

CERTIFICATE OF ANALYSIS**Product:** Calamus Root Essential Oil**Lot No.:** 11016B10920**Best Before:** September, 2022

Store in an air tight container; in a cool dry area; away from direct sunlight.

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Yellow to yellowish-brown slightly viscous liquid.	Complies
Odor:	Characteristic odor.	Complies
Solubility:	Insoluble in water.	Complies
Specific Gravity:	1.0350 to 1.1050 @ 25°C	1.0780
Optical Rotation:	0° to +1.0° @ 25°C	0.13°
Refractive Index:	1.543 to 1.552 @ 25°C	1.5508
β-Asarone:	84 – 88 %	86.5

Disclaimer & Caution

Please refer to all relevant technical information specific to the product, prior to use. The information contained in this document is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein, but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose. The user of the product is solely responsible for compliance with all laws and regulations applying to the use of the products, including intellectual property rights of third parties. As the ordinary or otherwise use(s) of this product is outside the control of New Directions Aromatics Inc., no representation or warranty, expressed or implied, is made as to the effect(s) of such use(s), (including damage or injury), or the results obtained. The liability of New Directions Aromatics Inc. is limited to the value of the goods and does not include any consequential loss. New Directions Aromatics Inc. shall not be liable for any errors or delays in the content, or for any actions taken in reliance thereon. New Directions Aromatics Inc. shall not be responsible for any damages resulting from use of or reliance upon this information. In the event of any dispute, the Customer hereby agrees that Jurisdiction is limited to the province of Ontario.

CERTIFICATE OF ANALYSIS

Product: Calamus Root Essential Oil
Lot No.: 11016A172
Best Before: September, 2022
Store in an air tight container; in a cool dry area; away from direct sunlight.

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Yellow to yellowish-brown slightly viscous liquid.	Complies
Odor:	Characteristic odor.	Complies
Solubility:	Insoluble in water.	Complies
Specific Gravity:	1.0350 to 1.1050 @ 25°C	Complies
Optical Rotation:	0° to +1.0° @ 25°C	Complies
Refractive Index:	1.543 to 1.552 @ 25°C	Complies
β-Asarone:	84 – 88 %	Complies

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CERTIFICATE OF ANALYSIS

Product: Calamus Root Essential Oil
Lot No.: 11016A10820
Best Before: August, 2022
Store in an air tight container; in a cool dry area; away from direct sunlight.

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Yellow to yellowish-brown slightly viscous liquid.	Complies
Odor:	Characteristic odor.	Complies
Solubility:	Insoluble in water.	Complies
Specific Gravity:	1.0600 to 1.0900 @ 25°C	1.0789
Optical Rotation:	-2 ° to +6.5 ° @ 25°C	-0.22°
Refractive Index:	1.5480 to 1.5550 @ 25°C	1.5528
β-Asarone:	≥ 75 %	88.56

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CERTIFICATE OF ANALYSIS

Product: Calamus Root Essential Oil
Lot No.: 11016A171
Best Before: September, 2021
Store in an air tight container; in a cool dry area; away from direct sunlight.

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Yellow to yellowish-brown slightly viscous liquid.	Complies
Odor:	Characteristic odor.	Complies
Solubility:	Insoluble in water.	Complies
Specific Gravity:	1.0350 to 1.1050 @ 25°C	Complies
Optical Rotation:	0° to +1.0° @ 25°C	Complies
Refractive Index:	1.543 to 1.552 @ 25°C	Complies
β-Asarone:	84 – 88 %	Complies

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