

This is provisional English translation of an excerpt from the original full report.

Risk Assessment Report

Hexaconazole (Pesticides)

Food Safety Commission of Japan (FSCJ)
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ABSTRACT

FSCJ conducted a risk assessment of hexaconazole (CAS No.79983-71-4), a triazole fungicide based on results from various studies.

The data used in the assessment include the fate in animals (rats), fate in plants (apples and grapes), residues in crops, subacute toxicity (rats and dogs), chronic toxicity (dogs), combined chronic toxicity/carcinogenicity (rats), carcinogenicity (mice), 2-generation reproductive toxicity (rats), developmental toxicity (rats and rabbits), and genotoxicity.

Major adverse effects of hexaconazole identified were reduced gain of body weight, liver weight gain and hepatocellular fatty degeneration, and vacuolation of the adrenal cortex in rats. No reproductive toxicity, teratogenicity or genotoxicity was observed.

An increase in incidence of Leydig cell tumor in testis was observed in a carcinogenicity study in male rats, however, a genotoxic mechanism was unlikely to be involved in the tumor induction. It was thus considered possible to establish a threshold dose in the assessment.

Based on all results evaluated, hexaconazole (parent compound only) was identified as the relevant substance for the residue definition for dietary risk assessment in agricultural products.

The lowest no-observed-adverse-effect level (NOAEL) in all the studies was 0.47 mg/kg bw/day in a 2-year chronic toxicity and carcinogenicity combined study in rats. FSCJ specified an acceptable daily intake (ADI) of 0.0047 mg/kg bw/day by applying a safety factor of 100 to the NOAEL.

The lowest NOAEL for potential adverse effects of a single oral administration of hexaconazole was 25 mg/kg bw/day obtained in a 90-day subacute toxicity study in dogs. Consequently, FSCJ specified an acute reference dose (ARfD) of 0.25 mg/kg bw/day, applying a safety factor of 100 to the NOAEL.