SPINOSAD
Spinosad is a natural product derived from the bacterium *Saccharopolyspora spinosa*. Spinosad DT is a mixture of spinosyn A and spinosyn D. It is used for mosquito control in potable water in containers.

Spinosad DT 7.48% is specified for use as a vector control agent in drinking-water sources against *Aedes aegypti* by WHO under WHOPES. Formulations for control of vectors are specified by WHO at a dose of 0.25–0.5 mg/l. The expected duration of efficacy under field conditions is 4–6 weeks.

Three formulations of spinosad have been evaluated by WHOPES for mosquito larviciding. WHO specifications for quality control and international trade have been published for the three formulations: i.e. spinosad granules (636/GR), aqueous suspension concentrate (636/SC) and tablets for direct application (636/DT). Only the tablet formulation is used for mosquito larviciding in potable water at the dosage of 0.25–0.5 mg/l of the active ingredient.

In a 14-day study conducted by the manufacturer, a single tablet was added to a 200-litre container of water, and this container was replenished with 10% of water each day of the study. The concentration of spinosad was found to be in the range 26.5–51.7 µg/l.

| Reason for not establishing a guideline value | Not appropriate to establish guideline values for pesticides used in water for public health purposes |
| Assessment date | The risk assessment was conducted in 2009. |

It is not appropriate to set a formal guideline value for spinosad DT for use to control vectors breeding in drinking-water containers; however, it is appropriate to compare the probable intakes with the ADI of 0.02 mg/kg body weight, with no acute reference dose set because of its low acute toxicity. The maximum concentration actually achieved with the slow-release formulation was approximately 52 µg/l. The intake would therefore be:

- 39 µg for a 5 kg bottle-fed infant assuming consumption of 0.75 litre = 7.8 µg/kg body weight
- 52 µg for a 10 kg child assuming consumption of 1 litre = 5.2 µg/kg body weight
- 104 µg for a 60 kg adult assuming consumption of 2 litres = 1.7 µg/kg body weight.

However, this could be higher if drinking-water consumption is also higher.

This means that the exposure is well below the ADI for all sectors of the population. Even the application of a double dose would result in exposure below the ADI.

The ADI is, of course, set for lifetime exposure, and the average exposure over time will be lower than the exposures indicated above.