Per- and polyfluoroalkyl substances: evaluation of thyroid effects using in vivo data (update) - PFAS/2023/04 PFAS/2023/04

Introduction, Background and Literature search - PFAS/2023/04

In this guide

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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 COT assessment of the toxicology of per- and polyfluoroalkyl substances (PFAS). It provides the animal *in vivo* evidence on thyroid toxicity, with individual studies tabulated in Annex A, and updates the version provided to the COT PFAS subgroup in August 2023 (PFAS/2023/03).

2. A paper on evidence of thyroid toxicity based on *in vitro* toxicity studies is also presented at this meeting (PFAS/2023/05). Future papers will include human evidence for thyroid toxicity, and groups of papers covering other

endpoints including developmental toxicity, liver 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 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 34 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. As this report is an update to the paper presented in August 2023, all data, regardless of Klimisch scores, are presented in the tables below.