



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

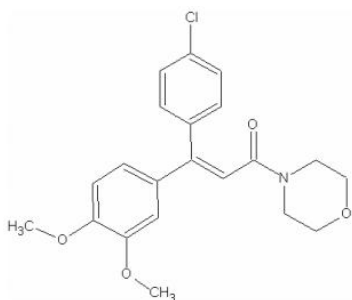
Product Name: Dimethomorph TC

Molecular Formula: $C_{21}H_{22}ClNO_4$

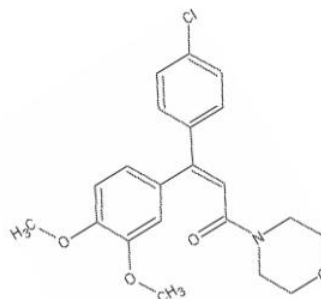
Molecular Weight: 387.9

Structural Formula:

E isomer



Z isomer



Chemical Name:

(E,Z)4-[3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl]morpholine

Color: White

Odor: slight odor

CAS No.: 110488-70-5

2. Composition / Information on Ingredients

Composition	CAS No.	Content
Dimethomorph	110488-70-5	95.0%



Others		5.0%
--------	--	------

3. Hazards Identification

Component	Symbol	R phrases
Dimethomorph	N	51/53

More important danger for the man: none

Dangers for the environment: danger to fish.

Physical-chemical dangers: none

4. First Aid Measures

Skin: remove contaminated clothing and shoes, flush with plenty of water and soap.

Eyes: flush with plenty of water for 15-20 minutes.

Inhalation: move to a fresh air place and give artificial respiration if necessary.

Ingestion: clean mouth; drink a glass of water if able to swallow; do not induce vomiting unless told to by a poison control center or doctor

5. Fire-Fighting Measures

Extinguishing media

To be used: For small fires, use foam, carbon dioxide, dry powder or halon extinguishant.

For large fires, use foam or water-fog.

Don't use: Water jet

Particular risk: Not applicable.

Measures of personal protection: Safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

6. Accidental Release Measures

Personal cautions: Take appropriate protective measures, wear safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants

Cleaning methods

EX: Soak up with an inert absorptive material such as sand, soil, diatomaceous earth, etc.

Prevent product from spreading and collect into specially marked, tightly closing containers.

Treat contaminated areas with water containing soda or detergent. Dike spill area and collect washings to avoid any contamination of surface and ground water, water supplies and drains.



Heavily contaminated soil layers should be removed and disposed of in an approved way. Rinse the spill area and any tools or implements several times with soapy water. Contain and absorb the rinsate with inert absorbents and place into the same disposal container as the spill material. Notify regulatory authorities if necessary.

Environmental cautions

EX: Prevent the contamination of the floor and of beds of water. Isolate contaminated water

7. Handling And Storage

Handling: Avoid contact with the eyes, skin and clothing and avoid inhalation of product or spray mist. After handling and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Storage: Keep out of reach of children. Store in the closed, original container in a dry, cool, well-ventilated area, out of direct sunlight. Store in locked room or place away from children, animals, food, animal feed, seed and fertilizers.

8. Exposure Controls / Personal Protection

Respiratory protection: approved respirator

Protective gloves: rubber gloves

Eye protection: goggles

Industrial hygiene: use good industrial hygiene. Wear face shield or goggles, elbow length PVC gloves, cotton overalls buttoned to the neck and wrist, washable hat and half face respirator with dust and vapor cartridge. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

9. Physical And Chemical Properties

Appearance: White crystalline solid

Melting point: Approx. 125 – 149°C

Boiling point: Not applicable

Density: 1.12 g/cm³

Water solubility: 0.05g/L (20°C, pH 7)

Other solubility: In acetone is 100.4 g/L, dichloromethane is 461 g/L, Ethyl acetate is 48.3 g/L, Methanol is 39 g/L, n-Hexane is 0.112 g/L, Toluene is 49.5 g/L.

pH value: 4.0-7.0



Flash point: Not applicable

Ignition temperature: Not applicable

10. Stability And Reactivity

Conditions to avoid: avoid extreme heat and fire.

Products to avoid: Fire, heat and high temperature

Thermal decomposition: not applicable

Hazardous decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas.

11. Toxicological Information

Acute oral LD50(rat) : 3900mg/kg

Acute dermal LD50 (rat) : >2000mg/kg

Inhalation: highly toxicity

Contact with the skin: no irritation to skin

Contact with the eyes: slightly irritation to eyes

Reproductive effects: In the rat study, the maternal LOAEL = 160 mg/kg/day, based on decreased mean body weight on gestation days 10-15; decreased body weight gain on gestation days 10-15, decreased food consumption days 6-15; Maternal NOAEL = 60 mg/kg/day; the developmental LOAEL = 160 mg/kg/day based on increased resorptions; and the developmental NOAEL = 60 mg/kg/day.

Teratogenic effects: No information currently available

Mutagenic effects: The studies indicate that dimethomorph did not cause gene mutations in Salmonella or E. Coli bacterial strains, as well as in mammalian gene mutation studies. It was negative for structural chromosomal aberrations in the mouse micronucleus assay at up to 5000 mg/kg after oral treatment, and up to 200 mg/kg when administered i.p.

Carcinogenic effects: In the rat study, dimethomorph had no significant effect on the development of neoplasms in male or female rats at the doses tested. Dimethomorph was tested at adequate doses based on significant decreases in body weight (17% and 13%) and body weight gains (27% and 14%) in females and males, respectively, in the high dose groups. The LOAEL for systemic toxicity was 2000 ppm in males and 750 ppm in females. The NOAEL's were 750 ppm (33.9 mg/kg/day) for males and 200 ppm (11.3 mg/kg/day) for females.



Organ toxicity: No information currently available.

12. Ecological And Eco-toxicological Information

Effect on birds: low toxicity to birds, acute oral LD₅₀ for Bobwhites quail is >2000 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC₅₀ for Rainbow trout is 3.4 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC₅₀ for Daphnia magna is >10.6 a.i.mg/L.

Effect on algae: low toxicity to algae, acute 72 hour EC₅₀ for Scenedemus subspicatus is 29.2 a.i.mg/L.

Effect on honeybees: low-moderate toxicity to honeybees, contact acute 48 hour LD₅₀ is >102 a.i.µg/bee; oral acute 48 hour LD₅₀ is >32.4 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC₅₀ for Eisenia foetida is >500 a.i.mg/kg.

13. Disposal Considerations

Product: In accordance with local and national regulations. Do not contaminate ponds waterways or ditches with chemical or used container.

The contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

14. Transport Information

Not applicable

15. Regulatory Information

Not applicable

16. Other Information

All information and instructions provided in this 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 formulations or mixes, it is necessary to ascertain that a new danger will not



ZHEJIANG RAYFULL CHEMICALS CO., LTD

Tel: +86-577-88905587,88908857

Fax: +86-577-88905567

EMAIL: info@rayfull.com sales@rayfull.com

appear. It is the responsibility of persons in 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 come in contact with the product.