



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

1.1. Product identifier

Number 118CBD - Ginger and Turmeric Root Extract, Natural (Oil Soluble)
EC-No Not Applicable
CAS-No Not Applicable
FEMA Numbers Not Applicable

Manufacturer Apex Flavors, Inc.
 1371 Brass Mill Rd.
 Suite A
 Belcamp, MD 21017
 (410) 565-6600

Product name Ginger and Turmeric Root Extract, Natural (Oil Soluble)
Pure substance/mixture Natural Complex Substance

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

Recommended Use Not for direct consumption

1.3. Details of the supplier of the safety data sheet

For further information, please contact:

E-mail Address cpisano@apexflavors.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 5
Acute dermal toxicity	Category 5
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Acute aquatic toxicity	Category 2
Chronic aquatic toxicity	Category 2
Flammable liquids	Category 4

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)
 Xi - Irritant

R-code(s)
 R43 - R52-53

2.2. Label elements

**Signal Word**

Warning

Hazard Statements

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H317 - May cause an allergic skin reaction

H411 - Toxic to aquatic life with long lasting effects

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 according to Directive 67/548/EEC or 1999/45/EC	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
CAMPHENE	201-234-8	79-92-5		< 1%	R11, Xi; R36, N; R50/53;	Aquatic Acute 1 (H400) Eye Irrit. 1 (H319) Skin Irrit. 3 (H316) Aquatic Chronic 1 (H410) Flam. Sol 2 (H228)	No data available
BISABOLENE	Present	495-62-5		< 1%	-	Skin Sens. 1 (H317) (EFFA) Skin Irrit. 2 (315) (EFFA) Asp. Tox. 1 (H304) (EFFA) Skin Sens. 1 (H317) Skin Irrit. 2 (H315)	No data available
PINENES	201-291-9	80-56-8		< 1%	R10, Xi; R43, N; R50/53, XN; R65;	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 1 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Acute Tox. 5 (H303) Flam. Liq. 3 (H226)	No data available
LIMONENE	227-813-5	5989-27-5		< 1%	R10, Xi; R38, Xi; R43, N; R50/53;	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 1 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	No data available
NERAL	226-394-6	106-26-3		< 1%	Xi; R38 R43	Aquatic Acute 2 (H401) (EFFA) Skin Sens. 1	No data available

						(H317) (EFFA) Skin Irrit. 2 (315) (EFFA) Acute Tox. 5 (H303)(EFFA) Acute Tox. 5 (H313)(EFFA) Flam. Liq. 4 (H227)(EFFA) 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)	
GERANIAL	205-476-5	141-27-5		< 1%	-	Aquatic Acute 2 (H401) (EFFA) Skin Sens. 1 (H317) (EFFA) Skin Irrit. 2 (315) (EFFA) Acute Tox. 5 (H303)(EFFA) Acute Tox. 5 (H313)(EFFA) Flam. Liq. 4 (H227)(EFFA)	No data available
GERANIOL	203-377-1	106-24-1		< 1%	XI; R38, XI; R41, XI; R43;	Aquatic Acute 3 (H402) Skin Sens. 1 (H317) Eye Dam. 1 (H318) Skin Irrit. 2 (H315) Acute Tox. 5 (H303)	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
Eye contact	If symptoms persist, call a physician Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes 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
Skin contact	If skin irritation persists, call a physician. Wash off immediately with plenty of water for at least 15 minutes. Wash off immediately with soap and plenty of water. Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Ingestion	Do NOT induce vomiting. Drink plenty of water. Immediate medical attention is not required. Rinse mouth. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
Inhalation	If symptoms persist, call a physician. Move to fresh air. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors or decomposition products.
Self-protection of the first aider	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

Note to physicians Treat symptomatically May cause sensitization in 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**

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

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. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.3. Methods and material 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**

Use personal protective equipment as required. Ensure adequate ventilation. 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. Do not breathe dust/fume/gas/mist/vapors/spray. 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 out of the reach of children. Keep container tightly closed. Keep away from heat and sources of ignition. Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Keep in properly labeled containers.

