United States
Consumer Product Safety Commission

FY 2025 Status Report: Organohalogen Flame Retardant Chemicals Assessment

July 2025

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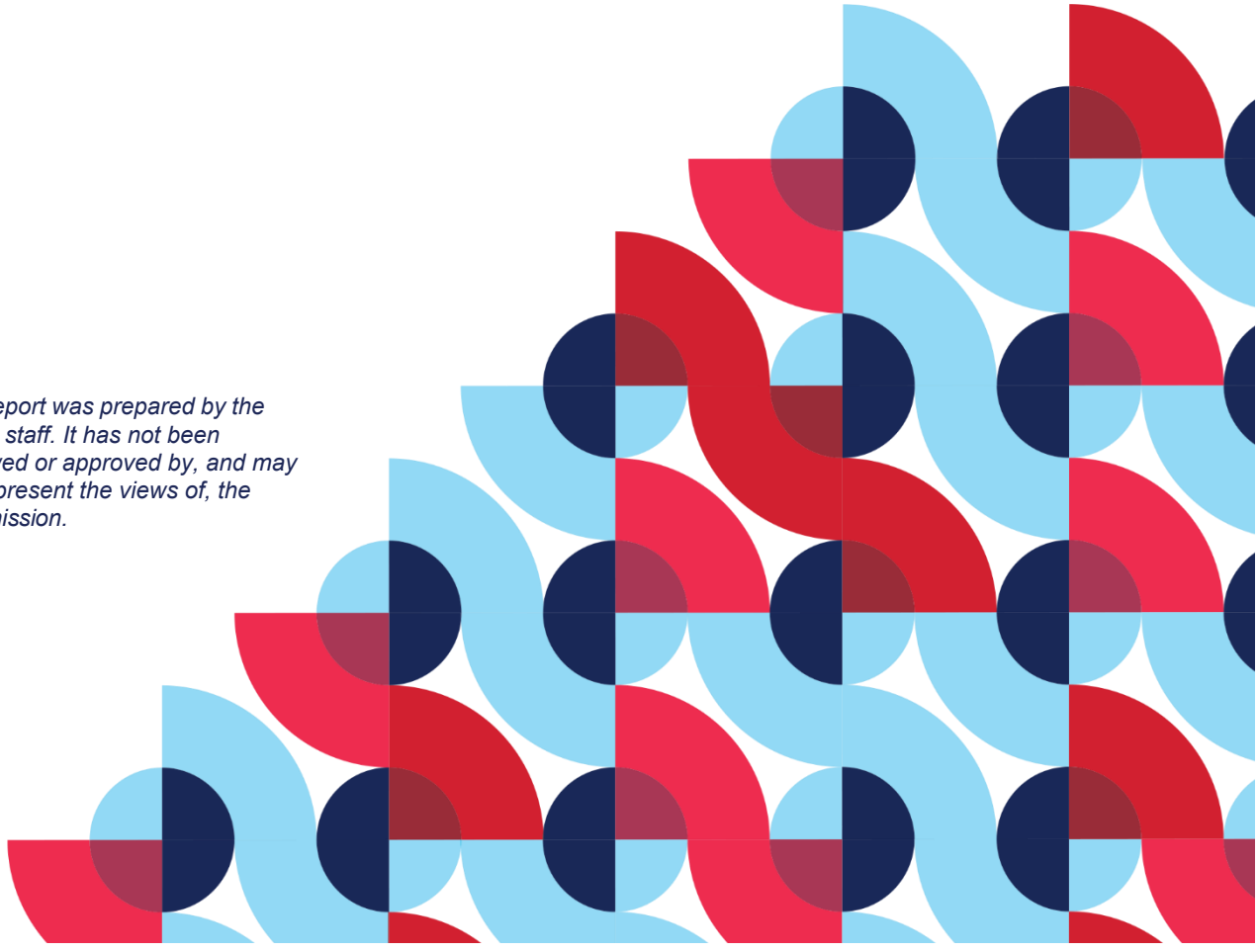

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Introduction and Summary

This report, as directed by the Commission's FY25 Operating Plan, presents an overview and status for CPSC staff's project to complete analyses of organohalogen flame retardants (OFRs) in specified consumer products. These analyses can be used to identify potential consumer product safety hazards and support rulemaking decisions or other regulatory options to reduce unreasonable risks of injuries associated with consumer products.

CPSC staff is committed to making completed work available to the public. To date, contractors have completed reports, databases, spreadsheets and workbooks, and other deliverables, as specified in contracts. Staff continues to update and upload documents to the CPSC website[1] created for the OFR project to facilitate information sharing.

