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

Risk Assessment Report

Polyoxin D zinc salt

(Pesticides)

Food Safety Commission of Japan (FSCJ)

June 2021

ABSTRACT

The FSCJ conducted a risk assessment of polyoxin D zinc salt (CAS No.146659-78-1), a nucleoside fungicide, based on various documents.

Test results used in the assessment include fate in animals (rats), fate in plants (lettuce, tomatoes and grapes), residues in crops, subacute toxicity (rats), chronic toxicity (dogs), combined chronic toxicity/carcinogenicity (rats and mice), two-generation reproductive toxicity (rats), developmental toxicity (rats and rabbits), genotoxicity and immunotoxicity (mice).

The major adverse effect of polyoxin D zinc salt was observed in body weight (suppressed weight gain in rats). No carcinogenicity, effect on fertility, teratogenicity, biologically significant genotoxicity or immunotoxicity was observed.

Based on these results, polyoxin D zinc salt (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) obtained from these studies was 729 mg/kg bw per day in a two-generation reproductive toxicity study in rats. The FSCJ specified an acceptable daily intake (ADI) of 7.2 mg/kg bw per day by applying a safety factor of 100 to this NOAEL.

Since there was no adverse effect likely to be elicited by a single oral administration of polyoxin D zinc salt, the FSCJ considered it unnecessary to specify an acute reference dose (ARfD).

Table 1. *Levels relevant to toxicological evaluation of polyoxin D zinc salt*

Species	Study	Dose (mg/kg bw per day)	NOAEL (mg/kg bw per day)[1)]
Rat	90-day subacute toxicity study (the 1st study)	0, 200, 2 000, 20 000 ppm M: 0, 11.6, 119, 1 170 F: 0, 13.7, 135, 1 330	M: 119 F: 1 330 M: Suppressed body weight gain, decreased food intake F: No toxicity
	Two-year combined chronic toxicity/carcinogenicity study	0, 100, 1 000, 10 000, 50 000 ppm M: 0, 3.71, 38.6, 383, 2 060 F: 0, 4.57, 45.1, 455, 2 470	M: 2 060 F: 2 470 M/F: No toxicity (No carcinogenicity was observed.)
	Two-generation reproductive toxicity study	0, 100, 10 000 ppm PM: 0, 7.06, 729 PF: 0, 7.55, 749 F_1M: 0, 7.85, 824 F_1F: 0, 8.04, 837	Parent and offspring PM: 729 PF: 749 F_1M: 824 F_1F: 837 Parent and offspring M/F: No toxicity (No effect on fertility is observed.)
	Developmental toxicity study	0, 100, 300, 1 000	Dams: 300 Fetuses: 1 000 Dams: Thickening of the limiting ridge of the stomach[a] Fetuses: No toxicity (No teratogenicity was observed.)
Mouse	Two-year combined chronic toxicity/carcinogenicity study	0, 400, 4 000, 40 000 ppm M: 0, 34.8, 336, 3 590 F: 0, 30.9, 332, 4 180	M: 3 590 F: 4 180 M/F: No toxicity (No carcinogenicity was observed.)
Rabbit	Developmental toxicity study	0, 50, 200, 800	Dams and fetuses: 800 Dams and fetuses: No toxicity (No teratogenicity was observed.)

Species	Study	Dose (mg/kg bw per day)	NOAEL (mg/kg bw per day)[1)]
Dog	One-year chronic toxicity study	0, 1 000, 6 000, 36 000 ppm	M: 1 060 F: 1 110
		M: 0, 32.1, 186, 1 060 F: 0, 32.7, 191, 1 110	M/F: No toxicity
ADI (cRfD)			NOAEL: 729 SF: 100 ADI: 7.2
The critical study for setting ADI (cRfD)			Two- generation reproductive toxicity study (rat)

ADI, Acceptable daily intake; cRfD, Chronic reference dose; NOAEL, No-observed-adverse-effect level; SF, Safety factor

[1)] The adverse effect observed at LOAEL.

a, Considered insufficient to specify an ADI; -, NOAEL could not be specified.