



NEW DIRECTIONS AROMATICS

MATERIAL SAFETY DATA SHEET

SECTION: 1.1 PRODUCT IDENTIFICATION

Product Name: Key Lime Essential Oil
Botanical Name: Citrus aurantifolia Swingle
Synonyms: Limonia aurantifolia, Citrus medica L. var. acida
INCI Name: Citrus aurantifolia (Lime) oil
CAS #: 8008-26-2
Country of Origin: Mexico

SECTION: 1.2 COMPANY IDENTIFICATION

Company: New Directions Aromatics Inc.
Address: 6781-Columbus Road, Mississauga, ON., L5T 2G9 Canada
Telephone No: 905-362-1915
FAX: 905-362-1926

24 HOUR EMERGENCY TELEPHONE NUMBER: (613)-996-6666 CANUTEC

SECTION: 2. COMPOSITION / INFORMATION INGREDIENTS

Contents: α -pinene, β -pinene, sabinene, myrcene, limonene, γ -terpinene, neryl acetate, terpinolene, geranial, trans- α -bergaptene, caryophyllene, β -bisabolene, geranyl acetate, α -terpineol, linalool.

Limonene:	42.5 – 50.3 %	γ -Terpinene:	0 – 15 %
β -Pinene:	0.4 – 18.2 %	Terpinolene:	0 – 7.5 %
α -Terpineol:	0 – 7.2 %	Aldehyde (Citral % w/w)	0.68 (GC)

SECTION: 3. HAZARDS IDENTIFICATION

N/A

Medical Information: N/A

SECTION: 4. FIRST AID MEASURES

Eye Contact: Contact with eyes can produce burning sensation. Irrigate with water immediately, continue flushing eyes with water for 15 minutes. Seek medical attention if irritation persists.

Inhalation: Remove to fresh air. Give oxygen if breathing is labored and seek medical advice. Avoid casual breathing. Signs of over exposure are dizziness and nausea.

Ingestion: Rinse mouth; dilute with milk or water and consult a physician immediately. Do not induce vomiting. Never-give anything by mouth if victim is unconscious, is rapidly-losing or is Convulsing.

Skin Contact: Skin contact can produce irritation, or itching of the skin. Remove contaminated clothing Wash with soap and plenty of water. Seek medical attention if irritation persists.

SECTION: 5. FIRE FIGHTING MEASURES

Flash Point: 46°C Combustible liquid.

Extinguishing media: Carbon Dioxide, dry chemical or foam. Closed containers may build up pressure at elevated temperature

Special Procedures: Determine the need to evacuate or isolate the area according to your local emergency plan.

Firefighting Hazards: None identified.



NEW DIRECTIONS

A R O M A T I C S

MATERIAL SAFETY DATA SHEET

Protective Equipment: Self-contained breathing apparatus and protective clothing should be worn when fighting fires involving essential oils or chemicals.

Combustion Product: Carbon Monoxide, Carbon Dioxide

SECTION: 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use of self-contained breathing apparatus is recommended for any major chemical spill. Refer also to section 8.

Safety Precautions: Eliminate all ignition sources. Ventilate area. Determine the need to Evacuate or isolate the area according to your local emergency plan.

Environmental Precautions: Keep away from drains, surface and ground water. Report spills to appropriate Authorities if required.

Methods For Cleaning Up: Contain and collect with inert absorbent material and place in suitable container for disposal. Comply with all federal, state, and local regulation. Wipe small spills with cloth. Clean with hot water and detergent.

SECTION: 7. HANDLING AND STORAGE

Handling: Avoid inhalation and contact with skin and eyes. Good personal hygiene practices should be used. Wash after any contact, before breaks and meals, and at the end of the work period. Contaminated clothing and shoes should be cleaned before re-use.

Storage: Containers should be kept closed in order to minimize contamination. Store in a cool, dry, well ventilated place protected from light. Keep away from extreme heat and from freezing conditions and away from all sources of ignition. Make sure the material does not come into contact with substances listed as: "Materials to Avoid".

SECTION: 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Eyes Protection: The use of safety glasses is recommended. If a material is to be handled in a manner where splashing may occur, the use of splash goggles or face shield is recommended

Respiratory Protection: In well- ventilated areas, respiratory protection is not normally required. In confined, poorly ventilated areas the use of "NIOSH" approved respiratory protection normally required (use only if trained in proper use and with acceptable oxygen level).

Protective Gloves: Using chemical resistant gloves is recommended.

Protective Clothing: Using chemical resistant clothing is recommended.

