



# Directorate-General for Health & Food Safety

Provisions in EU legislation on  
undesirable substances in feed in  
relation to the use of algae for feed

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# Directive 2002/32/EC

- General provision:
  - Products intended for animal feed may enter for use into the Union, be marketed and used in the Union only if they are sound, genuine and of merchantable quality and therefore do not represent any danger to human health, animal health or to the environment or do adversely affect livestock production.
- Maximum levels and action levels can be set for contaminants in all products intended for animal feed

# Directive 2002/32/EC

- Obligatory consultation of the European Food Safety Authority (EFSA) Panel on contaminants in the food chain before provisions having effect upon public health or animal health or the environment
- Mixing of products intended for animal feed not complying with maximum level with other products intended for animal feeding for dilution purposes is prohibited
- Detoxification is allowed also by chemical treatment (however detoxification needs to be assessed by EFSA)

# Risk assessment → Risk management measures for contaminants – feed

- Scientific risk assessment: assessment of the risks related to the presence of a contaminant in feed for animal and human health
    - \* establishment of a toxic exposure level for different animal species – animal health – sensitive animal species
    - \* transfer from feed into food of animal origin – quantitatively – different animal species / different animal products (impact on human health)
- > is the basis for the measures to be taken**

# Risk assessment → Risk management measures for contaminants in feed

- Determination of the feed materials which are important sources of contamination
- Occurrence data of the contaminant in the various feed materials/feeds
- Setting a maximum levels for feed materials and compound feeds taking into account the factors mentioned above (sensitivity animals, feed materials source of contamination, ...) and considering what is reasonably achievable.
- Other appropriate risk management measures

# Regulating contaminants in feed: issues to be considered

- Contaminant: effect on public health, animal health, environment → determining the nature of the measure
- Sensitivity /tolerance towards a contaminant (animal health): species specific
- Transfer of contaminants from feed into food of animal origin: species specific
- Feed materials: non species specific
- Compound feed: species specific

## Regulating Contaminants in feed: issues to be considered

- Bio-availability of contaminant in a certain feed material or additive
- Achievability of certain levels under normal good practice production conditions
- Feed materials: can be by-products of food production, other production processes such as bio-energy...
- Proportion of use of a certain product for feed in comparison with the total production
- Feasibility to decontaminate at a reasonable cost
- ....

## Specific provisions – Arsenic

**“Maximum levels always relate to a feed material with 88 % dry matter !**

- **Arsenic** : seaweed meal and feed materials derived from seaweed : ML of 40 ppm total arsenic (\*)

(\*) upon request of the competent authorities, the responsible operator must perform an analysis to demonstrate that the content of inorganic arsenic is lower than 2 ppm. This analysis is of particular importance for the seaweed species *Hizikia fusiforme*”



# Specific provisions – Arsenic

## Envisaged change to the footnote:

“(\*) The maximum level is for total arsenic. The level of inorganic arsenic has to be lower than 2 mg/kg. Upon request of the competent authorities, the responsible operator must perform an analysis to demonstrate that the content of inorganic arsenic is lower than 2 mg/kg. This analysis is of particular importance for the seaweed species/macro algae species *Asparagopsis spp.*, *Sargassum/Hizikia spp.*, *Halidrys spp.*, *Laminaria spp.*, *Alaria spp.* and for fish, other aquatic animals and products derived thereof.”

# Specific provisions – Arsenic

## **COMMISSION RECOMMENDATION of 20 May 2022 on monitoring the presence of inorganic arsenic in feed (2022/C 206/01)**

2. In particular, samples of the following feed materials and compound feed should be taken:

- (e) seaweed meal and feed materials derived from seaweed;
- (f) compound feed containing fish, other aquatic animals and products derived thereof and/or seaweed meals and feed materials derived from seaweed

