FIN 4 PAGE FACT SHEET

March 2006
CONTAMINANT LEGISLATION

This fact sheet covers Pesticides (organochlorines) and other topical contaminants

Current and proposed legislation to control contaminant levels in human food and animal feed

- Contaminants are defined as any substance not intentionally added to food that are present in such food as a result of the production, manufacture, processing, preparation, treatment, packing, packaging, or transport, or as a result of environmental contamination. Another definition is that they are chemicals whose adventitious presence in food has the potential to cause toxicological harm to consumers.

- There are at least 100 or so of these substances on lists of 'chemicals causing concern' and currently the UK Food Standards Agency is taking an interest in about 30 contaminants in terms of actual or suspected acute or chronic toxic effects to human beings.

- The FIN Contaminant Safety Monitor, introduced in 2004, is a regular alert to contaminant issues and regulations and focuses on contaminants that are, or are likely to, impact on fishmeal, fish oil, wild finfish and farmed fish.

- The majority of these contaminants are already the subject of EU legislation and identified in either Directive 2002/32/EC on undesirable substances in animal feed and/or Commission Regulation (EC) No 466/2001 which sets maximum levels for certain contaminants in foodstuffs. Some of these limits are under review, generally with a view to reducing them.

This FIN fact sheet is a guide to current and pending maximum permitted levels legislation. It covers legislation relating to maximum levels in seafood for human consumption (A) and maximum levels in farmed animal and fish feed (B) and covers:

Pesticides	Camphechlor (toxaphene)
	HCH Isomers
	Endrin
	Endosulfan
	Aldrin & Dieldrin
Other topical contaminants	Non Dioxin-Like PCBs
	PAHs
	BFRs
	Flourine
	Nitrite
	Organotin

Pesticides

CAMPHECHLOR (TOXAPHENE)

New EU Maximum Levels for camphechlor (toxaphene) in feed were agreed in December 2005

A. CURRENT maximum camphechlor levels in seafood for human consumption
FIN is not aware of any legislation relating to camphechlor in foodstuffs at this time.

B. NEW maximum camphechlor levels in farmed animal and fish feed
EC Directive 2002/32/EC of 5 December 2005 amends Annex 1 of Directive 2002/32/EC and sets maximum levels for the undesirable substance camphechlor (sum of congeners CHB 26, 50 and 62). Effective 25 December 2005. The levels are:

Products intended for animal feed	EU proposed maximum camphechlor content in mg/kg (ppm) relative to feedingstuff (m.c. 12%)
Fish, other aquatic animals, their products and by-products with the exception of fish oil	0.02
Fish oil	0.2
Feedingstuffs for fish	0.05

HCH ISOMERS - hexachlorocyclo-hexane (hch)(or benzene hexachloride or lindane)

HCH is identified in Directive 2002/32/EC as an undesirable substance in animal feed The EU maintains that existing legal provisions as regards HCH-isomers in products intended for animal feed are appropriate.

An EFSA Opinion regarding HCH isomers adopted 4th July 2005 identified that HCH accumulation data in fish exposed through feeding is lacking, although occurrence in various feeds including fish feed indicate levels in the mg/kg range.

ENDRIN

Endrin is identified in Directive 2002/32/EC as undesirable substances in animal feed. There is a ban on endrin. With its low levels in the environment, the current potential for exposure of the general public to endrin appears to be very limited and will likely to continue to diminish.

An EFSA Opinion regarding Endrin adopted 9th November 2005 identified that fish derived products, particularly fish oil contain the highest levels of endrin. The occurrence data indicated that fish oil is the main source of endrin

contamination of the feed chain. Feed products of plant origin seldom showed detectable signs of endrin, however, the limit of detection was often higher than that for fish.

ENDOSULFAN

EU Maximum Levels for endosulfan in feed have applied since 2003.

A. CURRENT maximum endosulfan levels in seafood for human consumption
FIN is not aware of any legislation relating to endosulfan in foodstuffs at this time.

B. CURRENT maximum endosulfan levels in farmed animal and fish feed
The current EU Maximum Levels for endosulfan in feed are contained in Commission Directive 2002/32/EC of 7 May 2003 which was amended by Commission Directive 2003/100/EC of 31st October 2003.

Products intended for animal feed	Maximum Endosulfan content in mg/kg (ppm) relative to feedingstuff (m.c. 12%)
All feeding stuffs with the exception of:	0.1
- maize and products derived from the processing thereof	0.2
- oilseeds and products derived from the processing thereof	0.5
- complete feedingstuffs for fish	0.005

ALDRIN AND DIELDRIN

Aldrin and Dieldrin are identified in Directive 2002/32/EC as undesirable substances in animal feed. Due to a ban on aldrin and dieldrin in the EU and most other countries world-wide, human exposure to these pesticides is decreasing and the current human dietary intake is substantially below the PTDI of 100 ng/kg b.w. established by JMPR.

