



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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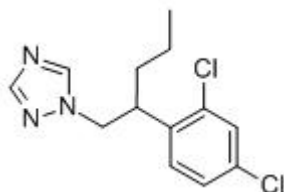
1. Chemical Product Identification

Product Name: Penconazole TC

Molecular Formula: C₁₃H₁₅Cl₂N₃

Molecular Weight: 284.18 g/mol

Structural Formula:



Chemical Name: (RS)-1-[2-(2,4-dichlorophenyl)pentyl]-1H-1,2,4-triazole

Form: Powder

Color: White

Odor: Odorless

CAS No.: 66246-88-6

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Penconazole	66246-88-6	95.0
Other ingredients	--	5.0

3. Hazards Identification

2.1 Classification of the substance or mixture



Classification according to Regulation (EU) 1272/2008

Eye irritation Category 2 H319

Reproductive toxicity Category 2 H361d

Chronic aquatic toxicity Category 2 H411

2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pitograms



Signal Word: Warning

Hazard Statements:

H319 Causes serious eye irritation.

H361d Suspected of damaging the unborn child.

H411 Toxic to aquatic life with long lasting effects

Precautions Statements:

P102 Keep out of reach of children.

P201 Obtain special instructions before use.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305/P351/P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308/P313 If exposed or concerned: Get medical advice/attention.

P337/P313 If eye irritation persists: Get medical advice/ attention.

P391 Collect spillage.

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed for as non-hazardous waste.

Supplemental Information:

EUH401 To avoid risks to human health and the environment comply with the instructions for use.



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

Fire and explosion hazard: Flash point: 40°C (closed cup).

This material is flammable.

Fire may produce combustion products, which are toxic and irritating. Combustible liquid.

Extinguishing agents:

Extinguish fires with 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. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. 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, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

7. Handling And Storage

Handling: Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage: Keep out of reach of children. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area, in the original container. Check containers periodically for leaks

8. Exposure Controls/Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.



Hygiene measures: Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day. Respiratory system: Wear appropriate respirator when ventilation is inadequate.

Skin and body: Lab coat.

Hands: Gloves

Eyes: Safety glasses.

9. Physical and Chemical Properties

Appearance: White powder

Melting point: 60.3°C

Solubility in water: 73 mg/L

Vapor Pressure: 0.366 mPa at 20°C

Bulk density: 1.3g/ml

Partition coefficient : Kow logP=3.72 (pH7; 22 °C)

PH: 5-8

10. Stability and Reactivity

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

Conditions to avoid: Keep away from heat or open flames.

Incompatible materials: Nitric acid, sulfuric acid, strong oxidizing and reducing agents

Hazardous decomposition products: Hydrogen cyanide.

Hazardous polymerization: Will not occur.

11. Toxicological Information

Acute oral LD50 for rats is >2000 mg/kg.

Acute dermal LD50 for rats is >3000 mg/kg.

Acute inhalation toxicity LC50 (4 h) for rats is >4 mg/L.

Skin irritation: Slightly irritating to skin (rabbits).

Eye irritation: Non-irritating to eyes (rabbits).

Skin sensitization for guinea pig: Not a sensitizer.

12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD50 for Mallard is >1590 mg/kg.



Effect on fish: Acute LC50 (96 h) for Rainbow trout is 1.134 mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is 6.75 mg/l.

Effects on algae: Acute 72 hour EC50 for Pseudokirchneriella subcapitata is 4.9 mg/l.

Effects on bees: contact acute 48 hour LD50 is >30 µg/bee, oral acute 48 hour LD50 is >112 µg/bee.

Effects on earthworms: Acute 14 day LC50 is >331.5 mg/kg.

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



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