Per- and polyfluoroalkyl substances: evaluation of liver effects using in vivo data - PFAS/2023/06

Introduction, Background and Literature Search

In this guide

In this guide

- 1. Introduction, Background and Literature Search PFAS/2023/06
- 2. In vivo liver toxicity studies PFAS/2023/06
- 3. Endpoints Investigated and Summary of Results PFAS/2023/06
- 4. Liver Weight PFAS/2023/06
- 5. Clinical chemistry- PFAS/2023/06
- 6. Liver histopathology PFAS/2023/06
- 7. Effects on gene expression PFAS/2023/06
- 8. Serum/plasma PFAS levels PFAS/2023/06
- 9. Discussion PFAS/2023/06
- 10. Table 1 Lowest POD for PFAS based on liver effects PFCAs
- 11. Table 2 Lowest POD for PFAS based on liver effects PFSAs
- 12. Questions on which the views of the Committee are sought PFAS/2023/06
- 13. List of Abbreviations PFAS/2023/06
- 14. References PFAS/2023/06

This is a paper for discussion. This does not represent the views of the Committee and should not be cited.

Introduction

1. This paper is part of a series of papers supporting the Committee on Toxicity (COT) assessment of the toxicology of per- and polyfluoroalkyl substances (PFAS). It provides the evidence on *in vivo* liver toxicity, with individual studies tabulated in Annex A.

2. Future papers will include evidence on liver toxicity based on in vitro toxicity studies and human evidence for liver toxicity, and groups of papers covering other endpoints including developmental toxicity and immunotoxicity.

Background

3. The COT has previously considered PFAS on a number of occasions (see summary in TOX/2022/53), and has recently published a statement on the EFSA opinion. A paper summarising health-based guidance values (HBGV) was presented in December 2022 (TOX/2022/67) and following agreement in March 2023 the PFAS subgroup was established and an interim position published outlining future work.

Literature search

- 4. Search terms used previously by the European Food Safety Authority (EFSA) (2018 and 2020) were replicated. These search terms, the inclusion and exclusion criteria and the search results, are presented in Annex B to this paper.
- 5. A total of 53 published papers or reports were evaluated, some of which comprise more than one study and more than one PFAS. All papers and reports were evaluated for reliability using the ToxRTool (Klimisch et al., 1997) to determine data quality and reliability. Only those designated a score of 1 or 2 were further evaluated.