


Erratum: “Systematic Evidence Map for over One Hundred and Fifty Per- and Polyfluoroalkyl Substances (PFAS)”

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In the originally published article, 6 of the 171 PFAS included in the evidence map were inadvertently omitted in literature search updates for 2020 and 2021. Thus, for these 6 PFAS, the published article represents search results up to September 2019.

- 1-Bromoheptafluoropropane (CASRN 422-85-5; DTXSID3059971)
- 11:1 Fluorotelomer alcohol (CASRN 423-65-4; DTXSID80375107)
- 6H-Perfluorohex-1-ene (CASRN 1767-94-8; DTXSID10379850)
- Perfluoroheptanoic acid (CASRN 375-85-9; DTXSID1037303)
- Perfluorooctanesulfonamid (CASRN 76752-79-9; DTXSID001016256)
- Perfluoroundecanoic acid (CASRN 2058-94-8; DTXSID8047553)

Search results from 2019 for these chemicals are represented in the published article (Excel Tables S1 and S4; Figures 3–6, Table 5). The data in the Supplemental Material that detail the search results are accurate in that they display the results by respective database for the searched chemicals (Excel Tables S6 and S8) but do not include search results for the six chemicals listed above from October 2019 through December 2021. The “Methods” text, figure captions, and table notes in the original article have been modified to clarify the change in scope for these chemicals.

The following has been added after the first sentence of the “Database searches” section of the “Methods” section:

“For the December 2020 and December 2021 searches, the following PFAS were inadvertently excluded: 1-bromoheptafluoropropane (CASRN 422-85-5; DTXSID3059971), 11:1 fluorotelomer alcohol (CASRN 423-65-4; DTXSID80375107), 6H-perfluorohex-1-ene (CASRN 1767-94-8; DTXSID10379850), perfluoroheptanoic acid (CASRN 375-85-9; DTXSID1037303), perfluorooctanesulfonamid (CASRN 76752-79-9; DTXSID001016256), and perfluoroundecanoic acid (CASRN 2058-94-8; DTXSID8047553). Consequently, the literature results reported for these PFAS are only current through 2019. In Excel Table S6, these PFAS appear as ‘not searched’ under the ‘Database’ column and in Excel Table S8, these PFAS are excluded entirely. Other ‘not searched’ cells in the ‘Database’ column for Excel Table S6 are for PFAS that were deprioritized after the 2019 search as is described later in this section.”

A new first paragraph was added to the “Results” section:

“Please note that the study counts and figures presented in this manuscript represent a snapshot in time of a repository that may evolve as this project is updated or revisions are made. For the most current information, please visit the web-based inventory and project pages in HAWC and HERO.”

Additionally, the captions of Figures 3–6 and table notes for Table 5 and Excel Tables S6 and S8 have been updated to reflect this omission more clearly.

For Figure 3, the following text was added to the caption:

“For the December 2020 and December 2021 searches, the following PFAS were inadvertently excluded: 1-bromoheptafluoropropane (CASRN 422-85-5; DTXSID3059971), 11:1 fluorotelomer alcohol (CASRN 423-65-4; DTXSID80375107), 6H-perfluorohex-1-ene (CASRN 1767-94-8; DTXSID10379850), perfluoroheptanoic acid (CASRN 375-85-9; DTXSID1037303), perfluorooctanesulfonamid (CASRN 76752-79-9; DTXSID001016256), and perfluoroundecanoic acid (CASRN 2058-94-8; DTXSID8047553). Consequently, the literature results reported for these PFAS are only current through 2019.”

For Figures 4–6, the following text was added to the captions:

“Study counts for 1-bromoheptafluoropropane (CASRN 422-85-5; DTXSID3059971), 11:1 fluorotelomer alcohol (CASRN 423-65-4; DTXSID80375107), 6H-perfluorohex-1-ene (CASRN 1767-94-8; DTXSID10379850), perfluoroheptanoic acid (CASRN 375-85-9; DTXSID1037303), perfluorooctanesulfonamid (CASRN 76752-79-9; DTXSID001016256), and perfluoroundecanoic acid (CASRN 2058-94-8; DTXSID8047553) are only current through 2019.”

