

Mandestrobin

Summary

Food Safety Commission of Japan

The Food Safety Commission of Japan (FSCJ) conducted a risk assessment of mandestrobin (CAS No. 173662-97-0), a strobilurin fungicide, based on results from various studies. Major adverse effects of mandestrobin observed are hepatocellular hypertrophy and increased liver weights, and hypertrophy of thyroid follicular cells. Mandestrobin did not show any neurotoxicity, carcinogenicity, reproductive toxicity, teratogenicity or genotoxicity. Based on the above results, only mandestrobin (parent compound) was identified as the residue definition for dietary risk assessment in agricultural products. Though FSCJ could not specify a no-observed-adverse-effect level (NOAEL) in female parent rats in a two-generation reproductive toxicity study, the NOAEL of 26.7 mg/kg bw/day was obtained in female rats in a combined two-year chronic toxicity/carcinogenicity study which was conducted for a longer period with the lower dose. FSCJ thus considered the NOAEL in female rats to be 26.7 mg/kg bw/day. The lowest NOAEL in the toxicological studies was 19.2 mg/kg bw/day in a one-year chronic toxicity study in dogs. Applying a safety factor of 100 to the NOAEL, FSCJ specified an acceptable daily intake (ADI) to be 0.19 mg/kg bw/day. The lowest NOAEL for potential adverse effects of a single oral administration of mandestrobin was 1,000 mg/kg bw obtained in an acute neurotoxicity study in rats. FSCJ considered it unnecessary to specify an acute reference dose (ARfD), since the NOAEL was above the cut-off level (500 mg/kg bw).

Conclusion in Brief

The Food Safety Commission of Japan (FSCJ) conducted a risk assessment of mandestrobin (CAS No. 173662-97-0), a strobilurin fungicide, based on results from various studies.

The studies include the fate in animals (rats, goats and chickens), fate in plants (wheat and lettuce), residues in crops, subacute toxicity (rats, mice and dogs), subacute neurotoxicity (rats), chronic toxicity (dogs), combined chronic toxicity/carcinogenicity (rats), carcinogenicity (mice), two-generation reproductive toxicity (rats), developmental toxicity (rats and rabbits) and genotoxicity.

Major adverse effects of mandestrobin observed are hepatocellular hypertrophy and increased liver weights, and hypertrophy of thyroid follicular cells. Mandestrobin did not show any neurotoxicity, carcinogenicity, reproductive toxicity, teratogenicity or genotoxicity.

Based on the above results, only mandestrobin (parent compound) was identified as the residue definition for dietary risk assessment in agricultural products.

Though FSCJ could not specify a no-observed-adverse-effect level (NOAEL) in female parent rats in a two-generation reproductive toxicity study, the NOAEL of 26.7 mg/kg bw/day was obtained in female rats in a combined two-year

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The lowest NOAEL for adverse effects of a single oral administration of mandestrobin was 1,000 mg/kg bw obtained observed in an acute neurotoxicity study in rats. FSCJ considered it unnecessary to specify an acute reference dose (ARfD), since the NOAEL was above the cut-off level (500 mg/kg bw).