

Contaminant	Product	Rejection limit	Severity	Likely occurrence	CCP	Control measure	Sampling Plan	Required Sampling frequency (number of samples pr. year)	Number of samples analyzed in 2022	Lowest value of samples in 2022	Average value of samples in 2022	Highest value of samples in 2022	Evaluation
Aldrin and dieldrin (sum)	Fishmeal	0.01 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,005	Ok
	Fish Oil	0.1 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	0,018	0,033	Ok
Camphechlor (toxaphene) Sum of CHB 26, 50, 62	Fishmeal	0.02 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,01	Ok
	Fish Oil	0.2 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	<0,01	Ok
Chlordane (Sum)	Fishmeal	0.02 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,005	Ok
	Fish Oil	0.05 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	0,010	Ok
DDT (sum of DDT-, DDD- (or TDE-) and DDE-isomers, expressed as DDT)	Fishmeal	0.05 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,02	Ok
	Fish Oil	0.5 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	0,045	0,120	Ok
Endosulfan (sum of alfa, beta-somers and sulphate)	Fishmeal	0.1 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,005	Ok
	Fish Oil	0.1 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	<0,005	Ok
Endrin	Fishmeal	0.01 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,005	Ok
	Fish Oil	0.05 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	<0,005	Ok
Heptachlor	Fishmeal	0.01 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,005	Ok
	Fish Oil	0.2 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	<0,005	Ok
HCB: Hexachlorbenzene	Fishmeal	0.01 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,003	Ok
	Fish Oil	0.2 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	0,017	0,022	Ok
HCH: Alfa-isomer	Fishmeal	0.02 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,003	Ok
	Fish Oil	0.2 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	<0,003	Ok

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HCH: Beta-isomer	Fishmeal	0.01 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,003	OK
	Fish Oil	0.1 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	0,008	OK
HCH: Gamma-isomer	Fishmeal	0.2 mg/kg	high	very low		Periodic testing	Yearly	2	22	n.d.	n.d.	<0,005	OK
	Fish Oil	2.0 mg/kg	high	low		Periodic testing	Yearly	8	31	n.d.	n.d.	<0,005	OK
Inorganic Arsenic (As)	Fishmeal	2.0 mg/kg	high	very low		Periodic testing	Yearly	2	3	n.d.	n.d.	<0,099	OK
	Fish Oil	2.0 mg/kg	n.a.	n.a.		Periodic testing	Yearly	0	0	n.a.	n.a.	n.a.	OK
Arsenic (As)	Fishmeal	25 mg/kg	high	low		Periodic testing	Yearly	18	44	1,7	5,3	9,0	OK
	Fish Oil	25 mg/kg	high	low		Periodic testing	Yearly	8	11	6,1	9,8	17,1	OK
Cadmium (Cd)	Fishmeal	2.0 mg/kg	high	low		Periodic testing	Yearly	18	34	0,130	0,687	1,58	OK
	Fish Oil	2.0 mg/kg	high	very low		Periodic testing	Yearly	1	4	n.d.	n.d.	<0,01	OK
Mercury (Hg)	Fishmeal	0.5 mg/kg	high	low		Periodic testing	Yearly	18	34	0,006	0,075	0,208	OK
	Fish Oil	0.5 mg/kg	high	very low		Periodic testing	Yearly	1	4	n.d.	n.d.	<0,01	OK
Lead (Pb)	Fishmeal	10 mg/kg	high	low		Periodic testing	Yearly	18	34	0,008	0,068	0,263	OK
	Fish Oil	10 mg/kg	high	very low		Periodic testing	Yearly	1	4	n.d.	n.d.	<0,02	OK
Chromium (Cr)	Fishmeal	n.a.	medium	very low		Periodic testing	Yearly	1	10	0,08	0,147	0,240	OK
	Fish Oil	n.a.	medium	very low		Periodic testing	Yearly	0	2	n.d.	n.d.	<0,05	OK
Fluor/Fluorine/Fluoride	Fishmeal	500 mg/kg	low	very low		Periodic testing	Yearly	0	1	n.a.	n.a.	60	OK
	Fish Oil	500 mg/kg	low	very low		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	OK