In Spring of FY 2025, staff was directed to stop contract-related OFR work and to shift staff months initially designated for OFR project work to other areas. In addition, no new contracts or staff efforts have been initiated. Therefore, this status report serves as a record of activities on OFR assessment, undertaken during FY 2025. Status reports for FY 2021,[2] FY 2022,[3] FY 2023,[4] and FY 2024[5] provide more detailed information and remain available helpful resources.

Background

In 2015, several organizations and individuals petitioned the CPSC (Petition HP 15-1) to ban the use of additive OFRs, as a class, in durable infant or toddler products, children's toys, childcare articles, or other children's products (other than car seats), residential upholstered furniture, mattresses and mattress pads, and the plastic casings of electronic devices. In 2017, the Commission voted to grant the petition, to direct staff to convene a Chronic Hazard Advisory Panel (CHAP), and to complete a scoping and feasibility study in cooperation with the National Academy of Sciences, Engineering, and Medicine (NASEM). NASEM established a committee of experts to address the charge. In May 2019, NASEM published the committee's report, "A Class Approach to Hazard Assessment of Organohalogen Flame Retardants"[6] For FY 2020, the Commission directed staff to develop a process for assessing the risks of OFRs in consumer products. Subsequently, staff completed a report to the Commission (Staff Plan),[7] outlining options and recommendations for proceeding with the project in FY 2021 and beyond, subject to availability of resources. In FY 2021, staff proceeded, in coordination with contractors, with several activities (e.g., market-use profile, chemical inventory, scope document development,

[1] Available at: https://www.cpsc.gov/Business--Manufacturing/Organohalogen-Flame-Retardant-Chemicals-Assessment
[2] Available at: https://www.cpsc.gov/s3fs-public/OFR%20status%20report%20FY21.final%2009082021.pdf?VersionId=ySl8IqOxAXvxTYONdwuwnLFx8VilHjP0
[3] Available at: https://www.cpsc.gov/s3fs-public/OFR%20status%20report%20FY22.cleared%20final_Redacted.pdf?VersionId=WUqDwNwQHw2EdtOlN4l8j.DnLou.yFGs
[4] Available at: https://www.cpsc.gov/s3fs-public/Status%20report%20FY23%20cleared%20final%20for%20public.pdf?VersionId=Zz27qMhJqVo9Hg6V1AFwRh6RlJHJd1xj
[5] Available at: https://www.cpsc.gov/s3fs-public/OFR-Status-report-FY24_cleared-7-3-24.pdf?VersionId=kJ6dy4wZAWEcPKFxzZW9DjULeec.OHQh
[6] Available at: https://nap.nationalacademies.org/catalog/25412/a-class-approach-to-hazard-assessment-of-organohalogen-flame-retardants
[7] Available at: https://www.cpsc.gov/s3fs-public/OFR-plan-report-package-final.pdf

and identification of relevant chemical risk assessment data sources) to begin work on the project. In subsequent years, CPSC staff provided yearly updates on the status of work and produced scoping documents and all supporting documentation and files for the 14 OFR subclasses designated in the NASEM report, all of which are available on the CPSC OFR webpage.

Staff's initial estimate of the funding required to complete the analyses for all 14 OFR subclasses was approximately $18.6M over 10 years. This estimate included significant uncertainty due to anticipated challenges related to inadequate data for subclasses and the chemicals within those subclasses, as outlined in the NASEM report and staff plan. As the project proceeds and analyses are completed, the uncertainty will be reduced, and the work that still needs to be completed for each subclass will be better characterized. To date, $3.1M has been expended since FY 2021.

FY 2025 Project Activities

In FY 2025, staff continued to coordinate the tasks and activities involved in the contracts and interagency collaborative efforts, including providing specified data, documents, and other information the contractors needed to complete their work or, in the case of terminated contracts, to complete orderly shut-down prior to completion of work.

Table 1: Status of Contracts with activity during FY 2025

Contract/Task Order	Contractor	Cost	Status
Sub-class-based Dose Response Guide and Application	ICF BPA call order	$455,567.92	Completed, clearance and web posting in-process
Literature Screening, Exposure Data	ICF BPA call order	$187,173.16	Completed, clearance and web-posting in-process
Literature Extraction and Evaluation, Exposure Data	ICF BPA call order	$145,794.61	Terminated prior to completion
Peer Consultation	Tetra Tech BPA call order	$108,972.22	Terminated prior to completion

CPSC staff is in the process of completing agency clearance and web-posting of work deliverables from call-orders onto the OFR website. Staff completed and posted three technical reports encompassing 60 total files to the OFR website since the publication of the FY 2024 Status Report.

