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# Dioxin contamination in pork products

The Irish Food Safety Authority, FSAI, has recalled Irish pork and bacon products since laboratory results of animal feed and pork fat samples have confirmed the presence of dioxins. As a result, The European Commission today announced that they together with Ireland and Great Britain will organize a meeting for the affected member states to share information and to ensure a harmonized approach to this incident.

Dioxin is one of CASCADE's three model compounds; a compound which we have intensively research on during the five years of CASCADE. In a joint effort CASCADE researchers have compiled information on this compound's toxicity, mechanism of action, human exposure levels, data gap and research needs.

The levels found in the meat are estimated to be about 100 times higher than the European Union maximum level of 1 pg/gram fat (Commission Regulation (EC) No 1881/2006). An intake of approximately 100 gram fillet of this contaminated meat would be comparable to the dioxin intake during 14 days of normal food intake.

Even though the levels of dioxin found are very high it is not said to be acute toxic, since a short term peak exposure to dioxins and PCBs does not result in adverse health effects. In general, dioxins disturb the complex systems that maintain the hormonal balance. Cancer, damage to the immune system, and reproductive and developmental problems arise in several species when exposed to low doses of dioxins for long periods. We still do not know everything about the long term effects of dioxin, but what we do know is that dioxin has an exceptionally long half-life. This means that it is very difficult for the body to get rid of the dioxin absorbed and that the possible effects of dioxins will be seen after decades.

There are other substances whose structure and toxicity are similar to those of dioxins, such as dioxin-like PCB congeners. The ingredients added to the contaminated pork feed show a profile of dioxins similar to those found in electronic transformer oils. Since this implicates that the source might be PCB oil, this further underlines the need for risk assessment of non-dioxin like PCBs.

However, FSAI states that even though it is illegal for dioxins to be present in foodstuffs, any possible risk to consumer health is extremely low and consumers should not be concerned.

**Read more:**
*CASCADE Dioxin Summary Risk Assessment*
http://www.cascadenet.org/main.php/Summary%20risk%20assessment%20of%20dioxins-short.pdf?fileitem=9224492

*CASCADE Consumer Oriented information of dioxins*
http://www.cascadenet.org/main.php/Consumer%20oriented%20information%20of%20dioxins%20version.pdf?fileitem=541006

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*"Dioxins in adipose tissue of women in Southern Spain"* Hannu Kiviranta, José-Manuel Molina-Molina, Marieta Fernandez, Nicolas Olea, P. Araque, Päivi Ruokojärvi, T. Vartiainen, Maria-Jose Lopez-Espinosa, Chemosphere, 2008
http://www.cascadenet.org/main.php/_publicationPreview?publicweb=1&publid=157
10.1016/j.chemosphere.2008.06.039

*"Levels of PCDD/F and dioxin-like PCB in Baltic fish of different age and gender"* Marchela Pandelova, B. Henkelmann, O. Roots, M. Simm, L. Järv, Emilio Benfenati, Karl-Werner Schramm Chemosphere 71, 2008; 369-378
http://www.cascadenet.org/main.php/_publicationPreview?publicweb=1&publid=101
http://dx.doi.org/10.1016/j.chemosphere.2007.08.05

*"The transcription factor ARNT functions as an estrogen receptor beta selective co-activator, and its recruitment to alternative pathways mediates anti-estrogenic effects of TCDD"* Joelle Ruegg, Elin Swedenborg, David Wahlström, Aurelie Escande, Patrick Balaguer, Katarina Pettersson, Ingemar Pongratz Mol Endocrinology, 2007; Nov 8
http://www.cascadenet.org/main.php/_publicationPreview?publicweb=1&publid=108
http://dx.doi.org/10.1210/me.2007-0128

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