



SAFETY DATA SHEET.

This safety data sheet was created pursuant to the requirements of:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision Date 19-Jan-2023

Version 1.01

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 1139EXPT
Product name GINGER EXTRACT, NATURAL (FLASH POINT > 200 F)

Other means of identification

EC No (EU Index No) NA
CAS No NA
FEMA Numbers NA
Pure substance/mixture Mixture

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

Recommended Use Ingredient for further processing
Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer
Apex Flavors, Inc.
1361 Brass Mill Rd Suite E
Belcamp, MD 21017
410-565-6600
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/ Outside US Chemtel 813-248-0585.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Chronic aquatic toxicity	Category 3 - (H412)
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2.2. Label elements

Hazard statements

H412 - Harmful to aquatic life with long lasting effects Contains BISABOLENE, PINENES May produce an allergic reaction.

Precautionary Statements - EU (§28, 1272/2008)

P273 - Avoid release to the environment

- 47.80934 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
- 47.80934 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
- 98.80934 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
- 98.80934 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
- 98.80934 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Unknown aquatic toxicity Contains 47.80934 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

No information available.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	REACH registration number	EC No (EU Index No)	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
PROPYLENE GLYCOL 57-55-6	50-90%	No data available	200-338-0	No data available	-	-	-
CAMPHENE 79-92-5	<1%	No data available	201-234-8	Aquatic Acute 1 (H400) Eye Irrit. 1 (H319) Skin Irrit. 3 (H316) Aquatic Chronic 1 (H410) Flam. Sol 2 (H228)	-	-	-
BISABOLENE 495-62-5	<1%	No data available	Present	Skin Sens. 1 (H317) (EFFA) Skin Irrit. 2 (315) (EFFA) Asp. Tox. 1 (H304) (EFFA) Skin Sens. 1 (H317) Skin Irrit. 2 (H315)	-	-	-
PINENES 80-56-8	<1%	No data available	201-291-9	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 1 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Acute Tox. 4 (H302) Flam. Liq. 3 (H226)	-	-	-
1-methyl-4-(1-methylethenyl)-cyclohexene (LIMONENE) 5989-27-5	<1%	No data available	227-813-5	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 2 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	-	-	-

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate
No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove to fresh air
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician
Skin contact	Wash skin with soap and water In the case of skin irritation or allergic reactions see a physician
Ingestion	Rinse mouth

4.2. Most important symptoms and effects, both acute and delayed

Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical No information available.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Ensure adequate ventilation.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 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	Austria	Belgium	Bulgaria	Croatia
PROPYLENE GLYCOL 57-55-6	-	-	-	-	TWA: 150 ppm TWA: 474 mg/m ³ TWA: 10 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
PINENES 80-56-8	-	-	-	STEL: 50 ppm STEL: 300 mg/m ³ TWA: 25 ppm TWA: 150 mg/m ³	-
1-methyl-4-(1-methylethyl)-cyclohexene (LIMONENE) 5989-27-5	-	-	-	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 50 ppm STEL: 280 mg/m ³

Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
CAMPHENE 79-92-5	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-	-	-
1-methyl-4-(1-methylethenyl)-cyclohexene (LIMONENE) 5989-27-5	-	-	TWA: 5 ppm TWA: 28 mg/m ³ Ceiling / Peak: 20 ppm Ceiling / Peak: 112 mg/m ³ Skin	-	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
PROPYLENE GLYCOL 57-55-6	TWA: 150 ppm TWA: 470 mg/m ³ TWA: 10 mg/m ³	-	-	TWA: 7 mg/m ³	-
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
PROPYLENE GLYCOL 57-55-6	-	-	-	TWA: 25 ppm TWA: 79 mg/m ³ STEL: 37.5 ppm STEL: 118.5 mg/m ³	-
PINENES 80-56-8	-	-	-	TWA: 25 ppm TWA: 140 mg/m ³ Skin STEL: 37.5 ppm STEL: 175 mg/m ³	-
1-methyl-4-(1-methylethenyl)-cyclohexene (LIMONENE) 5989-27-5	-	-	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³	-
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
PINENES 80-56-8	TWA: 20 ppm	-	-	-	VLA-ED: 20 ppm VLA-ED: 113 mg/m ³
Chemical name	Sweden		Switzerland		United Kingdom
PROPYLENE GLYCOL 57-55-6	-		-		STEL: 450 ppm STEL: 1422 mg/m ³ STEL: 30 mg/m ³ TWA: 150 ppm TWA: 474 mg/m ³ TWA: 10 mg/m ³
1-methyl-4-(1-methylethenyl)-cyclohexene (LIMONENE) 5989-27-5	-		STEL: 40 ppm STEL: 220 mg/m ³ MAK: 20 ppm MAK: 110 mg/m ³		-

