



[GREEN APPLE]

# SAFETY DATA SHEET

**FLOW SCIENTIFIC LTD.**

Revision Date: (11/26/2019)

## Section 1: Identification

### Product Identifier

**Trade Name or Designation** Trade Secret, Proprietary Botanical Blend: Green Apple  
**Brand** Flow Scientific Ltd.  
**CAS No.** Mixture

### Recommended Use and Restrictions on:

This product is intended for use only by adults 21 or older. Do not use if you are pregnant, nursing or a person with or at risk of serious health conditions including but not limited to: heart disease, high blood pressure, diabetes or a person taking medicine for depression or asthma. Discontinue use and consult your doctor if and adverse reaction occurs. This is not a smoking cessation product.

### Company Information

**Company** Flow Scientific Ltd.  
**Address** Unit 8 9670 188 St. Surrey, BC V3S1V6 Canada  
**Telephone** (604) 371-3569  
**Website** [www.flowsci.com](http://www.flowsci.com)

### Emergency Contact

**Poison Control BC** 1-800-567-8911  
**Emergency** 911

## Section 2: Hazard(s) Identification

### Classification of the Substance or Mixture

For the full text of the Hazard Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statement	Precautionary Statements
Flammable Liquids	Category 3	<b>H226</b>	P201, P210, P220, P233, P240, P242, P243, P270, P280, P370+P378, P371+P380, P381
Skin Corrosion / Irritation	Category 2	<b>H315</b>	P262, P264, P280, P302+P352, P332+P313, P362, P363
Skin Sensitizer	Category 1	<b>H317</b>	P262, P264, P280, P302+P352, P332+P313, P362, P363
Eye Damage / Irritation	Category 2A	<b>H319</b>	P262, P280, P305+P351+P338, P337+P313
Aspiration Hazard	Category 1	<b>H304</b>	P261, P280, P304+P340, P342+P311
Acute toxicity, Oral	Category 4	<b>H302</b>	P201, P264, P270, P280, P301+P312+P330
Acute toxicity, Inhalation	Category 4	<b>H332</b>	P201, P261, P280, P271, P304+P340+P312
Hazardous to the Aquatic Environment (Acute)	Category 1	<b>H400</b>	P201, P233, P273, P501
Hazardous to the Aquatic Environment (Chronic)	Category 1	<b>H410</b>	P201, P233, P273, P501

## GHS Label Elements

### Pictograms



### Signal Word

Warning

### Hazard Statements

#### Hazard Number

#### Hazard Statement

H226	Flammable liquid and vapor.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H304	May be fatal if swallowed and enters airways
H410	Very toxic to aquatic life with long lasting effects.

### Precautionary Statements

#### Precautionary Number Precautionary Statement

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, sparks and open flame. No smoking.
P220	Keep/Store away from clothing/.../combustible materials.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P260	Do not breathe fumes, mist, vapors, or spray.
P261	Avoid breathing dust, fumes, gas, mist, vapors, or spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves, eye protection and skin protection.
P301+P312+P330	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P31	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311	IF exposed or concerned: Call a POISON CENTER or physician.
P308+P313	IF exposed or concerned: Get medical attention.
P330	Rinse mouth.
P331	Do NOT induce vomiting.
P333+P313	If skin irritation occurs: Get medical attention.
P337+P313	If eye irritation persists: Get medical attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or physician.
P362	Take off contaminated clothing.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use dry chemical, foam or carbon dioxide to extinguish.

P371+P380 In case of major fire and large quantities: Evacuate area.  
P381 Eliminate all ignition sources if safe to do so.  
P403 + P233 Store in well-ventilated place. Keep container tightly closed.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/container to an approved waste disposal plant.

**Hazard(s) not Otherwise Classified (HNOC) - none.**

**Section 3: Composition / Information on Ingredients**

Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	EC Number
Alpha Pinene	C10H16	136.23	80-56-8	232-087-8
Beta Pinene	C10H16	136.23	18172-67-3	242-060-2
Limonene	C10H16	136.23	5989-27-5	227-813-5
Beta Caryophyllene	C15H24	204.36	87-44-5	201-746-1
Ethyl-2-methyl butyrate	C7H14O2	130.18	7452-79-1	231-225-4
Hexyl Acetate	C8H16O2	144.21	142-92-7	205-572-7

Contains other natural and artificial ingredients.