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Nitrite	Fishmeal	30 mg/kg	low	very low		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
	Fish Oil	15 mg/kg	n.a.	n.a.		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
Melamine	Fishmeal	2.5 mg/kg	medium	very low		Periodic testing	Yearly	1	10	n.d.	n.d.	<0,15	Ok
	Fish Oil	2.5 mg/kg	n.a.	n.a.		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
Aflatoxin B1	Fishmeal	0.02 mg/kg	high	n.a.		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
	Fish Oil	n.a.	n.a.	n.a.		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
Dioxin	Fishmeal	1.25 ng/kg	high	high	CCP	Continuous monitoring	Positive release	Every batch	Every batch	0,180	0,457	0,785	Ok
	Fish Oil	5,0 ng/kg	high	high	CCP	Continuous monitoring	Positive release	Every batch	Every batch	0,529	1,29	2,89	Ok
Dioxinlike PCBs	Fishmeal	2.75 ng/kg	high	low		Periodic testing	Yearly	18	19	0,245	0,495	0,88	Ok
	Fish Oil	15 ng/kg	high	medium		Periodic testing	Yearly	24	41	0,765	2,350	8,87	Ok
Non-dioxinlike PCBs	Fishmeal	30 ug/kg	high	low		Periodic testing	Yearly	18	19	2,19	4,75	8,3	Ok
	Fish Oil	175 ug/kg	high	medium		Periodic testing	Yearly	24	41	13,00	38,7	111,0	Ok
PAH-4 (sum of benzo(a)pyrene, benzo(a)anthracene,	Fishmeal	n.a.	low	very low		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
	Fish Oil	n.a.	low	very low		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
DNA, animal/ruminat components	Fishmeal	Present	high	low		Periodic testing	Yearly	19	53	n.d.	n.d.	n.d.	Ok
	Fish Oil	n.a.	n.a.	n.a.		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
Enterobacteriaceae	Fishmeal	300 kve/g	high	high	CCP	Continuous monitoring	Positive release	Every batch	Every batch	n.d.	n.d.	<10	Ok
	Fish Oil	n.a.	n.a.	n.a.				0	n.a.	n.a.	n.a.	n.a.	Ok

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Salmonella	Fishmeal	Present	high	high	CCP	Continuous monitoring	Positive release	Every batch	Every batch	n.d.	n.d.	n.d.	Ok
	Fish Oil	Present	high	very low		Periodic testing	Yearly	1	1	n.d.	n.d.	n.d.	Ok
Sum of Cs-134 and Cs-137 Isotopes	Fishmeal	n.a.	low	very low		Periodic testing	Yearly	0	n.a.	n.a.	n.a.	n.a.	Ok
	Fish Oil	n.a.	low	very low				0	n.a.	n.a.	n.a.	n.a.	Ok
Biogenic amine, Histamine	Fishmeal	n.a.	low	high		Periodic testing	Yearly	18	94	7,50	430	1300	Ok
Biogenic amine, Cadaverine	Fishmeal	n.a.	low	high				18	79	93	1044	3000	Ok
Synthetic antioxidants BHA, BHT and Ethoxyquin (individual DL max. 1 mg/kg)	Naturox Fishmeal	5,0 mg/kg	low	low		Periodic testing	Yearly	4	6	n.d.	n..d.	<5,0	Ok
	Naturox Fish Oil	5,0 mg/kg	low	low				2	15	n.d.	n.d.	3,21	Ok

n.a. = not applicable

n.d. = not detected

Sampling frequency: Calculation of the required number of samples pr. year:

$$\frac{\sqrt{\text{Produced volume}}}{100} \text{ (Fishmeal=94.162 ton, Fish Oil=26.405 ton)}$$

• Severity (Low=1, Medium=3, High=5) • Likely occurrence (Extra low=0,1, Low=1, Medium=3, High=5/Every batch)

Source: GMP+BA4, Fact sheets and risk assessments

Fishmeal factor 3,68

Fish Oil factor 1,62

Fishmeal sampling frequency (Fishmeal factor x Severity x Likely occurrence)

High	2	18	55	Every batch
Medium	1	11	33	55
Low	0	4	11	18
	Very low	Low	Medium	High

Fish oil sampling frequency (Fish Oil factor x Severity x Likely occurrence)

High	1	8	24	Every batch
Medium	0	5	15	24
Low	0	2	5	8
	Very low	Low	Medium	High