

Annex B

In this guide

[In this guide](#)

1. [Introduction, Background and Literature Search - PFAS/2023/05](#)
2. [In vitro thyroid toxicity studies and Endpoints investigated - PFAS/2023/05](#)
3. [Summary of results - PFAS/2023/05](#)
4. [Discussion - PFAS/2023/05](#)
5. [List of Abbreviations - PFAS/2023/05](#)
6. [References - PFAS/2023/05](#)
7. [PFAS/2023/05 Annex A Tables 2 to 13](#)
8. [PFAS/2023/05 Annex A Tables 14 to 24](#)
9. [PFAS/2023/05 Annex B](#)
10. [PFAS/2023/05 Annex C](#)

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

Literature search

Search terms

1. Search terms presented in the EFSA opinion were replicated for the searches.

Scopus (search terms in all fields)

(TITLE-ABS-KEY (perfluoro* OR pfos OR pfoa OR pfas OR "fluorotelomer alcohol" OR polyfluoro*) AND TITLE-ABS-KEY (toxicity OR *toxi* OR acute OR subacute OR subchronic OR chronic OR mutagen* OR carcino* OR cardiotox* OR genotox* OR reprotox* OR nephrotox* OR neurotox* OR hepatotox* OR immune OR immuno* OR hematotox* OR haematotox* OR

cytotox* OR "developmental tox*" OR thyroid OR endocri* OR endocrine OR estrogen OR oestrogen OR fertility OR tumour OR tumor OR gestat* OR lactat* OR "DNA damage" OR mortality OR adverse OR "adverse effect" OR "blood lipid*" OR "serum lipid*" OR ppar OR "ex vivo" OR "in vitro" OR "in vivo" OR cell* OR tissue*) AND TITLE-ABS-KEY (rodent* OR mouse OR animal* OR rat* OR mice OR rabbit* OR dog* OR monkey*)) AND (EXCLUDE (SUBJAREA , "CHEM") OR EXCLUDE (SUBJAREA , "MATE") OR EXCLUDE (SUBJAREA , "CENG") OR EXCLUDE (SUBJAREA , "ENGI") OR EXCLUDE (SUBJAREA , "PHYS") OR EXCLUDE (SUBJAREA , "COMP") OR EXCLUDE (SUBJAREA , "EART") OR EXCLUDE (SUBJAREA , "ENER") OR EXCLUDE (SUBJAREA , "SOCI") OR EXCLUDE (SUBJAREA , "ECON") OR EXCLUDE (SUBJAREA , "BUSI") OR EXCLUDE (SUBJAREA , "ARTS")) AND (LIMIT-TO (DOCTYPE , "ar") OR LIMIT-TO (DOCTYPE , "re")) AND (LIMIT-TO (LANGUAGE , "English") OR EXCLUDE (LANGUAGE , "Russian") OR EXCLUDE (LANGUAGE , "Spanish")) AND (EXCLUDE (LANGUAGE , "Italian")) AND (EXCLUDE (SUBJAREA , "MATH")): 5449

PubMed (search terms in title and abstract)

((("perfluoro*" [Title/Abstract] OR "pfos" [Title/Abstract] OR "pfoa" [Title/Abstract] OR "pfas" [Title/Abstract] OR "fluorotelomer alcohol" [Title/Abstract] OR polyfluoro*) AND ("toxicity" [Title/Abstract] OR "toxi*" [Title/Abstract] OR "acute" [Title/Abstract] OR "subacute" [Title/Abstract] OR "subchronic" [Title/Abstract] OR "chronic" [Title/Abstract] OR "mutagen*" [Title/Abstract] OR "carcino*" [Title/Abstract] OR "cardiotox*" [Title/Abstract] OR "genotox*" [Title/Abstract] OR "reprotox*" [Title/Abstract] OR "nephrotox*" [Title/Abstract] OR "neurotox*" [Title/Abstract] OR "hepatotox*" [Title/Abstract] OR "immune" [Title/Abstract] OR "immuno*" [Title/Abstract] OR "hematotox*" [Title/Abstract] OR "haematotox*" [Title/Abstract] OR "cytotox*" [Title/Abstract] OR "developmental tox*" [Title/Abstract] OR "thyroid" [Title/Abstract] OR "endocri*" [Title/Abstract] OR "endocrine" [Title/Abstract] OR "estrogen" [Title/Abstract] OR "oestrogen" [Title/Abstract] OR "fertility" [Title/Abstract] OR "tumour" [Title/Abstract] OR "tumor" [Title/Abstract] OR "gestat*" [Title/Abstract] OR "lactat*" [Title/Abstract] OR "DNA damage" [Title/Abstract] OR "mortality" [Title/Abstract] OR "adverse" [Title/Abstract] OR "adverse effect" [Title/Abstract] OR "blood lipid*" [Title/Abstract] OR "serum lipid*" [Title/Abstract] OR "ppar" [Title/Abstract] OR "ex vivo" [Title/Abstract] OR "in vitro" [Title/Abstract] OR "in vivo" [Title/Abstract] OR "cell*" [Title/Abstract] OR "tissue*" [Title/Abstract]) AND ("rodent*" [Title/Abstract] OR

"mouse"[Title/Abstract] OR "animal*"[Title/Abstract] OR "rat"[Title/Abstract] OR "mice"[Title/Abstract] OR "rabbit*"[Title/Abstract] OR "dog"[Title/Abstract] OR "monkey*"[Title/Abstract])) AND (english[Filter])): 2569.

2. Data from both searches were combined and duplicates removed giving a total of 3397 papers.

3. To identify papers on specific endpoints key words were used to search in all fields in Endnote. Key words included, but were not limited to,

- Thyro,
- TSH,
- T3,
- T4,
- Thyroxine,
- Triiodothyronine,
- Hypertrophy,
- Thyroid stimulating hormone.

Inclusion and exclusion criteria

4. Generic inclusion criteria and exclusion criteria were applied to the data retrieved (Table 25).

Table 25. Generic inclusion and exclusion criteria used during primary screening of titles

Inclusion Criteria	Exclusion criteria
Articles in English language.	Articles in other languages.
Peer reviewed publications.	Expert opinions by authoritative bodies commentaries, editorials and letters to the editor. PhD Theses. Extended abstracts, conference proceeding.

Relevant reviews.	Studies not reporting original results, including comments, letters or editorials.
	Papers without an abstract.
Papers concerning toxicological effects.	Papers concerned only with methodology, mechanism or mode of action.
<i>In vitro</i> studies, <i>In silico</i> studies.	<i>In vivo</i> studies, <i>Ex vivo</i> studies, Human (epidemiology) studies.
None.	Any experimental animal study, all ages, male and females.
Any PFAS.	Mixtures of PFAS.