

Technical Data Sheet

Product Name	Provinal™ (45% Palmitoleic acid ethyl ester)
Material Origin	Anchovy oil

Product Characteristics

Items	Standard	Method
Appearance	Clear liquid	
Odor	Very light fish odor	
Color	Not more than 6	Gardner
Moisture	Not more than 0.1%	Karl Fisher
Palmitoleic Acid Concentration (C16:1n7)	Not less than 450 mg/g	AOCS Ce 1b-89
Acid Value	Not more than 2.0 mg KOH/g	AOCS Cd 3d-63
Peroxide Value	Not more than 5.0 meq/kg	AOCS Cd 8-53
p-Anisidine	Not more than 15	AOCS Cd 18-90
TOTOX	Not more than 25	

Microbiological

Total Plate Count	3 rd Party Testing	Max. 100 CFU/ml
Escherichia Coli	3 rd Party Testing	Negative
Yeast & Moulds	3 rd Party Testing	Negative
<i>Salmonella spp.</i>	3 rd Party Testing	Negative
Staphylococcus aureus	3 rd Party Testing	Negative

Heavy Metals

Lead(Pb)	Max. 0.1 ppm (mg/kg)	ICP-MS
Mercury(Hg)	Max. 0.1 ppm (mg/kg)	ICP-MS
Cadmium(Cd)	Max. 0.1 ppm (mg/kg)	ICP-MS
Arsenic(As)	Max. 0.1 ppm (mg/kg)	ICP-MS

**Results of contaminants may be expressed on the COA either compliant/non-compliant (based on Master Batch Testing) or as actual results. Periodic testing to confirm continued compliance to specifications.*

PCBs & Dioxins

PCBs	Max 0.09 ppm (mg/kg)	HRGC-HRMS
PCDDs & PCDFs	Max 2 ppt (pg/g)	HRGC-HRMS
Dioxin like PCBs	Max 3 ppt (pg/g)	HRGC-HRMS

**Quarterly testing to confirm continued compliance to specifications.*

Shelf-Life

Shelf-Life is 1 year from the date of manufacture.

Packaging

190 kg drums

24 kg drums