## Specific provisions –other metals

**Cadmium** : 1 mg/kg

**Fluorine** : 150 mg/kg except calcareous marine algae: 1250 mg/kg

**Lead** : 10 mg/kg except calcareous marine algae: 15 mg/kg

**Mercury**: 0,1 mg/kg

## Specific provisions –other undesirable substances

**Nitrites** : 15 mg/kg (levels expressed as sodium nitrite)

**Melamine** : 2,5 mg/kg

**Dioxins**: 0,75 ng/kg

**Dioxins +dioxin-like PCBs**: 1,25 ng/kg

**Non-dioxin-like PCBs** : 10 µg/kg

# Specific provisions –organochlorine compounds

**Aldrin/dieldrin:** 0,01 mg/kg /oil 0,1 mg/kg

**Camphechlor (toxaphene):** 0,02 mg/kg

**Chlordane :** 0,02 mg/kg /oil:0,05 mg/kg

**DDT:** 0,05 mg/kg / oil: 0,5 mg/kg

**Endosulfan** 0,1 mg/kg (→ 0,05 mg/kg)

**Endrin :** 0,01 mg/kg /oil 0,05 mg/kg

**Heptachlor:** 0,01 mg/kg / oil 0,2 mg/kg → 0,1 mg/kg)

# Specific provisions –organochlorine compounds

**Hexachlorobenzene** : 0,01 mg/kg /oil 0,2 mg/kg  
→ 0,1 mg/kg

## **Hexachlorocyclohexane (HCH):**

- Alpha-isomers: 0,02 mg/kg /oil 0,2 mg/kg
- Beta-isomers: 0,01 mg/kg / oil 0,1 mg/kg
- Gamma-isomers: 0,2 mg/kg (→ 0,01 mg/kg ) /  
oils: 2,0 mg/kg (→ 0,1 mg/kg)

# Specific provisions –pesticide residues

MRLs established by Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin

General category of vegetables, fresh or frozen (*code number 0200000*), group Algae and prokaryotes organisms (*code number 0290000*)

## Specific provisions – iodine and bromine

**Iodine:** compulsory declaration of iodine content in case the iodine content exceeds 100 ppm for algae, dried algae, algae meal, seaweed meal, algae meal from *Asparagopsis* (*Commission Regulation (EU) 68/2013 of 16 January 2013 on the Catalogue of feed materials*)

**Bromine:** to be regulated under undesirable substances after availability of EFSA opinion .





# PFAS in feed – Elements of the Recommendation in development / under discussion

- Monitoring 2024-2026
- Member States should test for the presence in food of the following PFASs:
  - (a) Perfluorooctane sulfonic acid (PFOS);
  - (b) Perfluorooctanoic acid (PFOA);
  - (c) Perfluorononanoic acid (PFNA);
  - (d) Perfluorohexane sulfonic acid (PFHxS).



## PFAS in feed – Elements of the Recommendation in development/under discussion

The monitoring should include a wide variety of feed, in particular

- (a) fish, other aquatic animals and products derived thereof;
- (b) **seaweed meal and feed materials derived from seaweed;**
- (c) feed of mineral origin
- (d) cereal grains, tubers, roots and products derived thereof
- (e) **compound feed containing fish, other aquatic animals and products derived thereof and/or seaweed meals and feed materials derived from seaweed.**

PFASs should also be analysed in the soil on which animals forage.

Data should be collected for feed produced in non-polluted regions, but also data from feed from polluted regions may be reported, provided that this is clearly indicated.



# PFAS in feed – Elements of the Recommendation in development /under discussion

In order to ensure that the samples are representative of the sampled lot, sampling procedure laid down in Commission Regulation (EC) No 152/2009 should be followed

The analyses should be carried out in accordance with article 34 of Regulation (EU) 2017/625 of the European Parliament and the Council using a method of analysis that has been proven to generate reliable results. **The limits of quantification of the analytical methods should be below or at 0,1 µg/kg for each individual PFAS in feed**

Analytical results are to be provided on a regular basis to EFSA in the EFSA data submission format in line with the requirements of EFSA's Guidance on Standard Sample Description (SSD2) for Food and Feed and the additional EFSA's specific reporting requirements.



# PFAS in feed – possible maximum levels

- The data on occurrence in feed will be used to allow a discussion on the possible need to establish maximum levels for PFAS in feed.
- When establishing maximum levels consideration of
  - of possible adverse animal health effects
  - transfer from feed to food of animal origin
- Possible maximum levels in feed to be established in Directive 2002/32/EC of the European Parliament and of the Council of 7 May 2002 on undesirable substances in animal feed



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Commission

**Thank you for  
your  
attention !**