Specific chemical identities and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**Hazardous Components**

Component	Classification
Alpha Pinene	Flam.liq.3; Skin Irrit.2; Skin Sens. 1; Asp.Tox. 1; Aquatic Acute 3; Aquatic Chronic 2; H226, H304, H315, H317, H402, H411
Beta Pinene	Flam.liq.3; Skin Irrit.2; Skin Sens.1; Asp.Tox1; Aquatic Acute 1; Aquatic Chronic 1; H226, H304, H315, H317, H410
Limonene	Flam.liq.3; Skin Irrit 2,1; Asp. Tox. 1; Aquatic Acute 1; Aquatic Chronic 1; H226, H315, H317, H304; H400, H410
Beta Caryophyllene	Asp. Tox. 1; H304

**Section 4: First-Aid Measures**

**General First Aid Information**

**General Advice** If you feel unwell, seek medical attention immediately.  
**If inhaled** Remove from area of exposure; seek medical attention if symptoms persist.  
**In case of eye contact** Irrigate with water for at least 15 minutes. If irritation persists, call a physician.  
**In case of skin contact** Wash exposed area with soap and water. If irritation persists, call a physician.  
**If swallowed** Call physician for advice. Unlikely to cause harm, apart from a laxative effect.

**Most Important Symptoms / Effects, Acute and Delayed**

None known.

**Indication of any medical attention or special treatment needed**

Treat symptomatically.

**Section 5: Fire-Fighting Measures**

**Extinguishing Media**

**Suitable extinguishing media**

Dry chemical, foam, CO2, and other standard extinguishing media for oil.

**Specific Hazards Arising from the Substance or Mixture**

None.

**Special Protective Equipment for Firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**Further Information**

Use water spray to cool unopened containers.

**Section 6: Accidental Release Measures**

**Personal Precautions, Protective Equipment and Emergency Procedures**

Use cautious judgement when cleaning up spill. Wear appropriate protective clothing. Avoid contact with eyes.

**Environmental Precautions**

Avoid release into the environment. Contain and collect spillage; prevent from reaching drains, sewer, or waterway.

**Cleanup and Containment Methods and Materials**

SMALL SPILLS: Remove sources of ignition and prevent further leakage/spillage if safe to do so. Contain spill to smallest possible; clean up with absorbent materials such as paper towels, sand, dirt, etc. Freshly cleaned area may be slippery; take precautions.

LARGE SPILLS: Remove sources of ignition and prevent further leakage/spillage if safe to do so. Contain spill and transfer into leak-proof containers; seal tightly. Dispose of substance/mixture in accordance with local, national, or regional legislations.

**Reference to Other Sections**

Also refer to section 8 and section 13.

**Section 7: Handling and Storage**

**Precautions for Safe Handling and Storage Conditions**

HANDLING MEASURES: Handle in accordance with good manufacturing, industrial hygiene, and safety procedures. Avoid contact with skin, eyes, and clothing. Use personal protective equipment as necessary. Ground container when dispensing.

VENTILATION: Handle in a well-ventilated area.

INCOMPATIBLE PRODUCTS: Keep away from oxidizing agents, excessive heat, and sources of ignition.

HYGIENE MEASURES: Wash thoroughly after handling of the substance/mixture. When handling, do not eat, drink or smoke. Also refer to section 8.

SUITABLE STORAGE CONDITIONS: Store in closed tight containers below 35 C in well-ventilated areas

**CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**

Do not store or use near heat, sparks, or flame and store out of sun. Never use pressure to empty. Do not puncture, drag, or slide container.

**REFERENCE TO OTHER SDS SECTIONS:**

Also refer to section 8 and section 13.

**Section 8: Exposure Controls / Personal Protection**

**Control Parameters**

**Components with workplace control parameters**

Component	CAS Number	Value	Control Parameters	Basic	Remarks
a-Pinene	80-56-8	TWA	20 ppm	USA. ACGIH Threshold Limit Value (TLV)	Central Nervous System impairment Upper Respiratory Tract irritation Lung damage Skin irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Not classifiable as a human carcinogen Dermal Sensitizer
D-Limonene	5989-27-5	TWA	20 ppm	USA. ACGIH Threshold Limit Value (TLV)	Central Nervous System impairment Upper Respiratory Tract irritation Lung damage Skin irritation Adopted values or notations enclosed are those for which changes are proposed in the NIC See Notice of Intended Changes (NIC) Not classifiable as a human carcinogen Sensitizer

Adequate ventilation, and a suitable means of rinsing/washing as necessary. Facility measures to prevent/limit release and potential

**Personal Protective Equipment (PPE)**

**Eye/face Protection** Safety glasses or goggles.

**Skin and Body Protection** Suitable gloves; chemical resistant clothing may also be worn.

<b>Respiratory Protection</b>	Not normally required. Dust mask or respiratory equipment may be worn when handling large quantities or in inadequate ventilation areas.
<b>Control of Environmental Thermal Hazards</b>	Avoid discharge into the environment. Do not allow to enter into surface water or drains.
<b>Other Information</b>	Avoid prolonged skin contact; gloves may be worn.

