

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON CONTAMINANTS IN FOODS

17th Session
15-19 April 2024

REPORT OF THE PRE-SESSION WORKING GROUP ON PRIORITY LIST OF CONTAMINANTS AND NATURALLY OCCURRING TOXICANTS PROPOSED FOR EVALUATION BY JECFA

(Prepared by the Chair of the WG on the Priority List of Contaminants and Naturally Occurring Toxicants proposed for Evaluation by JECFA, USA)

1. Introduction

The virtual working group (VWG) was held on 9 April 2024 and chaired by Dr. Lauren Posnick Robin (USA). Dr. Eileen Abt (USA) served as Rapporteur. Dr. Vittorio Fattori (FAO/JECFA Secretariat), Dr. Kim Petersen (WHO/JECFA Secretariat), and Dr. Moez Sanaa (WHO/JECFA Secretariat) assisted the Chair.

The Chair provided background on the discussions at CCCF16, presented a summary of comments received in reply to CL 2023/95-CF, requested updates to items on the current priority list (REP23/CF), including new data availability, reviewed proposed new items for the priority list, and presented recommendations for CCCF17, including changes to the priority list.

2. Current Priority List

The current priority list reviewed at the VWG includes: 1) dioxins and dioxin-like PCBs, 2) arsenic (inorganic and organic), 3) scopoletin, 4) thallium, and 5) perfluoroalkyl substances (e.g., PFOS, PFOA, PFNA, PFHxS).

Based on responses to CL 2023/95-CF and discussion during the VWG, the VWG made the following updates (Appendix I) to items on the priority list:

- Dioxins and dioxin-like PCBs: Data updates from the EU, USA, Singapore, and New Zealand
- Arsenic (inorganic and organic): Data updates from Singapore, USA, EU, Brazil, and New Zealand
- Thallium: Data update from Canada and New Zealand
- PFAS: Data updates from Japan, Canada, China, and New Zealand

For PFAS, the WHO provided an update on work underway in WHO on review and assessment of PFAS. The VWG discussed a recommendation to edit the Priority List to change the term “perfluoroalkyl substances” to “per- and polyfluoroalkyl substances.” Given ongoing work at WHO on PFAS, the VWG agreed that discussion of terminology could be addressed at CCCF18.

3. New Proposals for Priority List

At CCCF16, the VWG recommended that a proposal from Indonesia for addition of ethylene oxide (EtO) and 2-chloroethanol (2-CE) to the priority list be deferred for consideration until the following year in order to request input from the Codex Committee on Pesticide Residues (CCPR).

The Chair reviewed a recommendation from CCPR that JECFA should take the lead on the evaluation of EtO, with support from JMPR. This approach would expedite the establishment of a maximum level for EtO as a contaminant by CCCF due to uses other than a pesticide.

Indonesia re-proposed addition of EtO and 2-CE to the priority list. Based on the recommendation from CCPR, responses to CL 2023/95-CF, and discussion at the VWG, the VWG recommended that EtO and 2-CE be added to the priority list for full evaluation (toxicological assessment and exposure assessment). Indonesia, India, and Thailand reported they may have data available by CCCF18. The Chair emphasized the need for clarity on whether submitted data are reported as EtO, 2-CE, or as an aggregate of EtO and 2-CE. The WHO Secretariat will consult with the GEMS/Food database administrator on data submissions for EtO and 2-CE in advance of issuing a JECFA call for data.

The Chair asked if there were additional nominations to the Priority List. China asked whether tropane alkaloids should be considered. The Chair suggested and China agreed that tropane alkaloids could be discussed at plenary under Agenda Item 11 before determining whether tropane alkaloids should be added to the Priority List.

4. Other matters

The Chair noted that CCCF16 agreed to add a table (Annex II) summarizing matters for action by the JECFA Secretariat to the meeting report. The JECFA Secretariat drew attention to the calls for data on dioxin and dioxin-like PCBs and arsenic (inorganic and organic) for JECFA101. The deadline for responding to the calls for data is December 2024.

5. Recommendation to the Committee

CCCF17 should consider including the contaminants and naturally occurring toxicants identified in the table below on the priority list of contaminants and naturally occurring toxicants proposed for evaluation by JECFA.

ANNEX I: PRIORITY LIST OF CONTAMINANTS FOR EVALUATION BY JECFA (REP23/CF)

