

# Summary of UFAS Compound Feed Dioxin Data 2018-2023

## Background

AIC commenced a programme of requesting samples of compound feed from UFAS participants to establish background levels of dioxin contamination following the identification of illegal activity in the fats and oils supply chain that resulted in the production of contaminated feed in Germany.

The two primary aims of the AIC dioxin testing programme are:

- To provide verification that dioxin controls in the feed supply chain are effective
- To allow investigations into specific ingredients should evidence of contamination be found

## Dioxin Analysis

Since July 2018 over 130 compound feed samples have been analysed for:

- Non-dioxin-like PCBs
- Dioxins & furans
- Dioxin-like PCBs

63 of the samples were tested in 2023. Feeds analysed in the main report include monogastric and ruminant complete feeds and complementary feeds as well as premixtures. 2 fish feed samples were submitted but excluded from the main analysis as they are subject to different (higher) legal limits than other species. Review of the fish feed analysis however showed that they did not contain any of the dioxin compounds tested outside of the specific category legal limits. Due to Covid, only 2 samples were tested in 2020.

## Dioxins and Furans

The legal limit for dioxins and furans in most feeds is 0.75 ng/kg. An action limit is set at 0.5 ng/kg. Results are expressed as “upper bound” figures, which means it is essentially the sum of the limits of detection for each “congener” tested for, plus any contamination found. The results are presented in figure 1. Review of the results showed all samples were below the legal maximum. One sample of a ruminant blend was found to contain levels just below the action limit.

## Dioxin-like PCBs

There is no legal limit for dioxin like PCB's, an action limit of 0.35 ng/kg is however in place. No samples in any of the years exceeded this limit. The trend showed an overall increase in 2023 vs previous seasons. The results are presented in figure 2.

## Non-Dioxin Like PCBs

The legal limit in feeds of non-dioxin like PCBs is 10 ug/kg. All samples were very low and below this limit. The results are presented in figure 3.

## Sum of Dioxins/Furans & Dioxin like PCBs

The legal limit for dioxins/furans and dioxin like PCBs is 1.5 ng/kg, "upper bound". All samples were below the legal limit. The results are presented in figure 4.

## Conclusion

There is no evidence of dioxin contamination being an issue within the UK compound feed industry. This brings assurance to those in the animal feed, animal production and food industries that current control measures on feed ingredients at risk of contamination appear to be working, which principally include fats & oils, minerals and products which have been direct dried. The 2023 data indicted an overall increase of some dioxin components compared with previous years, however due to the lack of samples in 2020, 2021 and 2022 it is difficult to determine if the increase detected is representative, and a true trend exists. The continued collaborative monitoring of dioxin levels in compound feeds by the UK feed industry will allow trend analysis to be carried out to detect if there are meaningful changes in feed dioxin content.

