



## GULF MENHADEN FISH OIL

Daybrook Fisheries operates a state-of-the-art menhaden processing plant in Empire, Louisiana. All menhaden are caught by a dedicated fleet of 12 vessels utilizing modern refrigerated cargo holds. The Daybrook plant in Empire, LA is typically the largest processor of menhaden in the world and is HACCP certified by GMP+ and NOAA Fisheries. Daybrook is certified MarinTrust (IFFO-RS) by SAI Global as a responsible supplier. The Marine Stewardship Council (MSC) certified the Gulf Menhaden resource allowing Daybrook to sell all of its products under the coveted sustainability eco-label.

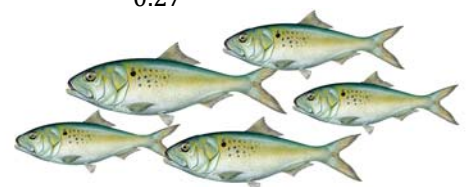
### PRODUCT SPECIFICATIONS

#### Proximate Composition

	<u>(3 Yr. Avg.)</u>	<u>Range</u>
Free Fatty Acid (as Oleic), (%)	1.95	1 – 4 (Max)
Moisture (%)	0.21	0.1 – 0.5
Impurities (%)	0.03	0.01-0.05
Iodine Value (Wijs)	166.2	150-172
Color (Gardner Scale)	11+	11-12+
Peroxide Value (PV)	3.5	2.0 – 6.0
Anisidine Value (AV)	18.4	11.0 – 20.0
TOTOX	25.4	13.0 – 30.0 (Max)
Total Omega 3 Fatty Acids, (%)	29.4	28.6 - 30.3
Total EPA+DHA+DPA	23.89	23.7 - 24.8
Total Omega 6 Fatty Acids (%)	3.4	3.4 – 4.3

#### Fatty Acid Composition(%) – 3 Year Average

C10:0	Caproic	<0.10	C19:0	Nonadecanoic	0.00
C12:0	Lauric	<0.10	C20:0	Arachidic	0.24
C13:0	Tridecanoic	<0.10	C20:1	Gadoleic	1.00
C14:0	Myristic	10.12	C20:2n6	Eicosadienoic	0.36
C14:1	Myristoleic	<0.10	C20:3n6	homo-gamma-Linolenic	0.24
C15:0	Pentadecanoic	0.62	C20:3n3	Eicosatrienoic	0.15
C15:1	Pentadecenoic	<0.10	C20:4n3	Eicosatetraenoic	1.18
C16:0	Palmitic	19.67	C20:4n6	Arachidonic	1.06
C16:1	Palmitoleic	12.83	C20:5n3	Eicosapentaenoic	13.87
C16:2	Hexadecadienoic	<0.10	C21:0	Heneicosanoic	<0.10
C16:3	Hexadectrienoic	<0.10	C22:1	Erucic	0.13
C16:4	Hexadecatetraenoic	<0.10	C22:2	Docosadienoic	<0.10
C17:0	Heptadecanoic	0.45	C22:4n6	Adrenic	<0.10
C17:1	Heptadecenoic	0.17	C22:5n3	Docosapentaenoic	2.36
C18:0	Stearic	3.12	C22:6n3	Docosahexaenoic	7.66
C18:1	Oleic	5.98	C23:0	Tricosanoic	<0.10
C18:2n6	Linoleic	1.11	C24:0	Lignoceric	<0.10
C18:3n3	alpha-Linolenic	1.20	C24:1	Selacholeic	0.27
C18:3n6	gamma-Linolenic	0.29			
C18:4n3	Stearidonic	2.29			





## Fish Oil Characteristics

	<u>Typical</u>	<u>Range</u>
Refractive Index @60°C	1.4608	1.4590-1.4623
Saponification Value, mg KOH/g	196	192-199
Unsaponifiable Matter (%)	1	0.6-1.6
Titer (°C)	32	
Caloric Value (cal/g)	9.5	
Metabolizable Energy, Cal/lb	4199	
Metabolizable Energy, Cal/kg	9257	
Specific Gravity		
@ 15°C	0.92	
@ 30°C	0.91	
@ 45°C	0.90	
Specific Heat (cal/g)	0.53	
Heat of Fusion (cal/g)	54	
Slip Melting Point, °C	13	
Boiling Point, °C	>250	
Flash Point, °C	360	
Viscosity (cps)		
@ 20°C	75	
@ 50°C	25	
@ 90°C	10	
Iodine Value, Wijs	150-190	
Phosphorus, mg/Kg	11	

