ÞÖRUNGAVERKSMIÐJAN HF.
THORVERK HF.

EN-2024

Botanical name: Laminaria digitata
Common name: Kelp, Oarweed
Part used: Whole kelp, stipe and frond
Lot numbers depend on: Date of inhouse drying process

Tracked as date and harvesting location: In Breiðafjörður W-Iceland, GPS tracked
Crop is wild harvest, subject to official state monitoring by Fiskistofa.is
Expiry date, sell by date or retest in 3 years

	Necessary requirements in accordance with regulations	Control measures	Monitoring and/or control plan
PHYSICOCHEMICAL PROPERTIES			
Botanical identification	Botanical identification (TLC) No falsification	**Laminaria digitata**	**Visual inspection**
Particle size distribution	According to the references: refer to the call for tender	**Sieved and separated**	**Visual inspection**
Density	Specification per plant	**Unknown**	
Residual moisture	≤ 11 %	**<9%**	**Lots are measured in house**
Total ashes	≤ 15% Unless otherwise specified	**< 15%**	
Foreign elements	No hard/sharp/cutting/foreign bodies No Insects or parasites	**sieved meal**	**Mesh sizes indicated**
CONTAMINANTS **(Left column shows limits according to EC food supplements' standard regulations)**			
Heavy metals	In compliance with EC/915/2023 Lead ≤ 3.0 ppm Cadmium ≤ 1.0 ppm Mercury ≤ 0.10 ppm Arsenic: Risk handling policy	**While Cadmium can measure <1,0ppm (usually 0,8 ppm) and As >30ppm (usually 27ppm) Laminaria is not used in feed nor recommended for food. Other metals below limits or <1ppm as demanded. Additional measurements to be paid by purchaser. Rules different in USA**	**Measurements by certified European agencies. NB As can vary because all Icelandic bedrock is volcanic. Iodine is 0,5%**
Pesticide residues	In compliance with EC/396/2005 **ORGANIC audits: Non used, no residues**	**No traces found in measurements**	**MATIS measurements or by certified European agencies**
Aflatoxins	In compliance with EC/915/2023 Aflatoxin B1 ≤ 2.0 µg/kg B1, B2, G1 et G2 ≤ 4.0 µg/kg	**This is harvest from the sea, no residues in industry**	**MATIS measurements or by certified European agencies**
Ochratoxins A	In compliance with regulation EC/915/2023 ≤ 10.0 µg/kg	**This is harvest from the sea, no residues in industry**	**MATIS measurements**
GMO	In compliance with reg. EC/1829/2003 and EC/1830/2003	**No seeds used only natural seaweed harvest**	
Allergens (*)	No cross contamination with major allergens. In compliance with regulation EC/1169/2011	**There may be traces of crustaceans/ molluscs in the meal. They are natural epiphytes**	**According to in house measures <0.15%**
Ionizing and irradiating treatments	None used. In compliance with EC/1999/2 and EC1999/3	**None used**	
Polycyclic aromatic hydrocarbon (PAH)	In compliance with EC/915/2023, Benzo(A)Pyrene BaP ≤ 10 ppb Benzo(A)Pyrene + Benzo(A)Anthracene + Chrysene + Benzo(B) Fluoranthene ≤50 ppb	**Not used. Not found**	
Pyrrolizidine alkaloids	Risk handling policy In compliance with regulation EC/915/2003 ≤ 400 µg/kg	**Non traceable**	
Radioactivity	In compliance with EC 733/2008 Content Cs^{134} + Cs^{137} ≤ 600 Bq/Kg	**< 0,16 Bq/kg (2024)**	**Geislavarnir ríkisins, 2023**
Other treatments	Type of drying, cleaning, cold sterilisation, blanching, etc. which could have an impact on the HACCP	**Geothermal drying >80 °C for 3 h**	**Constant monitoring of geothermal temperature**

Big bags and paper bags are marked with audited certifications and a batch number. Batch definition example: year 23, day of that year 356, 1 means first shift of the day 233561. Or night shift on Dec 22, 2023. Sometimes the milled meal has been mixed and is kept in a silo for bulk transport. For general reference about the sea around Iceland, please look up this REPORT Place: 380 Reykhólar, Iceland. Date: August 7 2024, By Finnur Árnason, General manager, Thorverk Ltd. Supplier: Own local harvest, see www.thorverk.is