



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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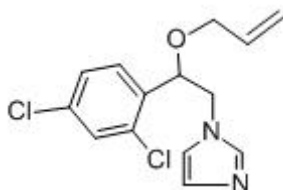
1. Chemical Product Identification

Product Name: Imazalil TC

Molecular Formula: C₁₄H₁₄Cl₂N₂O

Molecular Weight: 297.18 g/mol

Structural Formula:



Chemical Name: (RS)-1-(β-allyloxy-2,4-dichlorophenylethyl)imidazole

Form: Powder

Color: White or yellowish

Odor: Odorless

CAS No.:35554-44-0

2. Composition / Information On Ingredients

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

3. Hazards Identification

Likely routes of exposure: Skin and eye contact, ingestion and inhalation.



Eye contact: May cause moderate irritation to the eyes, causing redness, pain and blurred vision. Risk of serious damage to eyes.

Skin contact: May cause moderate irritation to the skin. May cause skin sensitization, rashes and dermatitis may occur.

Ingestion: Harmful. The product is moderately toxic by ingestion. Ingestion of large quantities may cause nausea, vomiting, diarrhea, headache, ataxia, confusion and fatigue.

Inhalation: Unlikely to cause harmful effects under normal conditions of handling and use. May cause irritation to respiratory tract if large quantity is inhaled.

4. First Aid Measures

Inhalation: Remove victim to fresh air. Keep victim warm and at rest. If breathing is difficult: give oxygen. If not breathing: apply artificial respiration.

Get medical attention.

Ingestion: Induce vomiting. Never give anything by mouth to an unconscious person. Wash out mouth with water. Consult a doctor.

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. If pain persists, consult an eye specialist.

Notes to a physician: There is no specific antidote. Treat symptomatically and give supportive therapy. If ingested perform gastric lavage and administer activated charcoal.

5. Fire-Fighting Measures

Flash point:

None. This material is non-flammable.

Extinguishing agents:

Extinguish small fires with dry chemical, carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Fire fighting:

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire. Fight fire from



maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal. Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways. Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Personal protective equipment:

Fire may produce harmful combustion products (traces of hydrogen cyanide and oxides of nitrogen and carbon). Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. Accidental Release Measures

Personal precautions: Avoid contact with skin and eyes. Do not breathe in dust or spray. For personal protection see Section 8.

Environmental precautions: Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs. Considered as Marine Pollutant.

Occupational spill: Do not touch spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

For spills: Keep spectators away and upwind. For dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labelled, clean, dry container and cover for subsequent disposal; and store in a safe place to await proper disposal. All contaminated cleaning materials should be placed in closable receptacles. Dispose of the containers in accordance with local regulations. Open burning or dumping of this material is prohibited. Do not flush spilled material into drains. In situations where product comes in contact with water, contain contaminated water for later disposal. Do not contaminate water while cleaning equipment or disposing of wastes. To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations. Open burning or dumping of this material is prohibited. Do not get water inside containers.



7. Handling And Storage

Handling: Avoid contact with eyes, skin and clothing. Avoid inhalation of dust, spray mist. Use with adequate ventilation. Do not eat, drink or smoke while working. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to feeds, food and water supplies. Local regulations should be complied with.

8. Exposure Controls/Personal Protection

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves: Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance.

Eye protection: The use of safety goggles is recommended.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. Physical and Chemical Properties



Appearance: White to yellowish powder

Water Solubility: 184mg/L at 20°C

Solubility in Other Solvents: 500 methanol, 500 Ethyl acetate, 19 n-Hexane, 500 Toluene, all g/l at 20°C;

Melting Point: 51.5°C;

Relative density: 1.35g/ml;

Vapor Pressure: 0.158mPa 25°C.

10. Stability and Reactivity

Chemical stability: Stable under normal conditions of use and storage.

Conditions to avoid: Protect from (sun) light, open flame and sources of heat. Decomposes upon heating.

Incompatible materials: Avoid contact with: strong acids and strong bases.

Hazardous decomposition products: NOX, CO, CO2, HCl, Chlorides. .

Hazardous polymerization: Will not occur.

11. Toxicological Information

Acute oral LD50 for rats is 227 a.i.mg/kg.

Acute dermal LD50 for rats is >2000 a.i.mg/kg.

Acute inhalation toxicity LC50 (4 h) for rats is 1.84 a.i.mg/L.

Skin irritation: Slightly irritating to skin (rabbits).

Eye irritation: Moderately irritating to eyes (rabbits).

Skin sensitization for guinea pig: Sensitizer (Magnusson & Kligman method).

12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD50 for Japanese quail is 510 a.i.mg/kg.

Effect on fish: Acute LC50 (96 h) for Rainbow trout is 1.48 a.i.mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is 3.5 a.i.mg/l.

Effects on algae: Acute 72 hour EC50 for Raphidocelis subcapitata is 0.87 a.i.mg/l.

Effects on bees: contact acute 48 hour LD50 is 39 a.i.µg/bee, oral acute 48 hour LD50 is 35.1 a.i.µg/bee.

Effects on earthworms: Acute 14 day LC50 is 541 a.i.mg/kg.



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13. Disposal Considerations

This product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used containers. Triple or preferable pressure rinse containers before disposal. Add rinsings to the mixing tank. Do not dispose of undiluted chemical onsite. 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 waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

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.