

Material Safety Data Sheet

Tricyclazole 400g/L + Propiconazole 125g/L SE

1. PRODUCT IDENTIFICATION

Product Name: Tricyclazole 400g/L + Propiconazole 125g/L SE
 Common Name: Tricyclazole + Propiconazole
 Chemical Family: Triazolobenzothiazole (Tricyclazole);
 Triazole (Propiconazole)
 Chemical Formula: C₉H₇N₃S (Tricyclazole);
 C₁₉H₁₇Cl₂N₃O₃ (Propiconazole)
 Chemical Name: 5-methyl-1,2,4-triazolo[3,4-b][1,3]benzothiazole (Tricyclazole);
 (±)-1-[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-ylmethyl]-
 1H1,2,4-triazole (Propiconazole).
 CAS No.: 41814-78-2 (Tricyclazole);
 60207-90-1 (Propiconazole).
 Product Use: Fungicide

2. COMPANY IDENTIFICATION

Exporter:

CHICO CROP SCIENCE CO., LTD.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>CAS Registry Number</u>	<u>Typical Wt. w/v</u>
Tricyclazole	41814-78-2	400g/L
Propiconazole	60207-90-1	125g/L
Other	---	to balance

4. HAZARDS IDENTIFICATION

Emergency Overview

Light red viscous liquid with a weak characteristic odor.



CAUTION!
KEEP OUT OF REACH OF CHILDREN
MAY CAUSED SKIN SLIGHT IRRITATION
MAY CAUSED EYE SLIGHT IRRITATION

Potential Health effects

Dermal contact, ingest and inhalation of the product are the primary routes to induce potential adverse health effects. Inhalation of aerosol during application of the product as part of its end use is another potential route of entry. Eye and skin irritation may occur from contact with the liquid or spray mixture.

5. FIRST AID MEASURES

- If swallowed: Rinse mouth with water. Never give anything by mouth to an unconscious person. Should be send to the hospital treatment immediately.
- If in eye: Immediately rinse eyes with a large amount of running water. Hold eyelids apart to rinse. Consult a doctor.
- If on skin: Wash with plenty of soap and water, including hair and under fingernails. Do not apply any medicating agents except on the advice of a physician. Remove contaminated clothing and decontaminate prior to use.
- If Inhaled: Move victim from contaminated area to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

Notes to Physician: There is no specific antidote, Treat symptomatically.

6. FIRE FIGHTING MEASURES

Fire and explosive Properties

Auto-Ignition Temperature Not applicable
Flash Point Not available.

Extinguishing Media

Water fog, Carbon Dioxide, Dry Chemical, Foam.

Fire Fighting Instructions

The product is not flammable. But if firing, fire fighters and others who may be exposed to products of combustion should wear full firefighting turn out gear and self-contained breathing apparatus. Firefighting equipment should be thoroughly decontaminated after use. Person who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

7. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Stop the leak, if possible. Ventilate the space involved. Absorb, sweep up, place in container for disposal. Shut off or remove all ignition sources. Prevent waterway contamination. Construct a dike to prevent spreading. Protect works with water spray. Collect run-off water and transfer to drums or tanks for later disposal.

8. HANDLING AND STORAGE

Handling

Harmful if swallowed, inhaled, or absorbed through the skin. Causes eye irritation. Do not breathe gas or allow to get in eyes, on skin, or on clothing. Wash hands, arm and face thoroughly with soap and warm water after use and before eating or smoking. Wash all contaminated clothing with soap and hot water before reuse. Do not contaminate feed or food items. Keep out of reach of children.

Storage

Store in a cool dry and air ventilating warehouse and protected from light. Avoid contacting with food, feed stuff and seed.

9. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/Face Protection

Goggles and full-face shield should be used when needed to prevent liquid from face and getting into the eyes.

Skin Protection

Avoid skin contact. Use chemical-resistant gloves, and wear long sleeves and trousers to prevent dermal exposure.

Respiratory Protection

Under normal handling conditions no respiratory protection is needed. However, if needed to prevent respiratory irritation, either a respirator approved for dusts and mists, or one approved for pesticides.

10. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Light red
Physical state:	Viscous liquid.
Odor:	Weak characteristic odor
Melting point	184.6–187.2 °C (Tricyclazole); –23 °C (glass transition temperature) (Propiconazole)
Boiling point:	275 °C (Tricyclazole); 99.9°C(0.32Pa) (Propiconazole)
Decomposition point:	N/A (Tricyclazole, Propiconazole);
Vapor pressure:	5.86×10^{-4} mPa (20 °C) (Knudsen effusion) (Tricyclazole); 5.6×10^{-2} mPa(25°C) (Propiconazole)
Solubility in water:	In purified water 0.596 g/l (20 °C). (Tricyclazole); In water 100 mg/l (20 °C). (Propiconazole)
Solubility in organic solvents:	In acetone 13.8, methanol 26.5, xylene 4.9 (all in g/l, 20 °C). (Tricyclazole); In n-hexane 47 g/l. Completely miscible with ethanol, acetone, toluene and n-octanol (25 °C). (Propiconazole)
Partition coefficient:	K_{ow} logP = 1.42 (Tricyclazole); K_{ow} logP = 3.72 (pH 6.6, 25 °C) (Propiconazole)

11. STABILITY AND REACTIVITY

Stability

Stable at 52°C (highest storage temperature tested). Relatively stable to uv light.(Tricyclazole)

Stable up to 320 °C; no significant hydrolysis. (Propiconazole)

Hazardous Polymerization

Does not occur.

