



Hangzhou Tianlong Biotechnology Co., Ltd.

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MATERIAL SAFETY DATA SHEET

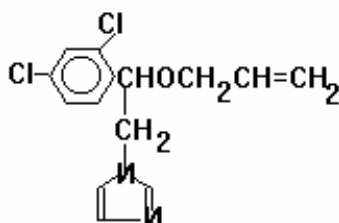
1. Chemical Product and company Identification

Product Name: Imazalil

Molecular Formula: C₁₄H₁₄Cl₂N₂O

Molecular Weight: 297.18

Structural Formula:



Chemical Name: 1-[2-(2,4-dichlorophenyl)-2-(2-propenyloxy)ethyl]-1H-imidazole

CAS No.:35554-44-0

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Imazalil	35554-44-0	98.0
Other ingredients		2.0

3. Hazards Identification

Always practice good industrial hygiene; handle with care; avoid personal contact. Do not get into eyes or on skin; do not breathe mist or vapor of product. Do not swallow. Wash hands with soap and water and rinse after handling product. Shower after each shift. Wash all work clothing and completely clean all PPE after each shift.

4. First Aid Measures

Inhalation: Remove victim to fresh air. Consult a doctor in the event of any

complaints.

Ingestion: Do not induce vomiting. Wash out mouth with water. Immediately get medical attention.

Skin contact: Remove contaminated clothing. Wash off with plenty of water and soap. Consult a doctor in the event of any complaints.

Eye contact: Wash off with plenty of water for at least 15 minutes. Consult an eye specialist.

5. Fire-Fighting Measures

Extinguishing media

Suitable : If involved in fire: In case of a small fire: dry chemical, carbon dioxide. In case of a large fire : Water spray, fog or regular foam.

Special fire-fighting procedures: Fight fires from a protected location. Dike fire control water for later disposal.

Hazardous thermal (de)composition products: NOX, CO, CO₂, HCl, Chlorides.

Protection of fire-fighters: Wear suitable protective clothing. Self-contained breathing apparatus.

6. Accidental Release Measures

Personal precautions: Use appropriate protection (see section 8).

Environmental precautions : Dispose of this material and its container at hazardous or special waste collection point, In accordance with national and regional regulations. If the product has contaminated surface water, inform the appropriate authorities. Contaminated soil layers have to be dug out.

Methods for cleaning up: In the event of minor spillage: Absorb in sand or other inert material. Use appropriate containment to avoid environmental contamination. In the event of major spillage: Collect and contain as much free liquid as possible. Dike spills using absorbent or impervious materials such as sand or clay for later disposal.

7. Handling and Storage

Handling: Do not breathe fumes. Avoid contact with skin and eyes.

Storage: Keep locked up. Keep container tightly closed. Keep only in the original container in a cool, well-ventilated place (<50°C). Keep container dry.

8. Exposure Controls/Personal Protection

Engineering measures : Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Hygiene measures: Wash hands thoroughly after handling. Wash clothing separately before re-use.

9. Physical and Chemical Properties

Appearance: Yellow to brown crystals
Water Solubility: 1400 mg/L @ 20°C
Solubility in Other Solvents: s.s. in hexane, methanol, toluene, benzene
Melting Point: 52.7°C
Boiling point: >340°C
Relative density : 1.2429@23°C
Vapor Pressure: 0.0093 mPa 25°C
Partition Coefficient: 3.8195
Adsorption Coefficient: 4000

10. Stability and Reactivity

Stability: Stable under normal conditions.
Conditions to avoid : Protect from (sun)light, open flame and sources of heat.
Decomposes upon heating.
Materials to avoid : Avoid contact with: strong acids and strong bases.
Hazardous reactions: Hazardous polymerization will not occur.
Hazardous decomposition products: NOX, CO, CO₂, HCl, Chlorides.

11. Toxicological Information

Acute oral LD₅₀ : rat 320mg/kg
Acute dermal LD₅₀ : 4200-4880mg/kg
Eye contact : moderate irritation

Reproductive effects: In three separate three-generation rat studies at low to moderate doses of 0.4 mg/kg/day, there was a trend to a lower number of live births at the highest dose level. No differences were noted in percent of pregnancies or duration of pregnancy. These data suggest that imazalil is unlikely to cause reproductive effects under normal conditions.

Teratogenic effects: None of the rat studies mentioned above resulted in fetal abnormalities. A mouse study at doses up to 4.8 mg/kg/day was also negative. It is unlikely that imazalil is teratogenic.

Mutagenic effects: Dominant lethal mutagenic effects were not evident in male and female mice. Based on these data, it appears that imazalil is not mutagenic.

Carcinogenic effects: In a group of rats given imazalil for 30 months at a dose of 5.0 mg/kg/day, there were no increases in tumors compared to the controls. This suggests that imazalil is noncarcinogenic.

Organ toxicity: Based on animal tests, imazalil affects the nervous system and liver.

12. Ecological Information

Effects on birds: Both the mallard duck and the Japanese quail are relatively insensitive to the fungicide. The 8-day LC₅₀ values in these birds range from about 5500 to 6300 mg/kg/day. These values indicate that the compound is practically nontoxic to birds.

Effects on aquatic organisms: Imazalil is moderately toxic to fish. The LC₅₀ for imazalil in trout is 2.5 mg/L and in the bluegill sunfish is 3.2 mg/L.

Effects on other organisms: The compound is non-toxic to bees.

13. Disposal Considerations

Do not use fungicide containers or packaging material for storing water or food. Triple or preferable pressure rinse empty containers with clean water before disposal. Add rinsing to spray/mixing tank. Do not dispose of undiluted chemical on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break crush or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of any water source (river, dam, spring, or borehole). Empty containers and product should not be burnt.

14. Transport Information

Class: 9

UN NO.: 3077

Packing group: III

15. Regulatory Information

Safety Phrases: Keep out of reach of children

Keep away from food, drink and animal feeding stuff

Do not breathe spray

When using do not eat, drink or smoke

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible)

Use appropriate containment to avoid environmental contamination

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.