Contaminants	Background and question(s) to be answered	Data availability (when, what)	Proposed by
Dioxins and dioxin-like PCBs	Full evaluation (toxicological assessment and exposure assessment) to update 2001 JECFA assessment and incorporate data on developmental effects from in utero exposures.	<p><u>EFSA</u>: Assessment available September 2018; occurrence data</p> <p><u>WHO</u>: Expert consultation to develop TEFs held in October 2022; publication in 2024 (https://www.sciencedirect.com/science/article/pii/S0273230023001939)</p> <p><u>Brazil</u>: Occurrence data on milk, raw eggs, fish, and fat (poultry and mammals)</p> <p><u>Canada</u>: Occurrence data on foods of animal origin</p> <p><u>USA</u>: FDA occurrence data from previous 10 years for milk, eggs, meat, and seafood and TDS aggregate data from 2018-2022 for dairy products, eggs, meat, poultry, seafood, and other foods. USDA occurrence data from 2012-2013 and 2018-2019 for meat, poultry, and siluriformes fish.</p> <p><u>Singapore</u>: TDS data</p> <p><u>New Zealand</u>: Occurrence data</p>	Canada
Arsenic (inorganic and organic)	<p><u>Inorganic</u>: 2011 JECFA evaluation based on cancer effects. This evaluation would focus on non-cancer effects (neurodevelopmental, immunological and cardiovascular) and could inform future risk management needs.</p> <p><u>NOTE</u>: Needs to be put in context to cancer risk assessment.</p> <p><u>Organic</u>: (exploratory)</p>	<p><u>Australia/New Zealand</u>: TDS data; inorganic arsenic and organic occurrence data</p> <p><u>Brazil</u>: Occurrence data on total arsenic in rice, poultry, pork, fish, and cattle meat; inorganic arsenic occurrence data in rice and fish</p> <p><u>Canada</u>: Occurrence data on inorganic and total arsenic in a variety of commercial foods</p> <p><u>Chile</u>: Occurrence data on inorganic and total arsenic in algae, crustaceans, gastropods, bivalve molluscs and small fish.</p> <p><u>EU</u>: Inorganic and organic arsenic occurrence data</p> <p><u>India</u>: Occurrence data in rice</p> <p><u>Japan and China</u>: Occurrence data on rice and rice products</p> <p><u>Türkiye</u>: Occurrence data in rice</p> <p><u>USA</u>: FDA occurrence data from various foods for past 10 years. USDA occurrence data from 2017-2022 in meat, poultry, and siluriformes fish. 2016 risk assessment.</p>	USA

Contaminants	Background and question(s) to be answered	Data availability (when, what)	Proposed by
		<p><u>USA</u>: Studies:</p> <p>Neurodevelopmental studies of inorganic arsenic impacts on rat behavior (2019, 2022)</p> <p>Toxicokinetic studies on metabolism and disposition of inorganic and organic arsenic and metabolites in mice (various life stages) (2018-20)</p> <p>Developmental toxicity test in <i>C. elegans</i> on inorganic arsenic (2018) and ongoing study on organic arsenic.</p> <p>Non-governmental report, Effects of Inorganic Arsenic in Infant Rice Cereal on Children's Neurodevelopment (2017)</p> <p><u>Singapore</u>: TDS data on inorganic and total arsenic</p>	
Scopoletin	Full evaluation (toxicological assessment and exposure assessment) in fermented noni juice	<p>CCNASWP still working on standard for noni juice and data availability, to be discussed at CCCNASWP16 (2023).</p> <p>CCNASWP15 agreed to request CCCF to retain scopoletin on the priority list and to call upon Codex members to generate and submit data to support the conduct of the safety evaluation by JECFA. CCNASWP15 also requested FAO and WHO to organize a new call for data for the safety evaluation of scopoletin. FAO reminded that a full dataset including exposure and toxicity is required.</p> <p>A consultant was hired by the Codex Secretariat to undertake a toxicological review of scopoletin as presented in the Annex to CX/CF 21/14/2-Add.1.</p>	CCNASWP
Thallium	Full evaluation (toxicological assessment and exposure assessment)	<p><u>EU</u>: Two EFSA assessments, occurrence data</p> <p><u>New Zealand</u>: TDS data</p> <p><u>USA</u>: Occurrence data on brassica-containing foods, in baby foods, and in Total Diet Study results. U.S. National Toxicology Program is conducting studies on thallium (I) sulfate.</p> <p><u>Canada</u>: TDS data</p>	United States

Contaminants	Background and question(s) to be answered	Data availability (when, what)	Proposed by
Perfluoroalkyl substances (e.g., PFOS, PFOA, PFNA, PFHxS)	Full evaluation (toxicological assessment and exposure assessment)	<p><u>EU</u>: Occurrence data</p> <p><u>Japan</u>: Occurrence data; summary of risk assessment report expected in 2024</p> <p><u>Singapore</u>: Occurrence data</p> <p><u>USA</u>: Occurrence data from FDA TDS and targeted surveys (seafood, bottled water, and milk). Occurrence data in meat and poultry from the USDA. Toxicology/risk assessments from the US Agency for Toxic Substances Disease Registry and Environmental Protection Agency.</p> <p><u>Canada</u>: TDS data for dairy, fish, meat, fruits, vegetables, and prepared foods and targeted survey data in flour, cereal, popcorn, and root vegetables</p> <p><u>China</u>: TDS data</p> <p><u>New Zealand</u>: Occurrence data</p>	Singapore
Ethylene oxide (EtO) and 2-chloroethane (2-CE)	Full evaluation (toxicological assessment and exposure assessment)	<u>Indonesia</u> : data availability will be confirmed at CCCF18 (2025)	Indonesia

ANNEX II: OTHER MATTERS FOR ACTION BY JECFA SECRETARIAT

Contaminant/ Commodity	Background and question(s) to be answered	Data call	Output
Dioxins and dioxin-like PCBs	CCCCF9 requested that JECFA conduct a full evaluation (toxicological assessment and exposure assessment) to update the 2001 JECFA assessment and incorporate data on developmental effects from <i>in utero</i> exposures.	JECFA Secretariat issued call for data. Data on polychlorinated dioxins, dibenzofurans and biphenyls should be submitted using the 2022 WHO Toxic Equivalency Factors (TEF) values. If the 2022 WHO TEF values are not used to calculate the toxic equivalency values (TEQs), data on all congeners have to be submitted.	JECFA Secretariat will conduct full evaluation at JECFA101.
Arsenic (inorganic and organic)	CCCCF9 requested that JECFA conduct a full evaluation (toxicological assessment and exposure assessment), building on JECFA72, and focusing on non-cancer effects (neurodevelopmental, immunological and cardiovascular).	JECFA Secretariat issued call for data.	JECFA Secretariat will conduct full evaluation at JECFA101.