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

Endpoints investigated and Summary of Results

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

Endpoints investigated

- 16. Exposure to PFAS caused a number of liver effects in animals including effects on liver weight and DNA content, clinical chemistry, effects on histopathology and impacts on gene expression.
- 17. For PFCAs, 40 of the 50 assays (reported in the 34 published sources) measured liver weight, 37 carried out clinical chemistry, although not all

parameters (i.e., AST, ALT, cholesterol, TG etc) were measured in each study, 37 included liver histopathology, and 24 included gene expression relating to liver effects.

- 18. For PFSAs, 17 of the 25 studies (reported in the 19 published sources) evaluated absolute and/or liver weight, 18 carried out clinical chemistry measurements, 17 assessed liver histopathology, and 11 measured gene expression changes relating to liver effects.
- 19. The data presented below relate to statistically significant changes in liver effects seen at the LOAEL. Effects seen at higher doses are not included.

Summary of results

20. Exposure to PFAS caused a number of liver effects in animals including effects on liver weight, clinical chemistry (aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (ALP), cholesterol, triglycerides (TG), total protein (TP), bilirubin, albumin/globulin ratio), effects on histopathology, and impacts on gene expression.