Biological occupational exposure limits

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

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection	No special protective equipment required.
Skin and body protection	No special protective equipment required.
Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	hazy
Color	yellow
Aroma	Characteristic of ginger with some pungency.
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Melting/freezing point	No data available	None known
Boiling point/boiling range	No data available	None known
Flash Point	100 °C 212 °F	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limits in Air		None known
Upper flammability limit	No data available	
lower flammability limit	No data available	
Vapor pressure mm Hg 20°C	No data available	None known
Vapor density	No data available	None known
None known		None known
Solubility in other solvents	Soluble in water	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition Temperature VALUE	No data available	None known
Viscosity, kinematic	No data available	None known
Viscosity, dynamic	No data available	None known

9.2. Other information

Specific Gravity @ 25C	1.0305 - 1.0505	FCC Method
Specific Gravity @ 20C	1.0335 - 1.0535	FCC Method
Refractive Index @ 20C	1.3844 - 1.4044	FCC Method

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
No information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid None known based on information supplied.

10.5. Incompatible materials

Incompatible materials None known based on information supplied.

10.6. Hazardous decomposition products

Hazardous Decomposition Products None known based on information supplied.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

No information available

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 20,466.90 mg/kg

ATEmix (dermal) 21,285.60 mg/kg

47.80934 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

47.80934 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

98.80934 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

98.80934 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

98.80934 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
PROPYLENE GLYCOL	20000 mg/kg (Rat)	20800 mg/kg (Rabbit)	-
CAMPHENE	5000 mg/kg (Rat)	2500 mg/kg (Rabbit)	17100 mg/m ³ (Rat) 1 h
PINENES	2100 mg/kg (Rat)	5000 mg/kg (Rat)	-
1-methyl-4-(1-methylethenyl)-cyclohexene (LIMONENE)	4400 mg/kg (Rat)	2000 mg/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity Contains 47.80934 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
PROPYLENE GLYCOL	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47:	-	10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna

		96 h Oncorhynchus mykiss mL/L LC50 static 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50		mg/L EC50 Static
CAMPHENE	1000: 72 h Desmodemus subspicatus mg/L EC50	0.72: 96 h Brachydanio rerio mg/L LC50 flow-through 150: 96 h Brachydanio rerio mg/L LC50 static	-	22: 48 h Daphnia magna mg/L EC50
PINENES	-	0.28: 96 h Pimephales promelas mg/L LC50 static	-	41: 48 h Daphnia magna mg/L LC50
1-methyl-4-(1-methylethenyl)-cyclohexene (LIMONENE)	-	0.619-0.796: 96 h Pimephales promelas mg/L LC50 flow-through 35: 96 h Oncorhynchus mykiss mg/L LC50	-	-

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Chemical name	Partition coefficient
PINENES	4.1

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment No information available.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

ICAO/IATA

14.1 UN number or ID number	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG / IMO

14.1 UN number or ID number	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

DOT/ADR/RID

Not regulated	
14.1 UN/ID No	Not regulated
Proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

Chemical name	Germany - Water Classification -Annex 2
PROPYLENE GLYCOL	class 1
CAMPHENE	class 2
BISABOLENE	class 2
PINENES	class 3
1-methyl-4-(1-methylethenyl)-cyclohexene (LIMONENE)	class 2

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDSL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECL	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AICS** - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

Chemical Safety Assessment No information available

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

- H226 - Flammable liquid and vapor
- H228 - Flammable solid
- H302 - Harmful if swallowed
- H304 - May be fatal if swallowed and enters airways
- H315 - Causes skin irritation
- H316 - Causes mild skin irritation
- H317 - May cause an allergic skin reaction
- H319 - Causes serious eye irritation
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects

Legend

- SVHC: Substances of Very High Concern for Authorization:
- PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
- vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA:	Time weighted average	STEL:	Short term exposure limit
Ceiling:	Maximum limit value:	*	Skin designation
+	Sensitizers		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision Date 19-Jan-2023

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet

WARNING/DISCLAIMER:

Our ingredients have not been tested, nor have they been determined safe, for inhalation or use in any electronic smoking devices, electronic nicotine delivery systems, electronic cigarettes, or other similar devices (collectively "E-Cigarettes") or in any E-Liquids used with E-Cigarettes. By receiving Apex Flavors, Inc ingredients, the recipient confirms that they will not use these ingredients in connection with the manufacture and distribution of E-Cigarettes, E-Liquids or any component thereof. WE DISCLAIM, TO THE FULLEST EXTENT PERMITTED BY LAW, ALL WARRANTIES, EXPRESS OR IMPLIED, and disclaim all liability in connection with the use of our ingredients in connection with E-Cigarettes and E-Liquids. All such risks are assumed by you and the user.