Table 2: Status of Clearance and Web Posting of Contracts with activity during FY 2025

Contract/Task Order | Contractor	File Name	Status
Read Across Guide and Application to One or Two Subclasses | ICF	Guidance Document for Conducting Qualitative Class-Based Hazard Assessment of Organohalogen Flame Retardants	Completed

Contract/Task Order | Contractor	File Name	Status
	Class-Based Qualitative Hazard Assessment of Polyhalogenated Organophosphate (PHOP) Flame Retardants *(and supporting files)*	
Class-Based Exposure Assessment and Guide | ICF	Guidance Document for Conducting Class-based Exposure Assessments for Organohalogen Flame Retardants Class-based Exposure Assessment of Polyhalogenated Organophosphate (PHOP) Flame Retardants *(and supporting files)*	Completed
Exposure Assessment of Polyhalogenated Organophosphates (PHOPs) Using Human Biomonitoring Data | University of Cincinnati	Exposure Assessment of PHOP Flame Retardants Using Human Biomonitoring Data *(and supporting files)*	Completed
Sub-Class based Dose Response Guide and Application | ICF	In progress	Contract completed, clearance and web-posting in progress
Literature Screening, Exposure Data | ICF	In progress	Contract completed, clearance and web-posting in progress
Literature Extraction and Evaluation, Exposure Data | ICF	Incomplete	Terminated prior to completion
Peer Consultation | TetraTech	Incomplete	Terminated prior to completion

Next Steps

As described in the Staff Plan, assessing the health risks associated with the presence of OFRs in consumer products is a multiyear, multi-activity project. If funding is available, work in FY 2026 and beyond can proceed for each of the 14 OFR subclasses and will continue to involve work performed by contractors and in coordination with federal agency partners.

In FY 2022, staff established a new multiyear, blanket purchase agreement for toxicological, exposure, and risk assessment services. Staff also set up a second multiyear blanket purchase agreement for laboratory exposure testing.

Staff described a plan for using additional funds for contract work in its 2024 OFR Project Status Report. Those recommendations remain unchanged. Staff also described a plan for staff-led activities that could be undertaken in its 2024 OFR Project Status Report. Those recommendations also remain unchanged.

Staff is considering information learned from applying class-based approaches to the polyhalogenated organophosphate (PHOP) subclass. This preliminary risk assessment, part of the work in three completed contracts (read-across, class-based exposure assessment, and subclass-based dose response) included application of several innovative processes described below. These processes were developed to simultaneously assess multiple chemical

substances, including assessment for data-poor substances. This information, incorporated into guidance documents, can be applied by staff in a final risk assessment for the PHOP subclass, as well as to risk assessments in future work on additional OFR subclasses or other subclasses generally.

Staff, in coordination with contractors, developed processes to complete qualitative hazard identification for subclasses by evaluating similarity, toxicological relevance, and health effects using five profiles: 1) metabolites; 2) physiologically based toxicokinetics (PBTK); 3) physicochemical properties; 4) mechanistic effects; and 5) adverse human health effects. The identified health effects for the PHOPs subclass include hepatic (liver) toxicity, renal (kidney) toxicity, thyroid effects, developmental neurotoxicity and reproductive toxicity (influenced by thyroid changes), and the potential for carcinogenicity.

Staff, in coordination with contractors, also developed processes to complete the quantitative exposure assessment for subclasses. Chronic Average Daily Dose (mg/kg/day) values specific to PHOPs were estimated for population groups using four different approaches: 1) mechanistic modeling; 2) empirical measurements; 3) indoor dust monitoring; and 4) reverse dosimetry from human biomonitoring data.

Additionally, staff, in coordination with contractors, developed processes to quantify toxicity reference values for human health endpoints based on identified critical toxicological endpoints. Probabilistic approaches were combined with read-across predictions to ensure applicability across subclasses with both data-rich and data-poor chemical substances.

All three of these approaches were in the process of undergoing external and independent peer review prior to contract terminations. In addition, staff collaborated with scientists from other federal agencies, and continually and routinely sought feedback on approaches and results. The feedback received to date has been positive. Many opportunities still exist to apply these newly developed approaches to OFR subclasses in future assessments, as well as to other class-based chemical risk assessments.

As of June 2025, no contract funds have been applied to OFR activities in FY 2025. Without consistent funding and resources, each part of the project necessarily will be delayed, and the overall timeline for completing the class-based assessments to support CPSC regulatory action will be uncertain.