

Material Safety Data Sheet

Deltamethrin 98%TC

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical product name: Deltamethrin 98%TC
Common chemical name: (S)-a-cyano-3-phenoxybenzyl (1R,3R)-3-(2,2-dibromovinyl)-2,2-dimethyl cyclopropanecarboxylate
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SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average by Weight</u>
Deltamethrin	52918-63-5	98%

SECTION 3 - HAZARDS IDENTIFICATION

Emergency overview: Warning! Keep out of reach of children. Toxic by inhalation and if swallowed. Do not breathe dust. Avoid contact with skin and eyes.

Routes of entry: Ingestion, inhalation, contact with skin and eyes.

Health hazards:

Symptoms and effects: Synthetic pyrethroids can produce paresthesias. Typically, symptoms begin several hours after cutaneous exposure, peaks within about 12 hours and resolves within about 24 hours. Extraordinary absorbed doses may rarely cause tremor, hyperexcitability, uncoordinated movements, salivation, nausea or vomiting and diarrhoea.

Environmental hazards: Very toxic to aquatic organisms.

SECTION 4 - HAZARDS IDENTIFICATION

General: Have the product container, label or Material Safety Data Sheet with you when going for treatment. Tell the person contacted the complete product name, and the type and amount

of exposure. Describe any symptoms and follow the advice given.

Skin contact: If on skin, remove contaminated clothing and wash skin thoroughly with soap and water. Launder contaminated clothing before re-use. Seek medical advice if irritation develops.

Eye contact: If in eyes, hold eyes open and flood with water for at least 15 minutes and seek medical advice.

Ingestion: If swallowed, do not induce vomiting. Wash mouth with water. Give water to drink. Seek medical advice.

Inhalation: If inhaled, remove from contaminated area to fresh air. If any signs or symptoms occur or persist, seek medical advice.

Note to physician: No specific antidote. Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Flash point: Not applicable

Flammable limits:

LFL: Not determined.

UFL: Not determined.

Autoignition temperature: Not determined.

Hazardous combustion products: May emit toxic and irritating fumes under fire conditions.

Extinguishing media: Dry chemical powder, carbon dioxide. Large fires: water spray or foam.

Media to be avoided: Water with full waterjet.

Fire-fighting instructions: Keep away from heat. Cool closed containers with water. Water used to extinguish a fire should not be allowed to enter the drainage system or water courses.

Protective equipment for firefighters: Wear self contained breathing apparatus. Wear suitable protective clothing. See also Section 8.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear personal protective equipment as specified in Section 8.

Environmental precautions: Do not allow to escape into sewage system or water courses.

Methods for cleaning up: Stop the source of the spill if it is safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. Do not allow material to enter sewers or bodies of water.

Small Spills (Dry Spill): Sweep up material and contain in a refuse vessel for disposal. If necessary, wash the spill area with an alkali detergent and water and absorb and contain for disposal.

Large Spills (Dry Spill): Place leaking containers into salvage drums. Form a barricade around spill and in front of drains or waterways in spill vicinity, using soil or other non reactive

material. Sweep up material and contain in a refuse vessel for disposal. Contact emergency services as required.

Disposal: Contaminated material must be disposed of in accordance with all State and/or Local regulations.

SECTION 7 - HANDLING AND STORAGE

Handling: Keep away from food, drink and animal feeding stuffs. Avoid contact with skin and eyes.

Storage: Store in a dry well ventilated place away from sources of heat and direct sunlight. Store at ambient temperatures.

Other information: Keep only in the original container.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL, PROTECTION

Exposure limits: No exposure limits have been established for this material.

Engineering controls: Provide adequate ventilation. Keep container tightly closed.

Personal protective equipment (PPE):

Respiratory Protection: Use only in well ventilated areas. Respiratory protection is recommended.

Hand Protection: Wear chemical resistant gloves.

Eye Protection: Avoid contact with eyes. Eye contact can be avoided by wearing protective eyewear.

Skin and Body Protection: Avoid contact with skin or clothing. Skin contact should be minimised by wearing protective clothing including gloves, long sleeved shirt, long pants and chemical resistant boots.

