Dioxins and Dioxin-like PCBs analysis

The term dioxins is often used to cover both polychlorinated dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF), a group of 210 chemical substances, out of which 17 are of high toxicological concern. They belong to the group of persistent organic pollutants (POPs), together with the polychlorinated biphenyls (PCBs) and polyaromatic hydrocarbons (PAHs).

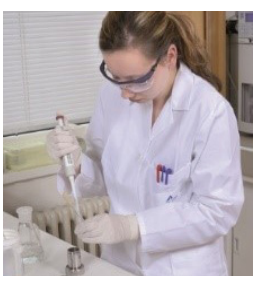
Dioxiny (PCDD and PCDF)

have never been produced intentionally; they are formed during combustion processes and as by-products of chemical processes using chlorine or chlorinated intermediates. They also occur during volcanic activity and natural fires (non-anthropogenic sources).

Polychlorinated biphenyls (PCB)

include 209 chemical substances (congeners), the toxicity of which depends on the degree of chlorination and the location of the chlorine atom on the aromatic nuclei. They have been used in transformers, insulators for electric cables, paint components, coatings, lubricants or plasticisers.

Dioxins and PCBs are consistently monitored substances characterized by their dangerous toxic properties, difficult degradation and accumulation in the environment. Up to 90% of human exposure to dioxins results from the consumption of food containing dioxins, mainly foodstuffs of animal origin with a high fat content.



Maximum levels for food and feed

The Commission Regulation (EU) No 1259/2011 of 2 December 2011 amending Regulation (EC) No 1881/2006 as regards maximum levels for dioxins, dioxin-like PCBs and non dioxin-like PCBs in foodstuffs.

The Commission Regulation (EU) No 277/2012 of 28 March 2012, as regards maximum levels and action thresholds for dioxins and polychlorinated biphenyls in feed.

ALS Czech Republic operates a state-of-the-art laboratory performing ultra-trace analyses PCDD/F and other POPs by high resolution gas chromatography – high resolution mass spectrometry (HRGC-HRMS).
All dioxin testing procedures are validated and accredited according to international norms and standards:

- key staff sharing up to 30 years of experience in the field of MS and POPs determination;
- regular participation in Inter-laboratory Comparisons with excellent results;
- up to 30,000 analyses per year in a wide range of matrices incl. environmental samples, water, food, feed, vegetation and unique matrices such as industrial products (dyes, pigments, organic intermediates).

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