



SAFETY DATA SHEET.

Version 1

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Number 150342-P
EC-No

Manufacturer C & A Service Inc. as agents for
Citrus and Allied Essences, Ltd
4620 Mercedes Drive
Belcamp, MD 21017
(410) 273-9500

Product name 180000754 FL FLA SYS LEM JUICE CARBONYLS 17F19LEC
Pure substance/mixture Natural Complex Substance

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use No information available

1.3 Details of the supplier of the safety data sheet

For further information, please contact:

E-mail Address ekleinman@candaserviceinc.com

1.4 Emergency telephone number

Emergency telephone Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Chronic aquatic toxicity	Category 3

Classification according to EU Directives 67/548/EEC or 1999/45/EC
For the full text of the R-phrases mentioned in this Section, see Section 16

Symbol(s)
Xn - Harmful

R-code(s)
Xn;R22 - Xi;R38 - R43 - R52-53

2.2 Label elements



Signal Word

Warning

H226 - Flammable liquid and vapor H227 - Combustible liquid

Precautionary Statements

P280 - Wear eye protection/ face protection

P321 - Specific treatment (see .? on this label)

P403 + P235 - Store in a well-ventilated place. Keep cool

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P280 - Wear protective gloves/ eye protection/ face protection

2.3 Other information

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	EC-No	CAS-No	Alternate CAS #	Weight %	Classification (67/548)	Classification (Reg. 1272/2008)	REACH Registration Number
GERANIAL	205-476-5	141-27-5		20-30%	-	Aquatic Acute 2 (H401) (EFA) Skin Sens. 1 (H317) (EFA) Skin Irrit. 2 (315) (EFA) Acute Tox. 5 (H303)(EFA) Acute Tox. 5 (H313)(EFA) Flam. Liq. 4 (H227)(EFA)	no data available
NERAL	226-394-6	5392-40-5		10-15%	Xi; R38 R43	Aquatic Acute 2 (H401) (EFA) Skin Sens. 1 (H317) (EFA) Skin Irrit. 2 (315) (EFA) Acute Tox. 5 (H303)(EFA) Acute Tox. 5 (H313)(EFA) Flam. Liq. 4 (H227)(EFA) Aquatic Acute 2 (H401) Skin Sens. 1 (H317) Skin Irrit. 2 (H315) Acute Tox. 5 (H303) Acute Tox. 5 (H313) Skin Irrit. 2 (H315) Skin Sens. 1 (H317)	no data available
A-TERPINEOL	202-680-6	98-55-5		5-10%	XI; R38	Eye Irrit. 1 (H319) Skin Irrit. 2 (H316) Acute Tox. 5 (H303) Flam. Liq. 4 (H227)	no data available
BETA BISABOLENE	-	495-61-4		5-10%	-	Skin Sens. 1 (H317) (EFA) Skin Irrit. 2 (315) (EFA) Asp. Tox. 1 (H304) (EFA)	no data available

TERPINEN-4-OL	209-235-5	562-74-3		5-10%	XN; R22, XI; R38	Aquatic Acute 3 (H402) Eye Irrit. 1 (H319) Skin Irrit. 2 (H316) Acute Tox. 4 (H302) Flam. Liq. 4 (H227)	no data available
GERANYL ACETATE	203-341-5	105-87-3		1-5%	N; R51/53;	Aquatic Acute 2 (H401) Skin Irrit. 3 (H316) Aquatic Chronic 2 (H411)	no data available
LIMONENE	227-813-5	5989-27-5		1-5%	R10, XI; R38, XI; R43, N; R50/53;	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 2 (H316) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	no data available

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

4.1 Description of first-aid measures

General advice	If symptoms persist, call a physician Do not breathe dust/fume/gas/mist/vapors/spray Do not get in eyes, on skin, or on clothing
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes Keep eye wide open while rinsing If symptoms persist, call a physician
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary. Remove and wash contaminated clothing before re-use. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash off immediately with soap and plenty of water. Immediate medical attention is not required.
Ingestion	Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician. Rinse mouth. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.
Inhalation	Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Consult a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors. If symptoms persist, call a physician. Move to fresh air in case of accidental inhalation of vapors or decomposition products.
Protection of First-aiders	Use personal protective equipment

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically May cause sensitization of susceptible persons

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media

Use: Dry chemical Carbon dioxide CO₂ Water spray Alcohol-resistant foam

Extinguishing media which shall not be used for safety reasons
No information available

5.2 Special hazards arising from the substance or mixture

Special Hazard
None

5.3 Advice for firefighters

Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Remove all sources of ignition. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

See Section 12 for additional Ecological Information

6.2 Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust)

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear personal protective equipment. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product. Use only in area provided with appropriate exhaust ventilation. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from heat, sparks and open flame. No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers. Keep away from heat.

