Dimethomorph -MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO.,LTD
ADD: NO.113 PUXING 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

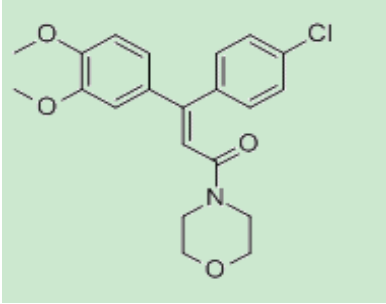
1. Chemical Product Identification

Product Name: Dimethomorph

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

Molecular Weight: 387.86

Structural Formula:



Chemical Name: (EZ)

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

Color: Green

Form: Prismatical grain

Odor: Odorless

CAS No.: 110488-70-5

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Dimethomorph	110488-70-5	50.00
Other ingredients		50.00

3. Hazards Identification

Component	Symbol	R phrases
Diazinon	N	R51/53

More important danger for the man: No irritant to eye and skin

Dangers for the environment: Moderate toxicity to birds, aquatic organisms and other animals

Physical-chemical dangers: Not applicable

4. First Aid Measures

If poisoning occurs, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Show this Material Safety Data Sheet to a doctor.

Eye: If splashed in eyes, wash out immediately with water

Skin: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Do not scrub the skin.

Ingestion: If swallowed, do not induce vomiting. For advice contact the national poisons centre or a doctor immediately.

Inhalation: Remove to fresh air and observe untill recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

Note to physician: No specific antidote. Treat symptomatically.

5. Fire-Fighting Measures

Extinguishing media: 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: 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: Thoroughly wash hands after work, before eating or smoking. Do not eat, drink or smoke during work. Avoid contact with skin, eyes and clothes. Do not breathe vapour or spray.

Storage: Store securely out of reach of children. Store in a cool, dry area, out of direct sunlight (storage temperature should not exceed 38℃). When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture.

Fire and explosion protection: the area must be far from fire and flammable materials.

8. Exposure Controls/Personal Protection

Personal protective equipment

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: Green prismatical grain

Boilting point: Not applicable

Density: 1.12 g/cm^3

Water solubility: Dispersible in water

Other solubility: Not applicable

pH value: 4.0-7.0

Flash point: Not applicable

Ignition temperature: Not applicable

Melting point: Approx. 100℃ at 100kPa

10. Stability and Reactivity

Stability: stable under the normal conditions

Conditions to avoid: Fire, heat and high temperature

Products to avoid: Not applicable.

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

11. Toxicological Information

Acute oral LD_{50} for rat: ＞5000mg/kg

Acute dermal LD_{50} for rat: ＞3000 mg/kg

Inhalation LD50 (4h) for rat: ＞4.2 mg/m^3

Slight irritating to rabbit skin.

Slight irritating to rabbit eye.

Chronic toxicity: In the rat study, the LOAEL for systemic toxicity was 750 ppm (57.7 mg/kg/day) for female rats based on decreased body weight and significant increase in the incidence of "ground glass" foci in the liver and 2000 ppm (99.9 mg/kg/day) for male rats based on decreased body weight and increased incidence of arteritis. The corresponding NOAEL's are 200 ppm (11.9 mg/kg/day) for females, and 750 ppm (36.2 mg/kg/day) for males.

Reproductive effects: In the 2-generation rat reproduction study, the parental toxicity LOAEL is 1000 ppm based on decreased body weights and body weight gain; the parental NOAEL is 300 ppm (20.8 mg/kg/ day for males; 24 mg/kg/day for females); the developmental toxicity LOAEL is 1000 ppm based on delayed incisor eruption at day 10 postpartum; the developmental toxicity NOAEL is 300 ppm; and the reproductive toxicity NOAEL = 1000 ppm (69 mg/kg/day for males; 79.3 mg/kg/ day for females).

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. However, dimethomorph gave positive responses when tested in CH lung and in human lymphocytes. It was negative in the cell transformation assay in Syrian hamster embryo cells with and without activation at up to cytotoxic levels.

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 Ecotoxicological Information

Effects on birds:

LD50 for mallard ducks＞2000 a.i.mg/kg

LD50 for bobwhite quail 2000 a.i.mg/kg

Effects on aquatic organisms:

LC50 (96h) for rainbow trout 6.8 a.i.mg/l

LC50 (96h) for carp＞18 a.i.mg/l

LC50 (96h) for bluegill sunfish＞14 a.i.mg/l

Effects on other organisms:

LD50 for bees 100 a.i.μg/bee

13. Disposal Considerations

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

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.