7.3 Specific end use(s)

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
CAMPHENE 79-92-5			TWA: 1000 mg/m ³ STEL: 1500 mg/m ³		
PINENES 80-56-8				VLA-ED: 20 ppm VLA-ED: 113 mg/m ³	
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
PINENES 80-56-8		TWA: 20 ppm			
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
PINENES 80-56-8		25 ppm NGV 150 mg/m ³ NGV			TWA: 25 ppm TWA: 140 mg/m ³ Skin STEL: 37.5 ppm STEL: 175 mg/m ³
LIMONENE 5989-27-5			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 Controls Ensure adequate ventilation, especially in confined areas

Personal protective equipment

Eye Protection Tightly fitting safety goggles
Hand Protection Protective gloves
Skin and body protection Long sleeved clothing Chemical resistant apron Antistatic boots Impervious gloves
Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

General Hygiene Considerations When using, do not eat, drink or smoke Wash contaminated clothing before reuse 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	warm spicy aromatic aroma	Color	pale yellow to amber-brown

<u>Property</u>	<u>Values</u>	<u>Method</u>
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range		FCC Method
Flash Point	25.5 °C / 78 °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	0.01	No information available
Vapor density		No information available
Relative density		No information available
Specific Gravity @ 25C	0.9205 - 0.9405	FCC Method
Specific Gravity @ 20C		FCC Method
Refractive Index		FCC Method
Water solubility		No information available
Partition coefficient: n-octanol/water	1.4840 to 1.5140	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(%)	2
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

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	81.1% 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	3,686.00 mg/kg
Dermal	2,981.00 mg/kg

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
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Specific target organ systemic toxicity (repeated exposure)	No information available
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Target Organ Effects	No information available
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Aspiration hazard	No information available
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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
CAMPHENE	1000: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	0.72: 96 h <i>Brachydanio rerio</i> mg/L LC50 flow-through 150: 96 h <i>Brachydanio rerio</i> mg/L LC50 static	22: 48 h <i>Daphnia magna</i> mg/L EC50
PINENES		0.28: 96 h <i>Pimephales promelas</i> mg/L LC50 static	41: 48 h <i>Daphnia magna</i> mg/L LC50
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	
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

12.2. Persistence and degradability

No information available

12.3. Bioaccumulative potential

No information available

Chemical Name	log Pow
PINENES	4.1
NERAL	2.76

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment**12.6. Other adverse effects**

Endocrine Disruptor Information .? is a suspected endocrine disruptor

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

DOT/ADR	Not regulated (If shipped in NON BULK packaging by ground transport)
UN/ID No	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CAMPHENE, PINENES)
Hazard class	9
Packing Group	III
ERG Code	171
IMDG / IMO	
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CAMPHENE, PINENES)
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	
UN/ID No	3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (CAMPHENE, PINENES)
Hazard class	9
Packing Group	III

Marine Pollutant

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15. REGULATORY INFORMATION

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

WGK Classification

Chemical Name	Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes
NERAL 106-26-3	Hazard Class 1

International Inventories

All of the components in the product are on the following Inventory lists: Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP).

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

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European 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

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

H402 - Harmful to aquatic life H317 - May cause an allergic skin reaction H318 - Causes serious eye damage H315 - Causes skin irritation H303 - May be harmful if swallowed H401 - Toxic to aquatic life H313 - May be harmful in contact with skin H227 - Combustible liquid H304 - May be fatal if swallowed and enters airways H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects H226 - Flammable liquid and vapor H319 - Causes serious eye irritation H316 - Causes mild skin irritation H228 - Flammable solid

Issuing date	15-Nov-2013
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Revision Note	Not applicable.
Revision#	2.02

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

WARNING/DISCLAIMER:

Apex Flavors, Inc.'s products are sold exclusively for use in food and drink for human consumption. These products have not been tested, nor have they been deemed safe, for inhalation or use in electronic smoking devices, electronic nicotine delivery systems, and electronic cigarettes or similar devices (collectively "E-Cigarettes"). In supplying this product(s), Apex Flavors, Inc. instructs, and purchasing recipient confirms, that this product(s) will not be used in connection with the manufacture and distribution of E-Cigarettes or any component thereof. Recipients of our products that use them outside of their intended use of food or drink do so at their own risk and without warranty, either expressed or implied, from Apex Flavors, Inc. or its suppliers. The user assumes all liability for loss, injury, damage, or expense resulting from such uses.

Disclaimer

Food ingredients that are safe to be consumed in food products may pose hazards if not handled properly. This product is intended to be used in food products and, not intended to be consumed in its present form. 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.