For Table 5, the following sentence was added to the beginning of the table note, “For perfluoroheptanoic acid and perfluoroundecanoic acid, data are only current through December 2019 because these PFAS were inadvertently excluded in the 2020 and 2021 literature search updates.” The following sentence was added to the end of the table note, “For the most current information, please visit the web-based HAWC project page.”

The authors plan to include updated search results for these chemicals in a future PFAS evidence map update that will also be incorporated into the HERO project page (https://heronet.epa.gov/heronet/index.cfm/project/page/project_id/2826) and HAWC project page (<https://hawc.epa.gov/assessment/100500085/>).

As these missing search results were processed, several errors were identified in the chemical tagging represented in the published article. The specific errors and associated revisions are captured in the HAWC project page changelog (located in the attachments on the project objective page).¹ An error in the study counts presented in Figure 3 was also corrected to match the narrative text (“Study Evaluation Animal ($n = 52$)” changed to “Study Evaluation Animal ($n = 56$)” and “Studies extracted into HAWC Animal ($n = 51$)” changed to “Studies extracted into HAWC Animal ($n = 55$)”). In addition, Excel Tables S10–S12 from our original publication incorrectly included data for studies that were considered *a*) duplicates of other studies in our database, *b*) not relevant for the focus of this assessment (e.g., acute and short-term animal studies with <21-d exposure durations), or *c*) retroactively excluded for not having PECO-relevant PFAS. This error only impacted information provided in the Supplemental Material and not any study counts or analyses presented in the published manuscript. Excel Tables S10–

S12 have been revised so that only PECO-relevant data sets that were discussed in the original article are included. The number of animal studies in Excel Tables S10 and S12 now match the text and the revised literature flow diagram (Figure 3). For transparency, the captions for Figures 2–10 and Tables S10, S12, and S13 in the published article have been updated to include an accession date to reflect that the information was current as of 17 May 2022. If additional errors are identified and corrected in the future, they will also be recorded in the HAWC project changelog.¹ (<https://hawc.epa.gov/assessment/100500085/>).

Perfluoro-2-methyl-3-oxahexanoic acid (“GenX Chemicals”) was unintentionally included in the chemical search even though there was a separate U.S. EPA Office of Water assessment for it² (as noted in Table 1 in the originally published article). In our evidence map, it was deprioritized in SWIFT-Review³ and not considered relevant. Although the chemical appears in our search strategies (Excel Tables S4, S6, S8), it has now been removed from the chemical list (Excel Table S1) to indicate that it was not considered further for the analyses presented in the published article. The chemical’s empty literature tag tree in HAWC has also been removed (there were zero relevant or supplemental studies). The changelog has been modified to reflect the updates that have been made to the project page since its original publication in May 2022.

The authors regret these errors.

References

1. U.S. EPA. 2022. Health Assessment Workspace Collaborative (HAWC) Public Assessments: ORD SEM PFAS 150. [Website.] <https://hawc.epa.gov/assessment/100500085/> [accessed 8 December 2023].
2. U.S. Environmental Protection Agency (EPA). 2021. *Human Health Toxicity Values for Hexafluoropropylene Oxide (HFPO) Dimer Acid and Its Ammonium Salt (CASRN 13252-13-6 and CASRN 62037-80-3): also Known as “GenX Chemicals.”* EPA-822R-21-010. Washington, DC: U.S. Environmental Protection Agency.
3. Howard BE, Phillips J, Miller K, Tandon A, Mav D, Shah MR, et al. 2016. SWIFT-Review: a text-mining workbench for systematic review. *Syst Rev* 5:87, PMID: 27216467, <https://doi.org/10.1186/s13643-016-0263-z>.