Protective Equipment: An eyewash fountain and / or safety shower should be available in the work area. Acceptable industrial hygiene practices should be maintained.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol / spray applications may require additional precautions

SECTION: 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pale yellow to yellowish green liquid.

Odor: Characteristic lime rind odor.

Solubility: Soluble in alcohol and oils. Insoluble in water.

Specific Gravity: 0.855 – 0.863 @ 25°C



NEW DIRECTIONS

A R O M A T I C S

MATERIAL SAFETY DATA SHEET

Optical Rotation: +35 – +46 @ 20°C
Refractive Index: 1.475 – 1.477 @ 20°C
Extraction Method: Steam distillation of the whole ripe fruit.

SECTION: 10. STABILITY AND REACTIVITY

Stability: Chemically stable. This material presents no significant reactivity hazard.
Conditions to Avoid: Avoid sparks, flame and excessive heat.
Materials to Avoid: Strong oxidizing agents.
Flammability: Combustible liquid.
Hazardous Polymerization: Will not occur.
Hazardous Combustion or Decomposition Products: None known.
When heated to decomposition produces acid fumes and carbon monoxide smoke.

SECTION: 11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of high concentrations of vapor may result in irritation of eyes, nose and throat, headache, nausea, and dizziness.
Skin Contact: Repeated or prolonged contact can cause redness, irritation and scaling of skin (Dermatitis). Adverse skin effects should be prevented by normal care and personal hygiene
Eye Contact: May irritate eyes.
Ingestion: Low order toxicity causing irritation of the stomach and intestines which results in nausea and vomiting.
Medical Conditions Aggravated by Exposure: May aggravate dermatitis, psoriasis and other skin conditions.
Chronic Toxicity: May cause allergic reactions on skin
Carcinogenicity Data: None of the components of this material are listed as a carcinogen.
Reproductive Toxicity: No adverse effects on reproduction are known.
Acute Toxicity Values: No data is currently available.

SECTION: 12. ECOLOGICAL INFORMATION

Very toxic to aquatic organism may cause long-term adverse effects in the aquatic environment. Avoid any pollution of ground, surface or underground water.

SECTION: 13. DISPOSAL CONSIDERATION

Incineration or sanitary landfill in accordance with local, provincial and federal regulations. Check with disposal expert to insure compliance

SECTION: 14. TRANSPORT INFORMATION

Chemical Identification:
UN No. 1169: Liquid aromatic extract.
Packaging Group: III Class: 3
EINECS: FEMA: FDA:
US DOT Shipping Description: Check appropriate authority
IATA Shipping (Air): Check appropriate authority
IMDG Shipping Description: Check appropriate authority



MATERIAL SAFETY DATA SHEET

SECTION: 15. REGULATORY INFORMATION

WHMIS (Canada):	N/A
HMIS (USA):	Health Hazard – 0 Fire Hazard –3 Reactivity – 0
SARA 302/ SARA 313:	None
California Proposition 65:	This product does not contain chemical listed per the Safe Drinking Water and Enforcement Act of 1986.
	R10 Flammable.
	Xn R22 Harmful if swallowed.
EU Labeling:	Xi R38 Irritating to skin
	S36/37/38 Wear suitable protective clothing, gloves and eye/face protection.

SECTION: 16. OTHER INFORMATION

Revision Date: September 09, 2011

SECTION: 17. DISCLAIMER

The information contained in this Certificate of Analysis and Material Safety Data Sheet is obtained from current and reliable sources. The information contained herein is true and to the best of NEW DIRECTIONS AROMATICS knowledge. Nothing herein should be interpreted as a recommendation to infringe existing patents or violate any Laws or Regulation. Final determination of the suitability of the material is the sole responsibility of the user. Customers should purchase products from NEW DIRECTIONS AROMATICS Inc. with the clear understanding that all products must be used at the customers own discretion and only after referencing Material Safety Data Sheets (MSDS) and all other relevant technical information specific to the product. NEW DIRECTIONS AROMATICS Inc. shall not be held responsible for any damages to property or for any adverse physical effects (including injury or bodily harm) caused by insufficient knowledge or the improper use of a product. 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 with any manufacturing process, NEW DIRECTIONS AROMATICS strongly recommends small lab scale testing for evaluation purposes prior to full commercial manufacturing. The information on the NEW DIRECTIONS AROMATICS Inc. website is obtained from current and reliable sources but makes no representation as to its comprehensiveness or accuracy. Nothing contained herein should be considered as a recommendation by NEW DIRECTIONS AROMATICS Inc. as to the fitness for any use. 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.

