

CERTIFICATE OF ANALYSIS

Product: Ginger Essential Oil - Fresh

Lot No.: 11314B11220

Best Before: December, 2022

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

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Clear to Pale yellow liquid.	Complies
Odor:	Warm spicy characteristic ginger odor.	Complies
Solubility:	Soluble in ethanol and insoluble in water.	Complies
Specific Gravity:	0.860 to 0.890 @ 25°C	0.882
Refractive Index:	1.475 to 1.495 @ 20°C	1.491
Optical Rotation:	-45° to -5° @ 25°C	-26.71
α -Zingiberene:	15% to 35%	25.20

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: Ginger Essential Oil - Fresh

Lot No.: 11314A11020

Best Before: October, 2022

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

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Pale yellow to yellow liquid.	Complies
Odor:	Warm spicy characteristic ginger odor.	Complies
Solubility:	Soluble in ethanol and insoluble in water.	Complies
Specific Gravity:	0.860 to 0.890 @ 25°C	0.884
Refractive Index:	1.475 to 1.495 @ 20°C	1.494
Optical Rotation:	-45° to -5° @ 25°C	-23.71
α -Zingiberene:	>15%	24.04

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CERTIFICATE OF ANALYSIS

Product: Ginger Essential Oil - Fresh
Lot No.: 11314A109191
Best Before: September, 2022
Store in air tight containers; in a cool dry area; away from direct sunlight.

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Pale yellow to yellow liquid.	Complies
Odor:	Warm spicy characteristic ginger odor.	Complies
Solubility:	Soluble in ethanol and insoluble in water.	Complies
Specific Gravity:	0.860 to 0.890 @ 25°C	Complies
Refractive Index:	1.475 to 1.495 @ 20°C	Complies
Optical Rotation:	-45° to -5° @ 25°C	Complies
α -Zingiberene:	>10%	Complies

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CERTIFICATE OF ANALYSIS

Product: Ginger Essential Oil - Fresh
Lot No.: 11314A10919
Best Before: September, 2021
 Store in air tight containers; in a cool dry area; away from direct sunlight.

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Pale yellow to yellow liquid.	Complies
Odor:	Warm spicy characteristic ginger odor.	Complies
Solubility:	Soluble in ethanol and insoluble in water.	Complies
Specific Gravity:	0.860 to 0.890 @ 25°C	0.881
Refractive Index:	1.475 to 1.495 @ 20°C	1.481
Optical Rotation:	-45° to -5° @ 25°C	-18.32
α -Zingiberene:	>10%	20.81

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CERTIFICATE OF ANALYSIS

Product: Ginger Essential Oil - Fresh
Lot No.: 11314A071
Best Before: September, 2021
Store in air tight containers; in a cool dry area; away from direct sunlight.

<u>Properties</u>	<u>Specifications</u>	<u>Results</u>
Appearance:	Pale yellow to yellow liquid.	Complies
Odor:	Warm spicy characteristic ginger odor.	Complies
Solubility:	Soluble in ethanol and insoluble in water.	Complies
Specific Gravity:	0.860 to 0.890 @ 25°C	Complies
Refractive Index:	1.475 to 1.495 @ 20°C	1.494
Optical Rotation:	-45° to -5° @ 25°C	Complies
α -Zingiberene:	>10%	Complies

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