Use: organophosphate insecticide; uses include public health vector control, and for lice and scabies.

Bans: Israel; initially banned in EU but allowed back in 2010.

Residues: in cord blood, meconium, neonate blood, breast milk, children’s urine; food, water.

Acute toxicity: moderately toxic, but metabolite malaoxon is 61 times more toxic; neurotoxic. Symptoms include headache, sweating, stomach cramps, vomiting, respiratory problems, muscle weakness, diarrhoea, seizures, coma, death; burns and skin rashes in Pakistan. Numerous poisonings and suicides, including in India, Pakistan, and Tanzania.

Chronic toxicity: Damage to heart, liver, kidneys, lungs, and stomach (animals).

Neurotoxicity: brain congestion, nerve degeneration, decreased learning, behaviour changes at low doses (animals); ADHD, cognitive disorders, slight association with Parkinson’s (humans).

Cancer: liver, nasal, palate, thyroid, and mammary tumours (animals). Non-Hodgkin’s lymphoma, multiple myeloma, leukaemia, prostate cancer; breast cancer risk.

Genotoxicity: genotoxic and mutagenic in human cells.

Endocrine disruption: affects testosterone, progesterone, oestrogen, thyroid hormones.

Reproduction: birth defects in animals and humans; damage to testes, ovaries, sperm (animals); reduced live foetuses, foetal weight, body length, growth (animals).

Immune: immunotoxic.

Metabolic: increased risk of diabetes and obesity.

Environmental effects: Aquatic: very highly toxic to aquatic organisms; many fish kills.

Terrestrial: highly toxic to bees and beneficial insects.

Environmental fate: marine pollutant; detected in air, rain, snow, fog, water.