

Highly Hazardous Pesticides

Parathion

Hazard to Children: acute poisoning, reduced cognitive function, affects endocrine and immune functions, obesity, diabetes; later in life breast cancer, neurological problems



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June 2014

Bans: include EU, US, India, China, Australia, Japan, Malaysia, Philippines, Sri Lanka, Vietnam.^{1,2} On PIC list.

Use: organophosphate insecticide.

Residues: cord blood, meconium, newborn's blood, children's urine; house dust,³ food.

Acute toxicity: WHO Class 1a extremely hazardous neurotoxin. Symptoms include vomiting, abdominal cramps, diarrhoea, salivation, headache, vertigo, blurred vision, slurred speech, mental confusion, muscles twitches, profound weakness, sweating, difficult breathing, convulsions, unconsciousness, death. Numerous poisonings and deaths, including children from contaminated food and houses, occupational exposures.^{1,4}

Chronic: liver damage.⁵

Neurotoxicity: neonatal exposure compromises neurological function in adults (rat);⁶ reduced cognitive function and ability to learn (rat).^{6,7} Intermediate syndrome.⁴ Some association with Parkinson's disease.⁸

Cancer: US EPA possible human carcinogen based on

adrenal, pancreatic, thyroid, tumours (rats);⁴ mammary carcinogen in rats;⁹ malignant changes in breast cells;^{10,11} breast cancer risk.¹² Associated with melanoma,¹³ non-Hodgkin's lymphoma.¹⁴

Genotoxicity: genotoxic in newborn infants¹⁵ and exposed workers.⁴

Endocrine disruption: affects pineal gland and melatonin synthesis;¹⁶ anti-androgen;¹⁷ disrupts testosterone synthesis¹⁸ (rodents)

Reproduction: embryotoxic (rat);⁴ birth defects (birds).⁴

Immune: immunotoxic;^{19,20} aggravates allergic asthma,²¹ dermatitis.²²

Metabolic: impaired programming of metabolism, appetite; weight gain, pre-diabetic metabolic dysfunction in neonatal rats;^{5,23,24} associated with diabetes in exposed people.²⁵

Environmental effects:
Aquatic: highly toxic.⁴
Terrestrial: highly toxic to birds, beneficials, bees,⁴ soil organisms.¹

Environmental fate: moderately persistent; residues in fog, air, soil, sediment, surface and ground waters.⁴

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