An EFSA Opinion regarding Aldrin and Dieldrin adopted 9th November 2005 identified that fish derived products, particularly fish oil contain the highest levels of endrin compared to feed products of plant origin. Dieldrin, rather than aldrin, is the predominant residue in feed materials of animal origin.

Othher topical contaminants

NON DIOXIN-LIKE PCBS

There are no maximum levels set for ndl-PCBs in feed and food at Community level.

An EFSA Opinion on non-dioxin-like PCBs in food and feed was published on 8th November 2005. The most significant conclusion of the presentation was that the continuing effort by the EU to reduce levels of non-dl PCBs was warranted. Regarding feed and feed components, fish oil, feedingstuffs for fish as well as fishery products were identified as the products with the highest contamination. In food samples, the highest levels were found in fish oils followed by eggs, meat and meat products. Depending on the fat content, certain fish species from specific fishing grounds contain high levels of ndl-PCB.

POLYCYCLIC AROMATED HYDROCARBONS (PAHs)

EU Maximum Levels for PAHs in food were introduced at the beginning of 2005.

A. CURRENT maximum PAH levels in <u>seafood</u> for human consumption

The current EU maximum levels for PAHs in human food are contained in Commission Regulation (EC) No 208/2005, was adopted 4 February 2005, applied since 1 April 2005.

Product	Maximum PAH level (µg/kg wet weight)
Muscle meat of smoked fish and smoked fishery products, excluding bivalve molluscs	5.0
Bivalve molluscs	10.0
Muscle meat of fish, other than smoked fish	2.0
Crustaceans, cephalods, other than smoked	5.0

B. CURRENT maximum PAH levels in farmed animal and fish <u>feed</u>
FIN is not aware of any legislation relating to PAHs in fishmeal and fish oil at this time.

BFRs

There are no UK or EU legal or advisory limits as yet for flame retardants in fish or fish products. Use of some BFRs is already banned, or phased out by manufacturers. Others are being reviewed with a view to bans or limits in food/feed, by the EU and other countries (possibly 2008) with a view to the introduction of Maximum Permitted Levels.

FLUORINE

New EU Maximum Levels were agreed in December 2005 fluorine in feed.

A. CURRENT maximum fluorine levels in <u>seafood</u> for human consumption

FIN is not aware of any legislation relating to fluorine in foodstuffs at this time.

B. NEW maximum fluorine levels in farmed animal and fish <u>feed</u>

Commission Directive 2005/87/EC of 5 December 2005 amends Annex 1 of Directive 2002/32/EC on undesirable substances in animal feed as regards fluorine. Effective 25th December 2005 it expands the list of products intended for animal feed to include vermiculite (E561) and raises the maximum level for marine krill.

Products intended for animal feed	Maximum Fluorine content in mg/kg (ppm) relative to feedingstuff (m.c. 12%)
Feed materials with the exception of:	150
- feedingstuffs of animal origin with the exception of marine crustaceans such as marine krill	500
- marine crustaceans such as marine krill	**3000**
- phosphates	2000
- calcium carbonate	350
- magnesium oxide	600
- calcareous marine algae	1000
Vermiculite (E561)	**3000**
Complete feeding stuffs with the exception of:	150
- complete feedingstuffs for pigs	100
- complete feedingstuffs for poultry	350
- complete feedingstuffs for chicks	250
- complete feedingstuffs for cattle, sheep and goats	
- in lactation	30
- other	50
Complementary feedingstuffs containing > 4% phosphorus	125 per 1% phosphorus
Complementary feedingstuffs containing ≤ 4% phosphorus	500

NITRITE

Limits are set for Nitrite in animal feed to protect the health of the animals and fish that consume the feed from nitrite poisoning, and are not required to protect human health.

B. CURRENT maximum nitrite levels in farmed animal and fish <u>feed</u>

Commission Directive 2002/32/EC OF 7 May 2003 set maximum levels for the undesirable substance Nitrite in animal feed as follows:

Products intended for animal feed	Maximum nitrite content in mg/kg (ppm) relative to feedingstuff (m.c. 12%)
Fish meal	60 (expressed as sodium nitrite)
Complete feeding stuffs excluding:	15 (expressed as sodium nitrite)
- feeding stuffs intended for pets except birds and aquarium fish	No limit

ORGANOTIN

There are currently no plans to set maximum levels for organotins (in food) although a combined risk assessment taking into account exposure from varied sources is underway.

An FSA update issued on 18th October 2005 reported that a risk assessment by EFSA did not indicate organotins in the diet to be a cause for concern although raised levels of organotins in some harbours has led to activity at a national level.

The FIN web site at provides detailed information on all aspects of fishmeal use.

www.fin.org.uk

P:\FIN Literature\Copy for Contaminants Legis (2) Mar 2006 A4 4pg