CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: codex@fao.org - www.codexalimentarius.org

Agenda Item 11 **CRD14**

July 2021

ORIGINAL LANGUAGE ONLY

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON RESIDUES OF VETERINARY DRUGS IN FOODS

25th Session
(Virtual)
12-16 and 20 July 2021

Comments submitted by the Philippines

Background

CCRVDF agreed in the 24th Session to retain **ethoxyquin** on the list at the request of Philippines and India who indicated that they would confirm the availability of data by the next session of CCRVDF.

General Comments:

There was no available residue data that the Philippines could provide to support the evaluation of ***ethoxyquin in shrimp muscle*** by JECFA.

The Philippines could only refer to the available evaluation made by JMPR in 2005[1]. As directly quoted in the report, the following are the summary points:

- For ethoxyquin, only its toxicology was evaluated as no residue data was received.
- The Meeting confirmed the previous ADI for ethoxyquin, however, currently no residue estimations in crops exist for this compound to perform the long-term dietary assessment.
- ARfDs were established but short-term intakes were not calculated.
- The assessment was not performed for ethoxyquin, as no STMRs and HRs data was available.
- As conclusion:

1. Estimate of acceptable daily intake for humans
    - 0–0.005 mg/kg bw, applicable to ethoxyquin, MEQ, DHMEQ and DHEQ
2. Estimate of acute reference dose
    - 0.5 mg/kg bw, applicable to ethoxyquin, MEQ, DHMEQ and DHEQ
3. Information that would be useful for the continued evaluation of the compound:
    - Results from epidemiological, occupational health and other such observational studies of human exposures.
4. An addendum to the toxicological monograph was prepared:

[1] ***Pesticide residues in food – 2005***, *Report of the Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Core Assessment Group on Pesticide Residues Geneva, Switzerland, 20–29 September 2005.WORLD HEALTH ORGANIZATION FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS Rome, 2005.*
Accessed: http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/JMPR/JMPR05report.pdf

[2] *Soo Yeon Choi, Nam ji Kwon, Hui-Seung Kang, Joohye Kim, Byung-Hoon Cho, Jae-Ho Oh,Residues determination and dietary exposure to ethoxyquin and ethoxyquin dimer in farmed aquatic animals in South Korea, Food Control, Volume 111, 2020, https://doi.org/10.1016/j.foodcont.2019.107067.*
Accessed: https://www.sciencedirect.com/science/article/pii/S0956713519306565

Levels relevant to risk assessment

Species	Study	Effect	NOAEL	LOAEL
Rat	Developmental toxicity[a]	Maternal toxicity	50 mg/kg bw per day	150 mg/kg bw per day
		Fetotoxicity	350 mg/kg bw per day[d]	—
Dog	1-year study of toxicity[a]	General toxicity	3 mg/kg bw per day	10 mg/kg bw per day
	Two-generation[b]	General toxicity	—	100 ppm equivalent 2.5 mg/kg bw per day[e]
		Reproductive performance	225 ppm, equivalent 5.6 mg/kg bw per day[d]	—
	Single oral dose[c] study with parent and plant metabolites	Toxicity	50 mg/kg bw per day	100 mg/kg bw per day

[a] Gavage administration
[b] Dietary administration
[c] Capsule
[d] Highest dose tested
[e] Marginal effects of equivocal toxicological relevance on brain acetylcholinesterase activity

Additional information from other published study:

A study[2] was conducted by Korea in 2020 on dietary exposure to ethoxyquin (EQ) and one of its metabolites, ethoxyquin dimer (EQDM). This study was based on information gathered regarding residues and consumption data for six kinds of animals (eel, rockfish, flatfish, loach, salmon, and shrimp). At a range of residues of 0.14-24.2 μg/kg (ppb) for EQ and 0.1-315 μg/kg (ppb) for EQDM, it was found **that there was no significant risk under four specific scenarios**. However, the study also showed that the above animals are exposed to ethoxyquin and ethoxyquin metabolites through feed.

Recommendation:

As supported by Costa Rica and Peru in their submitted comments (CX/RVDF 21/25/12), we propose to retain the inclusion of ethoxyquin in the draft priority list.

Rationale: Using the initial report of JMPR, this may help JECFA in the establishment of MRL of Ethoxyquin in shrimp muscle and may be classified further as **"Veterinary drugs for which additional data / information is necessary to complete the JECFA evaluation"**. The available evaluation of JMPR that discussed on the chemical properties, biochemical aspects, toxicological data, and toxicological evaluation may be considered ground work in the evaluation of ethoxyquin. The initial study by Korea could also be used as a reference for evaluation of dietary exposure to ethoxyquin and ethoxyquin metabolite residues in fish and shrimp