

GOED Upcoming & Future Contaminants Scorecard

Contaminant	Solubility in refined omega-3 oils	Occurrence data available?	Quantifiable levels in refined omega-3 oils found	Risk to health from food (fish/ fish oil) consumption	Regulations	Perceived concern for omega-3 sector	Manageable	Action items
PFAS	None	Yes	No	High	Not in food or edible oils. Yes in food packaging, plastic (Jan 2025)	Very low	Yes	Manage media (GOED) / Check complex formulations (individual members)
Phthalates	High	Yes	Yes Low levels of individual species found in about two-third of finished products	Intermediate <i>Reproductive health, endocrine disruptors</i>	No (EFSA: group TDI for four phthalates DEHP, DBP, BBP and DINP, and separate TDI for DIDP)	Low	Yes	Continued monitoring
MOAH	High	Yes	Yes	High <i>Mutagenic, carcinogenic</i>	Currently: EU member states harmonized action limit max 2 mg/kg. Proposed ML max 10 mg/kg to be published H1 2025, likely enforced Jan 2027 / max 5 mg/kg Jan 2030. Not clear if ML will apply to crude oils yet. Measurement uncertainties inclusion to be enforced by food authority (end 2024). (FBO	Manageable until 2030. Improved mitigation needed by 2030	Work towards 2030 (improve mitigation and removal, analytical clarity)	- Continued mitigation by individual members Suggestions: - Laboratory proficiency program for omega-3 oils - Biogenic interference identification - Document current mitigation of MOAH through refining processes, by collecting data from refiners

					autocontrols not yet clear) / Plausibly no MLs may be set for additives			
MOSH	High	Yes	Yes	Low <i>Lipogranulomas, further assessment needed</i>	EU – Proposed indicative limit, max 15 mg/kg (measurement uncertainty not to be taken into account)	High-Intermediate	Improve mitigation and removal, analytical clarity.	Keep monitoring developing situation, verify that no max limit will be enforced yet
Brominated flame retardants:								
PBDEs	High	Yes	Yes. Quantifiable levels in about half of finished products	High	EFSA opinion (Jan 2024)	High	tbd	Obtain occurrence data
TBBPA and derivatives	High	Yes	Not found	No	EFSA opinion (July 2024)	Low	tbd	Obtain occurrence data
HBCDDs	High	Yes	Quantifiable levels found in about half of finished products, especially the alpha-isomer	No	EFSA opinion (March 2021)	Low	tbd	Obtain data collection
Brominated phenols (and derivatives)	High	No	tbd	No <i>Risk to breast-fed / formula-fed infants unclear</i>	EFSA opinion (Oct 2024)	Low	tbd	Obtain occurrence data
Bisphenol A	High	Yes	Yes (in about a third of finished products)	High	No ML for omega-3 oils. Regulation for food packaging (Jan 2025; BPA must be absent)	Intermediate	Unknown. Volatility may cause contamination in bottled encapsulated products?	Obtain more occurrence data, especially in ingredient oils. Determine risk of contamination from finished product packaging (plastic bottles)
Organoarsenic species								

Monomethyl arsonic acid & dimethyl arsinic acid)	High	Not yet	tbd	High	EFSA opinion (July 2024)	Unknown	Unknown	Obtain occurrence data
Complex organoarsenic species: Arsenobetaine, arsenosugars)	Very low	No	tbd	No	EFSA opinion (Dec 2024)	Unknown	tbd	Keep monitoring situation. Identify laboratories that can measure these substances in O3 oils
Complex organoarsenic compounds: Arsenolipids	High	No	Yes (from literature)	Not yet known	EFSA opinion (Dec 2024)	High-intermediate	tbd	Keep monitoring situation. Identify laboratories that can measure these substances in O3 oils
Microplastics (particles ≥ 1 µm diam.)	Dispersed	No	tbd (2025 RTP)	unknown	No	Low	Unknown (if present, likely from additives and formulation materials/process)	Collect occurrence data in finished products. Unlikely to be present in (filtered) ingredient oils
Chlorinated paraffins	High	No	tbd	tbd	No	Unknown but possibly serious, given solubility and widespread contamination	tbd	Keep monitoring situation

tbd – to be determined