IRS



CERTIFICATE OF ANALYSIS

Product: Key Lime Essential Oil
Lot No.: 11225-A41
Best Before: August 2012

<u>Property</u>	<u>Specification</u>	<u>Result</u>
Appearance:	Pale yellow to yellowish green liquid.	Complies
Odor:	Characteristic lime rind odor.	Complies
Solubility:	Soluble in alcohol and oils. Insoluble in water.	Complies
Specific Gravity:	0.855 – 0.863 @ 20°C	0.858
Refractive Index:	1.475 – 1.477 @ 20°C	1.475

DISCLAIMER:

The information contained in this Certificate of Analysis is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein in good faith 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. 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. New Directions Aromatics Inc. expressly disclaims responsibility as to the ordinary or otherwise use(s). Furthermore, nothing contained herein should be considered as a recommendation by New Directions Aromatics Inc. as to the fitness for any use. 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. 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.



CERTIFICATE OF ANALYSIS

Product: Key Lime Essential Oil
Lot No.: 11225-A46
Best Before: November, 2013

<u>Property</u>	<u>Specification</u>	<u>Result</u>
Appearance:	Pale yellow to yellowish green liquid.	Complies
Odor:	Characteristic lime rind odor.	Complies
Solubility:	Soluble in alcohol and oils. Insoluble in water.	Complies
Specific Gravity:	0.855 – 0.863 @ 20°C	0.856
Refractive Index:	1.475 – 1.477 @ 20°C	1.475

DISCLAIMER:

The information contained in this Certificate of Analysis is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein in good faith 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. 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. New Directions Aromatics Inc. expressly disclaims responsibility as to the ordinary or otherwise use(s). Furthermore, nothing contained herein should be considered as a recommendation by New Directions Aromatics Inc. as to the fitness for any use. 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. 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.



CERTIFICATE OF ANALYSIS

Product: Key Lime Essential Oil
Lot No.: 11225-A47
Best Before: December, 2013

<u>Property</u>	<u>Specification</u>	<u>Result</u>
Appearance:	Pale yellow to yellowish green liquid.	Complies
Odor:	Characteristic lime rind odor.	Complies
Solubility:	Soluble in alcohol and oils. Insoluble in water.	Complies
Specific Gravity:	0.855 – 0.863 @ 20°C	0.856
Refractive Index:	1.475 – 1.477 @ 20°C	1.475

DISCLAIMER:

The information contained in this Certificate of Analysis is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein in good faith 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. 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. New Directions Aromatics Inc. expressly disclaims responsibility as to the ordinary or otherwise use(s). Furthermore, nothing contained herein should be considered as a recommendation by New Directions Aromatics Inc. as to the fitness for any use. 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. 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.



CERTIFICATE OF ANALYSIS

Product: Key Lime Essential Oil
Lot No.: 11225-A48
Best Before: January, 2014

<u>Property</u>	<u>Specification</u>	<u>Result</u>
Appearance:	Pale yellow to yellowish green liquid.	Complies
Odor:	Characteristic lime rind odor.	Complies
Solubility:	Soluble in alcohol and oils. Insoluble in water.	Complies
Specific Gravity:	0.855 – 0.863 @ 20°C	0.856
Refractive Index:	1.475 – 1.477 @ 20°C	1.475

DISCLAIMER:

The information contained in this Certificate of Analysis is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein in good faith 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. 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. New Directions Aromatics Inc. expressly disclaims responsibility as to the ordinary or otherwise use(s). Furthermore, nothing contained herein should be considered as a recommendation by New Directions Aromatics Inc. as to the fitness for any use. 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. 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.



CERTIFICATE OF ANALYSIS

Product: Key Lime Essential Oil
Lot No.: 11225-A49
Best Before: February, 2014

<u>Property</u>	<u>Specification</u>	<u>Result</u>
Appearance:	Pale yellow to yellowish green liquid.	Complies
Odor:	Characteristic lime rind odor.	Complies
Solubility:	Soluble in alcohol and oils. Insoluble in water.	Complies
Specific Gravity:	0.855 – 0.863 @ 20°C	0.857
Refractive Index:	1.475 – 1.477 @ 20°C	1.476

DISCLAIMER:

The information contained in this Certificate of Analysis is obtained from current and reliable sources. New Directions Aromatics Inc. provides the information contained herein in good faith 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. 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. New Directions Aromatics Inc. expressly disclaims responsibility as to the ordinary or otherwise use(s). Furthermore, nothing contained herein should be considered as a recommendation by New Directions Aromatics Inc. as to the fitness for any use. 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. 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.