Incompatibility

The product is not compatible with strong oxidizing agents.

Hazardous Decomposition Products

Not available

12. TOXICOLOGICAL INFORMATION

- Acute Oral:** Acute oral LD₅₀ for rats 314, mice 245, dogs >50 mg/kg. (Tricyclazole);
Acute oral LD₅₀ for rats 1517, mice 1490 mg/kg. (Propiconazole)
- Acute Dermal:** Acute percutaneous LD₅₀ for rabbits >2000 mg/kg. (Tricyclazole);
Acute percutaneous LD₅₀ for rats >4000. (Propiconazole)
- Irritation:** Slight eye irritant; non-irritating to skin (rabbits). (Tricyclazole);
Non-irritating to skin and eyes (rabbits). (Propiconazole)
- Sensitization:** No data available. (Tricyclazole).
Skin sensitizer (guinea pigs). (Propiconazole)
- Long-term Studies:** NOEL (2 y) for rats 9.6 mg/kg b.w., for mice 6.7 mg/kg b.w.; (1 y) for
dogs 5 mg/kg b.w.; 3-generation reproduction for rats 3 mg/kg
b.w.(Tricyclazole)
Not mutagenic, not teratogenic. No carcinogenic potential of relevance
for human exposure.(Propiconazole)

13. ECOLOGICAL INFORMATION

Ecotoxicological Information

Tricyclazole:

- Effects on Birds: Acute oral LD₅₀ for mallard ducks and bobwhite quail >100 mg/kg.
- Effects on Fish: LC₅₀ (96 h) for bluegill sunfish 16.0, rainbow trout 7.3, goldfish
fingerlings 13.5, carp 21 mg/l.
- Effects on Daphnia: LC₅₀ (48 h) >20 mg/l; NOEC (21 d) 0.96 mg/l.
- Effects on Algae: EC₅₀ (96 h) 9.3 mg/l; NOEC (96 h) 4.0 mg/l (Williams test).

Propiconazole:

- Effects on Birds: Acute oral LD₅₀ for Japanese quail 2223, bobwhite quail 2825, mallard
ducks >2510, Pekin ducks >6000 mg/kg b.w. LC₅₀ (5 d) for Japanese
quail >10000, bobwhite quail >5620, mallard ducks >5620, Pekin
ducks >10000 mg/kg diet.
- Effects on Fish: LC₅₀ (96 h) for carp 6.8, rainbow trout 4.3, golden orfe 5.1, sprutte
(*Leiostomus xanthurus*) 2.6 mg/l.
- Effects on Daphnia: EC₅₀ (48 h) 10.2 mg/l.
- Effects on Bees: LD₅₀ (contact and oral) >100 µg/bee.

Chemical Fate Information

- Animals:** Rapid and extensive metabolism. (Tricyclazole)
After oral administration to rats, propiconazole is rapidly absorbed and also rapidly and almost completely eliminated with urine and faeces. Residues in tissues were generally low and there was no evidence for accumulation or retention of propiconazole or its metabolites. The major sites of enzymic attack are the propyl side-chain and the cleavage of the dioxolane ring, together with some attack at the 2,4-dichlorophenyl and 1,2,4-triazole rings. In mice, the major metabolic pathway is via cleavage of the dioxolane ring. (Propiconazole)
- Plants:** The principal metabolite in plants is the hydroxymethyl analogue. (Tricyclazole)
Degradation proceeds through hydroxylation of the *n*-propyl side-chain and demetalization of the dioxolan ring. After cleavage of triazole, triazole-alanine is formed as the main metabolite. Metabolites are conjugated mostly as glucosides. (Propiconazole)
- Soil/Environment:** K_d 4 (loamy sand, pH 6.5, 1.5% o.m.), 45 (loam, pH 5.7, 3.1% o.m.), 21 (clay loam, pH 7.4, 1.9% o.m.), 22 (silty clay loam, pH 5.7, 4.1% o.m.). (Tricyclazole)
Soil DT_{50} (aerobic, 20–25 °C, lab.) 29–128 d; (field) 5–148 d. Immobile in soil; normalized $K_{oc(ads)}$ 950 ml/g. DT_{50} from water 5.5–6.4 d (sorption to sediment), from sediment 485–636 d. Hydrolytically stable in water; photolytic DT_{50} in sterile natural water 18 d (latitude 30–50° N) The main degradation pathways are hydroxylation of the propyl side-chain and the dioxolane ring, leading finally to formation of 1,2,4-triazole. (Propiconazole)

14. DISPOSAL CONSIDERATIONS

Waste Disposal

Pesticide wastes are acutely hazardous. Do not reuse product containers. Dispose product containers, waste containers, residues according local health and environmental regulations.

15. TRANSPORT INFORMATION

UN Number: 3082

Dangerous Goods Class: 9

Packing Group: III

16. REGULATORY INFORMATION



This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

17. OTHER INFORMATION

The information contained herein relates only to the specific material identified. We believe that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the reliability or completeness of the information. Urge persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

Chico Crop Science Co., Ltd.