

### **Analysis of Dioxins and Pentachlorophenol in food products**

**Export Inspection Agency-Chennai** is pleased to inform that the EIA-Chennai laboratory is presently accredited under NABL as per ISO 17025:2005 for testing of Dioxin & Furans, Dioxin like PCBs in matrices of F&FP, Skimmed Milk Powder, Egg powder, Guar gum and Pentachlorophenol in Guar bean products like Guar gum, guar seeds/splits, etc. complying with EU Regulations.

Dioxin is a common name given to a group of persistent and very toxic chemicals, also known as dioxins and furans. The most toxic of these compounds is 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin, also known as TCDD. The presence of Dioxins is a potential public health hazard.

**Polychlorinated dibenzo-p-dioxins (PCDDs), dibenzofurans (PCDFs) and biphenyls (DL-PCBs)** are unintentionally produced, persistent organic pollutants and are highly toxic. They are lipophilic and can easily bio magnify in the food chain, hence posing a serious threat to human health. In addition to cancer, Dioxin exposure has been linked to adverse human health effects such as endocrine toxicity, infertility, birth defects, impaired child development, decreased testis size, and thyroid changes. It can cause endometriosis, decreased sperm count, and reduced testosterone levels. They appear to act by binding to the Ah (aromatic hydrocarbon) receptor and to produce a broad range of adverse effects including, but not limited to, enhanced tumorigenicity, enzyme induction, immune suppression, and a wasting syndrome.

**Sources of Dioxins:** Dioxin is a by-product of many chemical, manufacturing, and combustion processes of chlorine-containing material (such as plastic).

Considering all the testing of Dioxin & Furans, DLPCBs is needed for the day and the major importing countries like European Union, Customs Union etc demands for testing the said parameters related to export from India.

*Dioxin analysis is performed according to the method based on Isotope dilution Mass Spectrometry (IDMS) with highly sophisticated Instrument Gas Chromatography coupled to High Resolution Mass Spectrometry (GC-HRMS) and specific requirements defined by the European Commission as described in the regulations 2011/1259/EU and 2014/589/EU.*

**Pentachlorophenol**, a fungicide is extremely toxic to humans from acute (short-term) ingestion and inhalation exposure. EPA has classified pentachlorophenol as a Group B2, probable human carcinogen. The presence of dioxins is related to the presence of *pentachlorophenol* as per *European Commission Decision 2008/352/EC*.

*For further details please feel free to contact:*

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