

Sample

CERTIFICATE OF ANALYSIS

REFINED CASTOR OIL USP LOT#

Properties/Analysis	Result	Range/Limit	UOM	Test Method
Appearance at 20°C	Pass	Clear oily liquid		Visual
Odor	Pass	Very slight, Characteristic		Sensory
Specific Gravity (25°C)	0.9601	0.957 – 0.961	g/mL	USP <841>
Unsaponifiable Matter	0.36	Max. 0.8	%	USP <401>
Moisture	0.19	Max. 0.3	%	USP <921>
Acid Value	0.76	Max. 2.0	mg KOH/g	USP <401>
Peroxide Value	0.30	Max. 10.0	mEq/kg	USP <401>
Hydroxyl Value	162.50	160 – 168		USP <401>
Identification B – Distinction from other fixed oils	Pass	Meets Requirements		USP
Identification C – Ultraviolet Absorption (270nm)	1.108	0.7 – 1.5		USP
Elemental Impurities	Pass	Conforms to the oral concentration limits listed in USP <232>		USP <233> (Reduce tested)
Residual Solvents	No class 1, 2, 3 or any other solvent present			
Identification A: Fatty Acid Composition:	Pass	Meets Requirements		USP
Palmitic acid C 16:0	1.32	Max. 2.0	%	USP
Stearic acid C 18:0	1.39	Max. 2.5	%	USP
Oleic acid C 18:1	3.02	2.5 – 6.0	%	USP
Linoleic acid C 18:2	4.39	2.5 – 7.0	%	USP
Linolenic acid C 18:3	0.40	Max. 1.0	%	USP
cis-11-Eicosenoic acid C 20:1	0.22	Max. 1.0	%	USP
Ricinoleic acid	88.39	85.0 – 92.0	%	USP
cis-11-octadecenoic acid or any other unidentified fatty acid	0.87	Max. 1.0	%	USP
Triglyceride Composition:				
RRR	92.10	Min. 90.0	%	USP
RRL	3.16	2.0 – 4.0	%	USP
RRO	4.18	2.5 – 5.0	%	USP
RRS	0.56	0.2 – 0.8	%	USP

Complies to current USP Monograph

Expiration based on storage under a nitrogen blanket in full sealed unopened drums at room temperature (approx. 68° F)
Periodic retesting recommended

MANUFACTURE DATE:
EXPIRATION/RETEST DATE:



Sample

Certificate of Analysis REFINED CASTOR OIL LOT#

Properties/Analysis		Range/Limit	UOM	Test Method
Appearance at 20°C	Pass	Clear oily liquid		Visual
Odor	Pass	Slight, Characteristic		Sensory
Specific Gravity (25°C)	0.9601	0.957 – 0.961	g/mL	AOCS Cc 10c-95
Unsaponifiable Matter	0.36	Max. 0.8	%	AOCS Ca 6a-40
Moisture	0.19	Max. 0.3	%	AOCS Ca 2a-45
Acid Value	0.76	Max. 2.0	mg KOH/g	AOCS Cd 3d-63
Peroxide Value	0.30	Max. 10.0	mEq/kg	AOCS Cd 8b-90
Hydroxyl Value	162.50	160 – 168		USP <401>
Identification B – Distinction from other fixed oils	Pass	Meets Requirements		USP
Identification C – Ultraviolet Absorption (270nm)	1.108	0.7 – 1.5		USP
Elemental Impurities	Pass	Conforms to the limits in USP <232> *		USP <233>
Residual Solvents	Pass	No class 1, 2, 3 or any other solvent present		
Identification A: Fatty Acid Composition:		Meets Requirements		AOCS Ca 1a-13
Palmitic acid C 16:0	1.32	Max. 2.0	%	
Stearic acid C 18:0	1.39	Max. 2.5	%	
Oleic acid C 18:1	3.02	2.5 – 6.0	%	
Linoleic acid C 18:2	4.39	2.5 – 7.0	%	
Linolenic acid C 18:3	0.40	Max. 1.0	%	
<i>cis</i> -11-Eicosenoic acid C 20:1	0.22	Max. 1.0	%	
Ricinoleic acid	88.39	85.0 – 92.0	%	
<i>cis</i> -11-octadecenoic acid or any other unidentified fatty acid	0.87	Max. 1.0	%	

Expiration based on storage under a nitrogen blanket in full sealed unopened drums at room temperature (approx. 68° F)
Periodic retesting recommended

Mfg Date:
Expiration/Retest Date: