

CONTAMINANTS SPECIFICATIONS

This document is valid for fully refined Palm Oil, Palm Oil olein and Palm Oil stearine from the Palm Oil Refinery Rotterdam.

It is Lodders Croklaan policy to ensure that all steps in the procurement and manufacturing process of products are carried out in a way which ensures that products are safe for use in foods and conform to accepted microbiological standards and relevant food legislation.

Monitoring

Good Manufacturing Practice (GMP), which includes HACCP risk analysis as well as a hygiene and transport standard, is applied throughout the manufacturing process. As a consequence, control takes place on a monitoring basis. Sampling schemes and analysis schedules are applied to raw materials and end-products as well as products in all stages of processing.

Microbiology

Total viable count	max.	1000/g	ISO 4833
Yeast	max.	10/g	ISO 7954
Moulds	max.	10/g	ISO 7954
Enterobacteriaceae	max.	10/g	ISO 7402
Salmonellae	absent	in 25 g	ISO 6579
E-coli	absent	in 1 g	ISO 7251

Trace metals and contaminants

Trace Metals

Iron (Fe) for PO and POF	max.	0.1	ppm
Iron (Fe) for Pos	max.	0.2	ppm
Copper (Cu)	max.	0.01	ppm
Cadmium (Cd)	max.	0.02	ppm
Mercury (Hg)	max.	0.05	ppm
Arsenic (As)	max.	0.1	ppm
Lead (Pb)	max.	0.1	ppm

Radio Activity	max.	600	Bq/kg
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Mycotoxins

Aflatoxine B1	max.	2	ppb
Aflatoxine B1+B2+G1+G2	max.	4	ppb

PCB (IUPAC No.)

28	<	10	ppb
52	<	10	ppb
101	<	10	ppb
118	<	10	ppb
138	<	10	ppb
153	<	10	ppb
163	<	10	ppb
180	<	10	ppb

Dioxine	max.	0.75	pg WHO/TEQ ₁ /g
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PAH

Total PAH	max.	25	ppb
Heavy PAH	max.	5	ppb
Benzo(a)pyrene	max.	1	ppb

Pesticides/Insecticides

Chlorine pesticides

HCB	max.	0.001	ppm
Alpha HCH	max.	0.001	ppm
Lindane	max.	0.001	ppm
Beta HCH	max.	0.001	ppm
Delta HCH	max.	0.001	ppm
Heptachlor	max.	0.005	ppm
Aldrin	max.	0.005	ppm
Chlordane	max.	0.005	ppm
pp DDE	max.	0.005	ppm
op DDE	max.	0.005	ppm
pp DDD	max.	0.005	ppm
op DDD	max.	0.005	ppm
pp DDT	max.	0.005	ppm
op DDT	max.	0.005	ppm
Heptachlor epoxyde	max.	0.005	ppm
Dieldrin	max.	0.01	ppm
Endrin	max.	0.01	ppm
Methoxychlor	max.	0.01	ppm
Toxaphene	max.	0.01	ppm
Endosulfan	max.	0.005	ppm
PCB	max.	0.01	ppm

¹ WHO-PCDD/F-TEQ/g fat

Nitrogen Pesticides

Dichlorbenil	max.	0.05	ppm
Diclofop – methyl	max.	0.05	ppm
Captafol	max.	0.05	ppm
Captan	max.	0.05	ppm
Procymidone	max.	0.05	ppm
Vinclozolin	max.	0.05	ppm
Propoxur	max.	0.05	ppm
Amitraz	max.	0.05	ppm
Carbaryl	max.	0.05	ppm

Pyrethorides

Fenvalerate	max.	0.05	ppm
Deltamethrin	max.	0.05	ppm
Cypermethrin	max.	0.05	ppm
Permethrin	max.	0.05	ppm

Phosphor Pesticides

Azinphos – methyl	max.	0.01	ppm
Bromophos – ethyl	max.	0.01	ppm
Chlorfenvinphos	max.	0.01	ppm
Chlorpyrifos	max.	0.01	ppm
Diazinon	max.	0.01	ppm
Dichlorvos	max.	0.01	ppm
Disulfoton	max.	0.01	ppm
Ethion	max.	0.01	ppm
Fenitrothion	max.	0.01	ppm
Fensulfothion	max.	0.01	ppm
Fenthion	max.	0.005	ppm
Malathion	max.	0.01	ppm
Methidathion	max.	0.01	ppm
Mevinphos	max.	0.01	ppm
Naled	max.	0.01	ppm
Parathion – ethyl	max.	0.01	ppm
Parathion – methyl	max.	0.05	ppm
Phosphamidon	max.	0.01	ppm
Pirimiphos – ethyl	max.	0.01	ppm
Pirimiphos – methyl	max.	0.01	ppm
Sulfotep	max.	0.002	ppm
Trichlorphon	max.	0.01	ppm
Chlorpyrifos	max.	0.01	ppm
Chlorpyrifos-methyl	max.	0.01	ppm
Monocrotophos	max.	0.01	ppm
Omethoate	max.	0.01	ppm
Dimethoate	max.	0.01	ppm
Acephate	max.	0.01	ppm
Methamidophos	max.	0.01	ppm