7.3 Specific end uses

Exposure scenario N/A

Other Guidelines N/A

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	European Union	The United Kingdom	France	Spain	Germany	
LIMONENE 5989-27-5					MAK: 20 ppm MAK: 110 mg/m ³ Ceiling / Peak: 40 ppm Ceiling / Peak: 220 mg/m ³ TWA: 20 ppm TWA: 110 mg/m ³	
Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark	
LIMONENE 5989-27-5				TWA: 25 ppm TWA: 140 mg/m ³ STEL: 50 ppm STEL: 280 mg/m ³		
Chemical Name	Austria	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Switzerland	Poland	Norway	LIMON 5989-
		STEL: 40 ppm STEL: 220 mg/m ³ MAK: 20 ppm MAK: 110 mg/m ³		TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³		

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2 Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas

Personal protective equipment

Eye Protection Tightly fitting safety goggles

Hand Protection Protective gloves

Skin and body protection Antistatic boots Impervious gloves Wear fire/ flame resistant/ retardant clothing Long sleeved clothing Chemical resistant apron Lightweight protective clothing Apron

Respiratory protection No special protective equipment required

Hygiene measures When using, do not eat, drink or smoke Provide regular cleaning of equipment, work area and clothing

Environmental Exposure Controls Do not allow material to contaminate ground water system

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	liquid	Appearance	liquid
Odor	Lemon	Color	straw yellow to yellowish-orange

Property	Values	Methods
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range		FCC Method
Flash Point	93 °C / 200 °F	Closed cup
Evaporation rate		FCC Method
Flammability (solid, gas)		No information available
Flammability Limits in Air		No information available
upper flammability limit		
lower flammability limit		
Vapor pressure mm Hg 20°C		No information available
Vapor density		No information available
Relative density		No information available
Specific Gravity @ 25C		0.8880 - 0.9040 FCC Method
Specific Gravity @ 20C	0.891 - 0.907	FCC Method
Refractive Index	1.4760 - 1.4860	FCC Method
Water solubility		No information available
Partition coefficient: n-octanol/water		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Viscosity, dynamic		No information available
Explosive properties	No information available	
Oxidizing Properties	No information available	

9.2 Other information

VOC Content(%)	1
Molecular Weight	No information available

10. STABILITY AND REACTIVITY

10.1 Reactivity

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

10.4 Conditions to Avoid

Heat, flames and sparks

10.5 Incompatible Materials

No materials to be especially mentioned

10.6 Hazardous Decomposition Products

None under normal use conditions

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation There is no data available for this product

Eye contact There is no data available for this product

Skin contact There is no data available for this product

Ingestion There is no data available for this product

Acute toxicity 7.5% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document (Rev. 1, 2005):

Oral 1,024.76 mg/kg
Dermal 2,426.90 mg/kg

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
GERANIAL	500 mg/kg (Rat)		
NERAL	4950 mg/kg (Rat)	2000 mg/kg (Rat) 2250 mg/kg (Rabbit)	
A-TERPINEOL	5170 mg/kg (Rat)		
TERPINEN-4-OL	1300 mg/kg (Rat)	2500 mg/kg (Rabbit)	
GERANYL ACETATE	6330 mg/kg (Rat)		
LIMONENE	4400 mg/kg (Rat)	2000 mg/kg (Rabbit)	

Skin corrosion/irritation No information available
Eye damage/irritation No information available
Sensitization No information available
Germ Cell Mutagenicity No information available
Carcinogenicity No information available

Specific target organ systemic toxicity (single exposure) No information available

Specific target organ systemic toxicity (repeated exposure) No information available

Target Organ Effects No information available

Aspiration hazard No information available

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity effects

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
NERAL	16: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 19: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50	4.6-10: 96 h <i>Leuciscus idus</i> mg/L LC50 static	7: 48 h <i>Daphnia magna</i> mg/L EC50
LIMONENE		0.619-0.796: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 35: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50	

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

Chemical Name	log Pow
NERAL	2.76

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

12.6 Other adverse effects

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste from residues / unused products

Dispose of in accordance with local regulations

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal

Other information

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used

14. TRANSPORT INFORMATION

IMDG / IMO

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, N.O.S. (NERAL, LIMONENE)

Hazard class

9

UN/ID No

3082

Packing Group

III

Marine pollutant

This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

ICAO/IATA

Not regulated

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

All of the components in the product are on the following inventory lists: No information available, United States of America (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (ECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

TSCA	-
EINECS/ELINCS	-
DSL/NDSL	-
PICCS	-
ENCS	-
IECSC	-
AICS	-
KECL	-

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

15.2 Chemical Safety Assessment

16. OTHER INFORMATION

Risk Combination Phrases

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Full text of H-Statements referred to under sections 2 and 3

H401 - Toxic to aquatic life H316 - Causes mild skin irritation H411 - Toxic to aquatic life with long lasting effects H317 - May cause an allergic skin reaction H303 - May be harmful if swallowed H313 - May be harmful in contact with skin H227 - Combustible liquid H304 - May be fatal if swallowed and enters airways H315 - Causes skin irritation H402 - Harmful to aquatic life H319 - Causes serious eye irritation H302 - Harmful if swallowed H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects H226 - Flammable liquid and vapor

Revision Date 11-May-2012

Revision Note not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.