Figure 1: Dioxin and Furan 2018 -2023 Summary

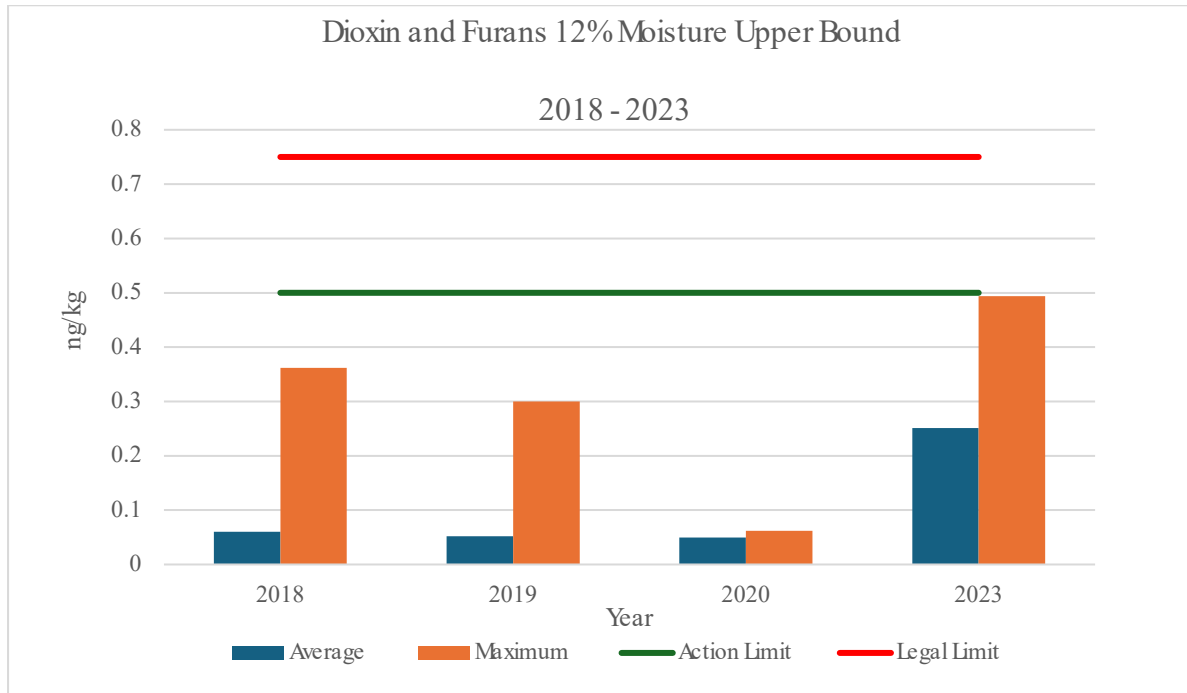


Figure 2: Dioxin Like PCB's 2018 – 2023 Summary

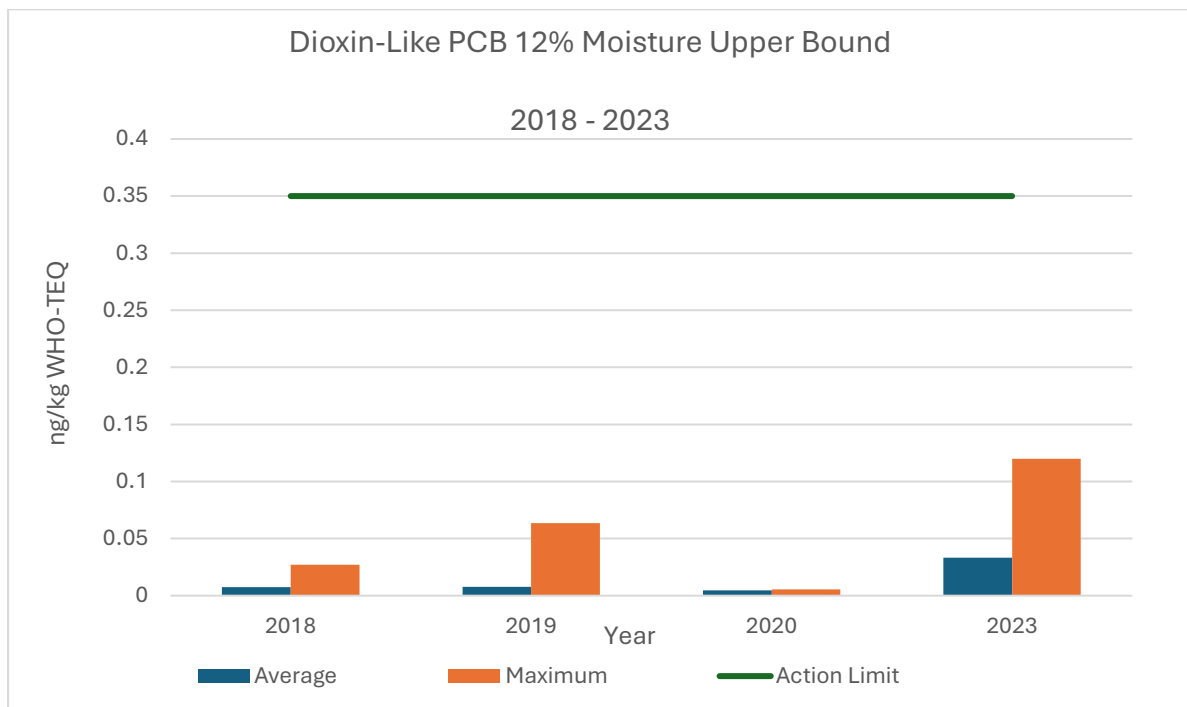


Figure 3: Non-Dioxin Like PCBs 2018 – 2023 Summary