Other Information: Wash hands after use. Launder clothes, gloves and face shield or goggles before reuse.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form: solid.

Color: colorless.

Odor: odorless.

Melting point: 98-101 °C.

Kow logP: 4.6 (25 °C).

S.g./density: Bulk density 0.55 g/cm³ (25 °C).

Solubility: In water <0.2 µg/l (25 °C). In dioxane 900, cyclohexanone 750, dichloromethane 700, acetone 500, benzene 450, dimethyl sulfoxide 450, xylene 250, ethanol 15, isopropanol 6 (all in g/l, 20 °C).

SECTION 10 - STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions.

Conditions to avoid: Avoid direct sunlight.

Hazardous decomposition: Emits toxic fumes under fire conditions.

Incompatible materials: None known.

Hazardous reactions: Hazardous polymerization will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

The following information is for the active ingredient, Deltamethrin.

Acute toxicity:

Oral: LD₅₀ for rats ranges from 135->5000 mg/kg, depending upon carrier and conditions of the study; for dogs >300 mg/kg.

Dermal: LD₅₀ >2000 mg/kg (rabbit).

Inhalation: LC₅₀ 2.2 mg/l (rat).

Irritant properties:

Skin: Not irritant (rabbit).

Eye: Mild irritant (rabbit).

Allergenic and sensitizing effects: Not considered to be a skin sensitizer (Guinea pig).

Chronic toxicity/Carcinogenicity: In 2-year feeding trials, the reported NEL (no effect level) was 12 mg/kg diet for mice; and 2.1 mg/kg diet for rats.

Reproductive Effects: A reproductive 3-generation study in rats reported a reproductive NOEL to be greater than 2.5 mg/kg/day. Levels tested were 0, 0.1, 1.0 and 2.5 mg/kg/day. Oral administration of deltamethrin to mice on days 7 to 16 of gestation produced a

dosage-related reduction of weight gain but no effect on the number of implants, fetal mortality, fetal weight or malformations.

Teratogenic Effects: There were no reported teratogenic effects in mice, rats and rabbits. Deltamethrin has no teratogenic activity.

Mutagenic Effects: There were no mutagenic effects in mice, rats and rabbits. Deltamethrin has no mutagenic activity.

SECTION 12 - ECOLOGICAL INFORMATION

The following information is for the active ingredient, Deltamethrin.

Ecotoxicity:

Birds	Acute oral LD50: for mallard ducks >4640 mg/kg. Dietary LC50 (5 days): for mallard ducks >8039, quail >5620 mg/kg diet.
Fish	LC50 (96 h): for rainbow trout 0.91, bluegill sunfish 1.4 µg/l.
Daphnia	EC50 (48 h): 3.5 µg/l.
Algae	EC50: for algae (<i>Selenastrum capricornutum</i>) >9.1 mg/l.
Bees	LD50 (oral): 79 ng/bee LD50 (contact): 51 ng/bee.
Earthworm:	LC50 (14 days): for earthworms >1290 mg/kg soil.

Persistence and degradability: Deltamethrin is not persistent in the environment. In soil, it is destroyed by soil micro-organisms and does not leach.

Bioaccumulative potential: BCF (Bio-concentration factor):1400

SECTION 13 - DISPOSAL CONSIDERATIONS

This material must be disposed of as a hazardous waste. Disposal should be in accordance with local, national or state regulations.

Contaminated Packaging: 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.

SECTION 14 - TRANSPORT INFORMATION

UN Number: 3349.

Proper shipping name: Pyrethroid pesticide, solid, toxic (Deltamethrin).

Hazard Class: 6.1.

Packing group: III.

Marine pollutant: Yes.

SECTION 15 - REGULATORY INFORMATION

Hazard symbols:

T Toxic

N Dangerous for the environment

Risk phrases:

R23/25 Toxic by inhalation and if swallowed.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R57 Toxic to bees.

Safety phrases:

S22 Do not breathe dust.

S24 Avoid contact with skin.

S25 Avoid contact with eyes.

SECTION 16 - OTHER INFORMATION

Disclaimer: Choice Chemicals Ltd.. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

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