



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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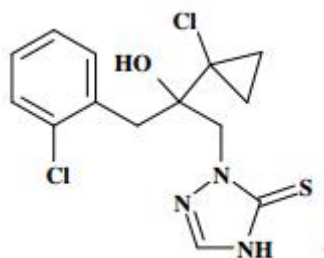
1. Chemical Product Identification

Product Name: Prothioconazole TC

Molecular Formula: C₁₄H₁₅Cl₂N₃OS

Molecular Weight: 344.26

Structural Formula:



Chemical Name:

2-[(2RS)-2-(1-chlorocyclopropyl)-3-(2-chlorophenyl)-2-hydroxypropyl]-2H-1,2,4-triazole-3
(4H)-thione

Form: solid

Colour: Colourless to faintly beige

CAS No.: 178928-70-6

2. Composition / Information On Ingredients



| Composition | Chemical name | Content (% w/w) |
|-------------------|-----------------|-----------------|
| Active ingredient | Prothioconazole | 97% |
| Other ingredient | ----- | 3% |

3. Hazards Identification

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Acute toxicity, Inhalation (Category 4)

Eye irritation (Category 2)

Acute aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. First Aid Measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled: If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Fire-Fighting Measures

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Fire Fighting instructions: Avoid contact with spilled product or contaminated surfaces. Evacuate personnel to safe areas. Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.



6. Accidental Release Measures

Personal precautions: Isolate hazard area. Keep unauthorized people away. Use personal protective equipment.

Methods and materials for containment and cleaning up: Collect and transfer the product into a properly labelled and tightly closed container. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Contaminated soil may have to be removed and disposed.

Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup.

7. Handling And Storage

Handling procedures: Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

Storing Procedures: Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Protect from freezing.

8. Exposure Controls/personal protection

Exposure controls

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection:

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN 166(EU).

Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove remove technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications.



Body protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

9. Physical And Chemical Properties

Appearance: solid

Melting point: 138°C-144°C

Density: 1.36 at 20°C

Boiling point: 486.7° C at 760mmHg

Flash point: 248.2°C

Vapour pressure: $<< 4 \times 10^{-7}$ Pa at 20°C

Henry's law constant: $<< 3 \times 10^{-5}$ Pa \times m³/mole at 20°C

Solubility: in water 0.3 g/L at 20 °C at pH 8; in organic solvents: n-heptane < 0.1 g/L at 20 °C, xylene 8 g/L at 20°C, acetonitrile 69 g/L at 20°C, acetone > 250 g/L at 20°C.

Partition coefficient in octanol/water at 20°C: Log Kow = 3.82

10. Stability And Reactivity

Reactivity : Stable under normal conditions

Chemical stability: stable under normal conditions

Thermal decomposition/conditions to be avoided:

Formation of toxic gases is possible during heating or in case in fire.

Possibility of hazardous reactions:No dangerous reactions known.

Conditions to avoid: Heat

Incompatible materials: strong oxidizing agents

Hazardous decomposition products: formation of toxic gases is possible during heating or in case in fire.

11. Toxicological Information

Acute oral LD50 (rat): >6200 mg/kg

Acute dermal LD50 for rats: >2000 mg/kg

Acute inhalation toxicity:LC50 (4h) for rat: 4.990 mg/l.

Skin irritation:No irritation for rabbits.



Eye irritation: No irritation for rabbits.

Skin Sensitization: Non-sensitive (Guinea Pig)

12. Ecological And Ecotoxicological Information

Effects on bees:

Contact acute 48 hour LD50 is >200 µg/bee.

Effects on fish:

Acute 96 hour LC50 for Rainbow trout is 1.83 mg/l.

Effect on Aquatic invertebrates:

Acute 48 hour EC50 for Daphnia magna: 1.2mg/l

Effects on birds: .

LC50 (8d) for bobwhite quail >2000 mg/kg

Effect on Algal:

Acute 72 hour EC50 is 0.88 mg/l

13. Disposal Considerations

Must be dumped or incinerated in accordance with local regulations.

Contaminated packaging:

Packs that cannot be cleaned should be disposed of in the same manner as the contents.

Contaminated packaging should be emptied as far as possible and disposed of in accordance with official regulations after being thoroughly cleaned.

Uncontaminated packaging may be treated as household waste.

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



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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.