

Novaluron

Novaluron has been registered as an insecticide for food crops and ornamentals in a number of countries. WHO has assessed novaluron for use as a mosquito larvicide in drinking-water in containers, particularly to control dengue fever. The recommended dosage of novaluron in potable water in containers should not exceed 0.05 mg/litre under the WHO Pesticides Evaluation Scheme.

In view of the absence of a carcinogenic potential in rodents and the lack of genotoxic potential *in vitro* and *in vivo*, JMPR concluded that novaluron is unlikely to pose a carcinogenic risk to humans. JMPR also concluded that novaluron is not a developmental toxicant.

JMPR established an ADI of 0–0.01 mg/kg of body weight on the basis of the NOAEL of 1.1 mg/kg of body weight per day for erythrocyte damage and secondary splenic and liver changes in a 2-year dietary study in rats, and a safety factor of 100.

It is not considered appropriate to set a formal guideline value for novaluron as a vector control agent in drinking-water. At the maximum recommended dosage for drinking-water of 0.05 mg/litre, the intake of a 60-kg adult drinking 2 litres of water would represent only 17% of the ADI. Similarly, the intake for a 10-kg child drinking 1 litre of water would be 50% of the ADI, whereas a 5-kg bottle-fed infant drinking 0.75 litre of water would receive an intake of 75% of the ADI.

The high log K_{ow} of 4.3 indicates that novaluron is likely to adsorb to the sides of containers, and so the actual concentration is likely to be less than the recommended dose. Exposure to novaluron through food is not expected to be significant.

History of guideline development

Novaluron was not considered in the WHO *International Standards for Drinking-water* or in the first or second editions of the WHO *Guidelines for Drinking-water Quality*.

Assessment date

The risk assessment was conducted in 2007.

Principal references

- FAO/WHO (2005) Novaluron. In: *Pesticide residues in food – 2005*. Rome, Food and Agriculture Organization of the United Nations, Joint FAO/WHO Meeting on Pesticide Residues (FAO Plant Production and Protection Paper 183; http://www.fao.org/ag/AGP/AGPP/Pesticid/JMPR/DOWNLOAD/2005_rep/report2005jmpr.pdf).
- WHO (2008) *Novaluron in drinking-water: Use for vector control in drinking-water sources and containers. Background document for preparation of WHO Guidelines for drinking-water quality*. Geneva, World Health Organization (WHO/HSE/AMR/08.03/11).