



MENHADEN CONDENSED FISH SOLUBLES PRODUCT SPECIFICATIONS

PRODUCT DESCRIPTION

Condensed Fish Solubles are obtained by evaporating excess moisture from the stickwater, aqueous liquids, resulting from the wet rendering of fish into fish meal, with removal of part of the oil.

TYPICAL ANALYSIS

Typical analysis will vary depending on the amount of concentration during processing.

Parameter	Typical	Range
Protein	26.75%	24 - 28 %
Fat (Oil)	6.14%	3 - 7 %
Moisture	51.75%	50 - 60 %
Ash	8.00%	5 - 10 %
TVN (Total Volatile Nitrogen)	108mg/100g	80 - 250 mg/100g
pH	4.0	3.5 - 4.5
Nitrogen	4.28%	3.8 - 4.5 %
Phosphorus	0.63%	0.4 - 1.0 %
Potassium	1.27%	0.4 - 1.5 %
Sulfur	2.28%	0.8 - 2.5 %
Weight per Gallon	9.403/gal	9.0 - 10.0 #/gal
Viscosity	(See Viscosity Chart – Attached)	

PHYSICAL PROPERTIES

Appearance: Viscous brown liquid

Odor: Fishy

FACTORS INFLUENCING THE PRODUCT

- A pH value greater than 5.0 may cause fermentation of the condensed fish solubles resulting in quality deterioration.
- The acidity of fish solubles should be considered with respect to pumping and handling equipment and storage facilities.
- The product may contain and should be checked for sediment. Storage tanks should be stirred/circulated periodically by mechanical means. Never use air to stir solubles.

SOLUBLES VISCOSITY RANGE

Temperature	Temperature	Regular	Heavy
(°F)	(°C)	Viscosity (Centipoise)	Viscosity (Centipoise)
40	4.44	2600	-
41	5.00	2400	-
42	5.55	2225	-
43	6.11	2125	-
44	6.67	2000	-
45	7.22	1900	-
46	7.78	1825	-
47	8.33	1750	-
48	8.89	1675	-
49	9.44	1600	-
50	10.00	1550	-
51	10.56	1490	-
52	11.11	1430	-
53	11.67	1375	10000
54	12.22	1335	5500
55	12.78	1300	4200
56	13.33	1250	3600
57	13.89	1200	3300
58	14.44	1165	3000
59	15.55	1125	2700
60	15.55	1100	2500
61	16.11	1065	2300
62	16.67	1025	2150
63	17.22	1000	2000
64	17.78	975	1900
65	18.33	950	1775
66	18.89	910	1700
67	19.44	890	1600
68	20.00	875	1510
69	20.56	850	1450
70	21.11	825	1375
71	21.67	800	1300

72	22.22	785	1230
73	22.78	770	1190
74	23.33	750	1140
75	23.89	735	1095
76	24.44	-	1050
77	25.00	-	1000
78	25.55	-	950
79	26.11	-	925
80	26.67	-	900

Typically condensed fish solubles will be in the regular category but in some cases fish produce stickwater that produces solubles that can be very viscous and heavy.

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