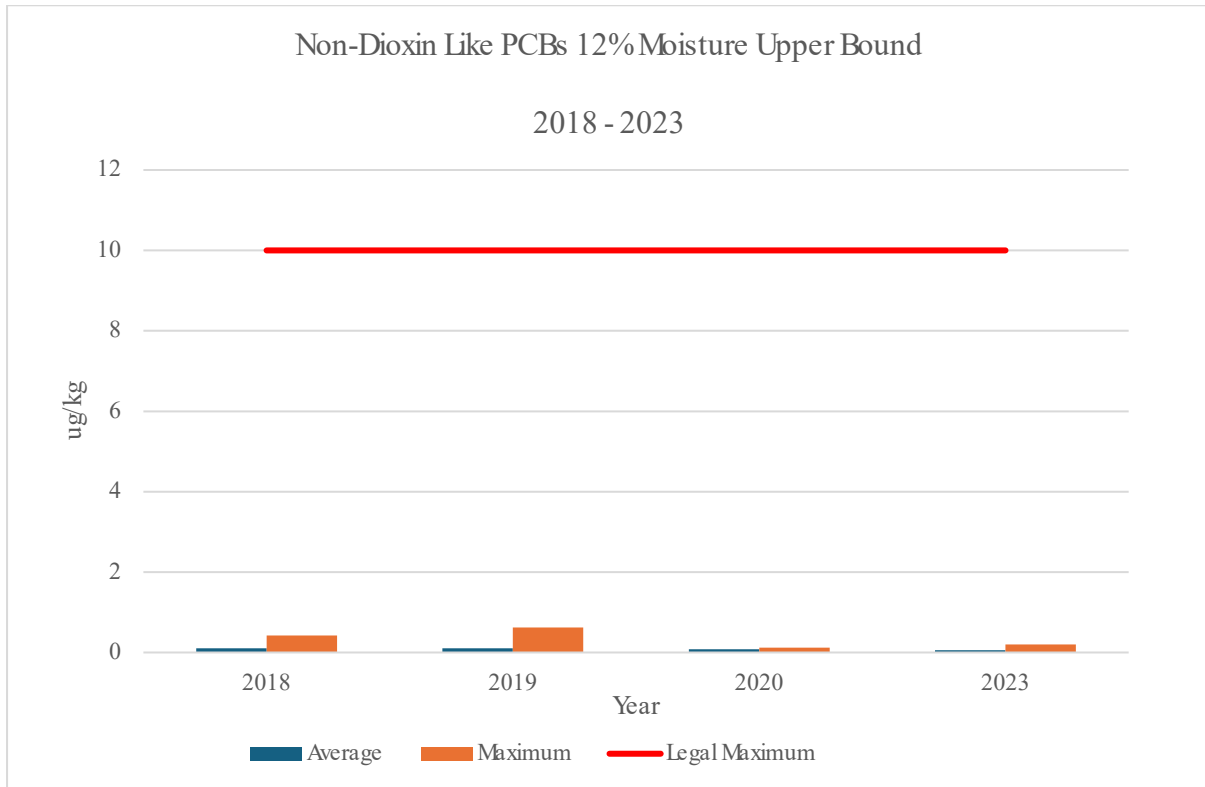
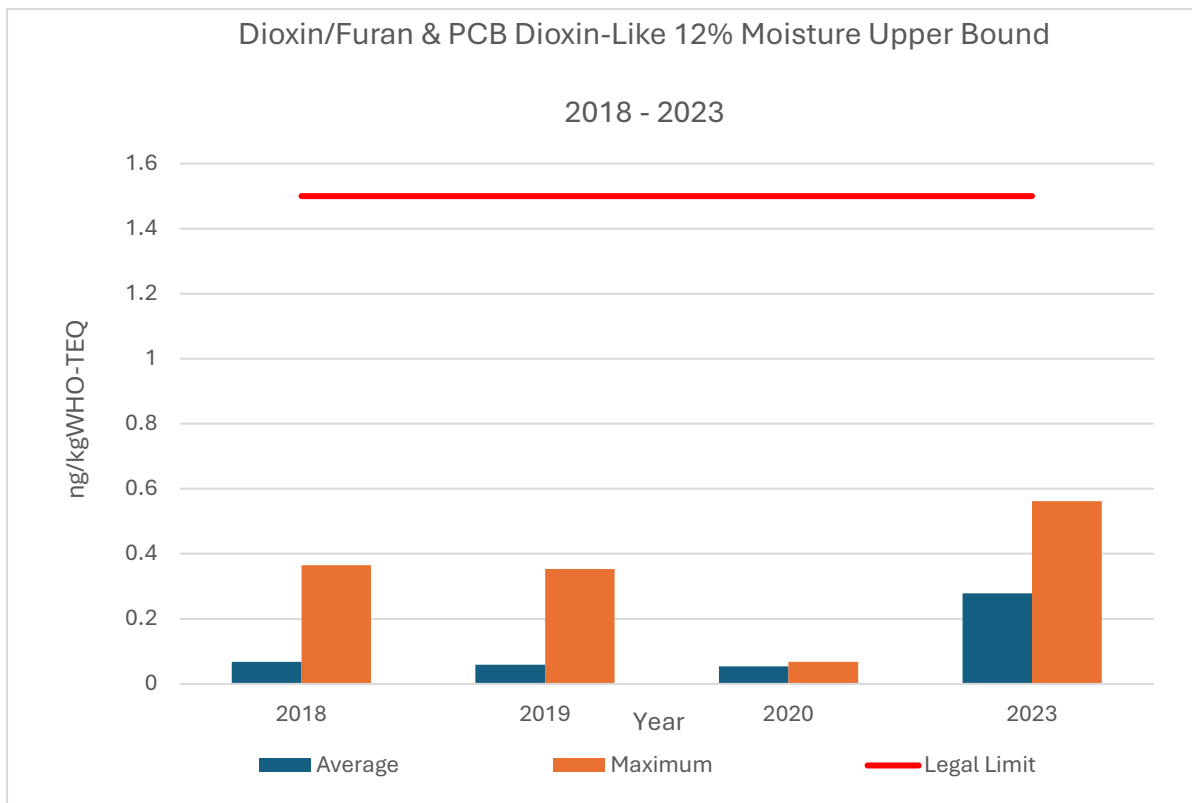


Figure 4: Sum of Dioxin, furans and dioxin like PCBs Summary



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