considerations

General Disposal Guidance: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

## 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 recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.