**Section 9: Physical and Chemical Properties**

<b>Basic Physical and Chemical Properties</b>	
<b>Appearance</b>	Clear, colorless to pale yellow liquid
<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic
<b>Odor Threshold</b>	Data not available.
<b>pH</b>	Data not available.
<b>Melting Point / Freezing Point</b>	Data not available.
<b>Initial Boiling Point and Boiling Range</b>	Data not available.
<b>Flash Point</b>	Data not available.
<b>Evaporation Rate</b>	Data not available.
<b>Flammability</b>	Data not available.
<b>Flammability / Explosive Limits</b>	Data not available.
<b>Vapor Pressure</b>	Data not available.
<b>Vapor Density</b>	Data not available.
<b>Relative Density</b>	0.85 at 25°C
<b>Solubility (Water)</b>	Insoluble
<b>Partition Coefficient</b>	Data not available.
<b>Auto-ignition Temperature</b>	Data not available.
<b>Decomposition Temperature</b>	Data not available.
<b>Viscosity</b>	Data not available.
<b>Explosive Properties</b>	Data not available.
<b>Oxidizing Properties</b>	Data not available.

**Section 10: Stability and Reactivity**

<b>Reactivity</b>	Not reactive.
<b>Chemical Stability</b>	Stable under normal conditions of use, storage and transport.
<b>Possibility of Hazardous Reactions</b>	Data not available.
<b>Conditions to Avoid</b>	Excessive heat, sources of ignition
<b>Incompatible Materials</b>	Avoid strong oxidizing materials/agents.
<b>Hazardous Decomposition Products</b>	Combustion produces carbon monoxide, carbon dioxide, and thick smoke. In general, products of combustion (such as organic materials) may be irritating and toxic

**Section 11: Toxicological Information**

<b>Information on Toxicological Effects</b>	
<b>Acute Toxicity - Oral Exposure</b>	Not expected to be acutely toxic; substance is not classified as toxic. Ingestion of a single dose is unlikely to cause harm
<b>Acute Toxicity - Dermal Exposure</b>	Data not available.
<b>Acute Toxicity - Inhalation Exposure</b>	Data not available.
<b>Acute Toxicity - Other Information</b>	Data not available.
<b>Skin Corrosion and Irritation</b>	Not classified as corrosive to skin or a skin irritant.

**Serious Eye Damage and Irritation**

Not classified as an eye irritant or considered seriously damaging to the eye.

**Respiratory Sensitization**

Not expected to be classified as respiratory or skin sensitizer

**Germ Cell Mutagenicity**

Does not meet the criteria to be classified as a potential germ cell mutagen; not expected to be carcinogenic or a reproductive toxicant. This substance or mixture is not found on the following international and US lists; NTP, IARC, and OSHA.

**Specific Target Organ Toxicity from Single Exposure**

Not expected to be classified as a specific target organ toxicant (single exposure)

**Specific Target Organ Toxicity from Repeated Exposure**

Not expected to be classified as a specific target organ toxicant (repeated exposure)

**Aspiration Hazard**

Not expected to be classified as presenting an aspiration hazard.

**Section 12: Ecological Information**

**Toxicity**

No ecological hazards are associated with this product.

**Persistence and Degradability**

Not expected to persist in environment based upon available information. Expected to meet at least one definition of biodegradable

**Bioaccumulative Potential**

Bioaccumulation is not expected in the aquatic environment.

**Mobility in Soil**

The potential for mobility in soil is expected to be low (Koc between 500 and 2000).

**Other Adverse Ecological Effects**

No information available.

**Section 13: Disposal Considerations**

**Waste Treatment Methods**

Handle all waste with care. Consult the appropriate local expert regarding waste disposal. Waste disposal must be handled in accordance with relevant regulations.

WASTE FROM RESIDUE/UNUSED PRODUCTS: Where possible, recycling is preferred over disposal or incineration. Collect and dispose of waste at an authorized disposal facility in compliance with applicable legislations.

CONTAMINATED PACKAGING: Empty containers should be taken to an authorized waste handling site for recycling. If recycling is not possible or practicable, dispose in compliance with applicable legislations.

**RELEVANT PROVISIONS RELATED TO WASTE:**

For the US, discarded product is not a hazardous waste under RCRA, 40 CFR 261.

**REMARKS:**

Consider all relevant rational and/or regional provisions.

