

Deltamethrin

Hazard to children: acute toxicity, immune suppression, endocrine disruption, potential developmental and behavioural effects; later in life breast cancer, male reproductive problems



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Uses: synthetic pyrethroid insecticide; it is also the metabolite of tralomethrin.

Residues: in breast milk,¹ children's urine;² house dust, food.¹

Acute toxicity: high acute oral toxicity, neurotoxin. Symptoms include dizziness, headache, nausea, blurred vision, anorexia, fatigue, disrupted sleep, delirium, numbness, itching tingling burning skin, vertigo, twitching, loss of consciousness.³ Occupational deaths from pulmonary oedema and convulsions.⁴ Treated bed nets have caused rash, cough, runny nose, sneezing.⁵ Numerous reports of poisonings,⁶ including children in Nicaragua.¹

Neurological: nerve degeneration,⁷ neurobehavioural effects in rats.⁶

Cancer: mammary tumours,⁸ thyroid tumours, lymphoma⁶ (rodents); breast cancer risk.⁹

Genotoxicity: genotoxic in fish, plants, rodents,¹⁰⁻¹² mutagenic in human¹³ and rodent cells.^{14 15}

Endocrine disruption: oestrogenic, causing growth of breast cancer cells, anti-androgenic;¹⁶

¹⁷ disrupts thyroid hormone;¹⁸ decreases growth hormone and growth factors (fish) which may affect growth, reproduction and development;¹² decreases testosterone, luteinizing and follicle-stimulating hormone (rats).¹¹

Reproduction: birth defects, craniofacial in fish,¹⁹ extra ribs in mice.⁶ Abnormal sperm in mice;²⁰ testicular damage, reduced sperm motility (rats);^{7 11} embryonic death, reduced foetal growth, lung hyperplasia, kidney damage (rabbits);⁷ reduced male fertility (rats).³

Immune: suppresses immune system (rats).³

Environmental effects:
Aquatic: highly toxic to fish, invertebrates;⁴ fish kills in US.²¹
Terrestrial: highly toxic to bees and beneficial insects.⁴

Environmental fate: moderately to highly persistent in soil and aquatic systems.⁴ May bioaccumulate.⁴ Found in surface water (Philippines)²² and air.²³

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