



## REFINED MENHADEN OIL

Omega Protein, Inc. operates the only marine oil refinery in the United States, and has a capacity of 100 MT per day. This oil has been fractionated for better handling characteristics such as flowability, alkali refined to reduce free fatty acids, and clay bleached to reduce color and odor bodies as well as oxidative precursors. This facility also has the ability to customize its products with various antioxidants and packaging requirements.

### Applications:

Agricultural applications include pet food, larval aquaculture, omega-3 shell eggs, drilling fluids, rumen bypass feeds, equine performance & nutrition, better immune response, coat condition, and increased quality of life for critically ill companion animals.

Industrial applications include leather tanning, alkyds for paints, drilling muds, lubricants, water proofing, dyes, deflocculants, releasants, and fatty acid production.

### Storage & handling:

Due to the nature of a polyunsaturated oil such as Virginia Prime Gold, proper handling is required to ensure oil stability and quality. The following are recommended handling suggestions.

Virginia Prime Gold has been fractionated to reduce stearine, however storing containers for extended periods of time in temperatures below 45°F may cause additional stearine crystals to appear. This is a normal occurrence at low temperatures.

### Supplemental information:

Refractive Index, @ 60°C	1.4645	Saponification Value	195
Unsaponifiable Matter, %	1.0	Specific Heat, cal/g	0.53
Titer, °C	32	Heat of Fusion, cal/g	54
Caloric Value, cal/g	9.5	Slip Melting Point, °C	13
Flash Point, °C for Triglycerides	360	Boiling Point, °	>250
Gravity @ 15°C	0.92	Specific Viscosity, CPS @ 20°C	75
@ 30°C	0.91	@ 50°C	25
@ 45°C	0.90	@ 90°C	10
Metabolizable Energy, cal/lb	4199		
Shelf life @ ambient, unopened	3 - 6 months		
Shelf life @ 43°F, unopened	6 - 10 months		
Shelf life @ 32°F, unopened	1 year +		

Note: Since this material is derived from a living source the actual values may vary slightly.





**REFINED MENHADEN OIL**

FREE FATTY ACID	0.50% Max*	COLOR, GARDNER	8 Max*
IODINE VALUE	170-200	HEAT BLEACH COLOR	6 Max*
MOISTURE AND IMP	0.50% Max*	PEROXIDE VALUE, MEQ/KG	10 Max*
TOTAL OMEGA-3	30 – 40%	TOTAL OMEGA-6	~3%
EPA	11 – 15%	DHA	11 – 15%

NUTRITIONAL DATA			
Calories	- 9 cal/gm	Protein	- 0
Vitamin A	- negligible	Sodium	- 0
Vitamin D	- negligible	Fiber	- 0
Vitamin E	- 50 ppm	Potassium	- 0

**TYPICAL FATTY ACID COMPOSITION  
% BY WEIGHT**

Myristic	C14:0	6.85	Arachidic	C20:0	0.17
Pentadecanoic	C15:0	0.46	Gadoleic	C20:1	1.48
Palmitic	C16:0	14.83	Auricolic	C20:2	0.18
Palmitoleic	C16:1	9.74	Bishomopinolenic	C20:3	0.37
Hexadecanoic	C16:2	1.62	Arachidonic	C20:4	2.09
Hexadecatriaenoic	C16:3	1.51	Eicosapentaenoic (EPA)	C20:5	14.16
Hexadecatetraenoic	C16:4	1.53	Heneicosapentaenoic	C21:5	0.76
Heptadecanoic	C17:0	0.38	Behenic	C22:0	0.10
Stearic	C18:0	2.55	Erucic	C22:1	0.33
Oleic	C18:1	9.58	Adrenic	C22:4	0.24
Linoleic	C18:2	1.93	Docosapentaenoic	C22:5	2.82
$\alpha$ -Linolenic	C18:3	1.48	Docosahexaenoic (DHA)	C22:6	12.2
Stearidonic	C18:4	3.09	Lignoceric	C24:0	0.60
Isoarachidic	C19:0	0.00	Selacholeic	C24:1	0.22