**Section 14: Transport Information**

**Transportation by Land-Department of Transportation (DOT, United States of America)**

Sizes	2mL, 10mL, 30mL, 100mL, 250mL, 500mL
UN Number	UN2319
Proper Shipping Name	Terpene hydrocarbons, n.o.s.
Hazard Class	3
Packing Group	III
Hazard Placard Labels	



**Transportation by Air - International Air Transport Association (IATA)**

Sizes	2mL, 10mL, 30mL, 100mL, 250mL, 500mL
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UN Number	UN2319
Proper Shipping Name	Terpene hydrocarbons, n.o.s.
Hazard Class	3
Packing Group	III
Hazard Placard Labels	



### Section 15: Regulatory Information

#### Occupational Safety and Health Administration (OSHA) Hazards

No OSHA hazards.

#### Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

#### Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### Massachusetts Right-to-Know Substance List

$\alpha$ -Pinene CAS#80-56-8

#### Pennsylvania Right-to-Know Hazardous Substances

Alpha Pinene CAS#80-56-8

Beta Pinene CAS#18172-67-3

Limonene CAS#5989-27-5

Beta Caryophyllene CAS#87-44-5

Ethyl-2-methyl butyrate CAS#7452-79-1

Hexyl Acetate CAS#142-92-7

#### New Jersey Worker and Community Right-to-Know Components

Alpha Pinene CAS#80-56-8

Beta Pinene CAS#18172-67-3

Limonene CAS#5989-27-5

Beta Caryophyllene CAS#87-44-5

Ethyl-2-methyl butyrate CAS#7452-79-1

Hexyl Acetate CAS#142-92-7

#### California Proposition 65

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

### Section 16: Other Information

#### Document Revision

Issue Date	11/26/2019
Revision Date	11/26/2019
Version #	1

Disclaimer

Flow Scientific cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Flow Scientific has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its' safety in the final application. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Flow Scientific knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.





# Certificate of Analysis

**Product Name:** GREEN APPLE

**Date of Manufacture:** 28/11/2019

**Flow Code:** TFF-015

**Best if Used By:** 28/05/2021

**Lot #:** 191128

**Purchase Order:**

**Date of Analysis:** 28/11/2019

**Cust. Item #:**

<u>Characteristic:</u>	<u>Specification:</u>	<u>Result:</u>
Gas Chromatograph:	PASSES TEST	PASS
D-Limonene %:	REPORT	30.5
β-Pinene %:	REPORT	22.0
Other Ingredient %:	REPORT	47.5
Odor:	PINE, HERBAL	PASS
Refractive Index (20°C):	1.4661 – 1.4711	1.4686
Specific Gravity (20°C):	0.8518 – 0.8818	0.8668
Color/Appearance:	CLEAR COLORLESS TO PALE YELLOW LIQUID	

## Additional Product Information:

**Shelf Life:** 18 Months

**Storage Conditions:** Stable when stored in its original package, tightly sealed in a cool (46 – 90 °F) and dry location out of direct heat and light.

**Effective Date:** 28/11/2019

Sincerely,

Michael Scott, BSc.

QC Manager

This Certificate of Analysis does not relieve the purchaser from undertaking their own tests in order to assure the suitability of this product for its application and to comply with all relevant legal requirements for any goods into which this product is incorporated. The values and specifications are valid for the time of analysis.



## **FOOD GRADE CERTIFICATION**

**Product Name: Green Apple**

**Product Code: TFF-015**

Flow Scientific Ltd. certifies that the above flavor or ingredient is FDA/FEMA GRAS. We would like to assure you that we use only flavor ingredients that are listed as being generally recognized as safe (GRAS) on a reliable published industry association (FEMA) list and/or are approved for use in a regulation of the U.S. Food and Drug Administration. We hereby certify that this flavor or ingredient is safe for its intended use in food.

Flow Scientific Ltd.. may terminate this certification at any time upon written notice in which this certification shall be null and void as to any material supplied after termination of the certification.



## **NON GMO STATEMENT**

**Product Name: Green Apple**

**Product Code: TFF-015**

Flow Scientific Ltd. certifies that the above flavor or ingredient is FDA/FEMA GRAS. We would like to assure you that we use only flavor ingredients that are listed as being generally recognized as safe (GRAS) on a reliable published industry association (FEMA) list and/or are approved for use in a regulation of the U.S. Food and Drug Administration. We hereby certify that this flavor or ingredient is safe for its intended use in food.

Flow Scientific Ltd.. may terminate this certification at any time upon written notice in which this certification shall be null and void as to any material supplied after termination of the certification.



## **HEAVY METALS AND PESTICIDES STATEMENT**

**Product Name: Green Apple**

**Product Code: TFF-015**

Flow Scientific Ltd. declares that, to the best of our knowledge and belief, all ingredients in the product listed above are listed as being generally recognized as safe (GRAS) by the Food and Drug Administration (FDA) when used in accordance with the FDA's good manufacturing practices (GMP) and contain no residues of heavy metals and pesticides in excess of tolerances set by the FDA and the Environmental Protection Agency (EPA).