

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : GREEN APPLE FLAVOR - PG (NATURAL)
Product code : TBVAP120

1.2. Recommended use and restrictions on use

1.3. Supplier

EXTRACT CONSULTANTS, LLC.
TERPENES - FLAVORS - BASES
PO BOX 11433, DENVER, CO 80211
www.extractconsultants.com
INFORMATION: 1-888-541-9089

1.4. Emergency telephone number

Emergency number : CHEMTREC - USA: 800-424-9300 International: +1 703-527-3887 / 1-800-424-9300
CCN 13010

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable liquids Category 3	Flammable liquid and vapor
Serious eye damage/eye irritation Category 2A	Causes serious eye irritation
Skin sensitization, Category 1	May cause an allergic skin reaction

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

Flammable liquid and vapor
May cause an allergic skin reaction
Causes serious eye irritation

Precautionary statements (GHS US) :

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep container tightly closed.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wash hands, forearms and face thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Specific treatment (see supplemental first aid instruction on this label).
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Wash contaminated clothing before reuse.
In case of fire: Use media other than water to extinguish.
Store in a well-ventilated place. Keep cool.

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Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
3-HEXENOL	(CAS-No.) 928-96-1	5 – 10	Flam. Liq. 3, H226 Eye Irrit. 2A, H319
HEXEN-2-AL	(CAS-No.) 6728-26-3	5 – 10	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1B, H317
ISOBUTYL ACETATE	(CAS-No.) 110-19-0	1 – 5	Flam. Liq. 2, H225 STOT SE 3, H336
ETHYL BUTYRATE	(CAS-No.) 105-54-4	1 – 5	Flam. Liq. 3, H226 Eye Irrit. 2A, H319
MALTOL	(CAS-No.) 118-71-8	1 – 5	Acute Tox. 4 (Oral), H302
ALLYL HEPTANOATE	(CAS-No.) 142-19-8	1 – 5	Flam. Liq. 4, H227 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation:vapour), H331

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
- First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- Symptoms/effects after skin contact : May cause an allergic skin reaction.
- Symptoms/effects after eye contact : Eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

- Fire hazard : Flammable liquid and vapor.
- Reactivity : Flammable liquid and vapor.

5.3. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

MALTOL (118-71-8)

No additional information available

ETHYL BUTYRATE (105-54-4)

No additional information available

HEXEN-2-AL (6728-26-3)

No additional information available

ALLYL HEPTANOATE (142-19-8)

No additional information available

3-HEXENOL (928-96-1)

No additional information available

ISOBUTYL ACETATE (110-19-0)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

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8.3. Individual protection measures/Personal protective equipment

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: COLORLESS TO YELLOW
Odor	: CHARACTERISTIC, MATCHING RETAINER SAMPLE
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 40 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: 0.9882 (0.9782 – 0.9982)
Solubility	: Insoluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

Refractive index : 1.43037 (1.42037 – 1.44037)

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapor.

10.2. Chemical stability

Stable under normal conditions.

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10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

MALTOL (118-71-8)	
LD50 oral rat	1440 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	1440 mg/kg body weight

ETHYL BUTYRATE (105-54-4)	
LD50 oral rat	> 2000 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Remarks on results: other:
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Remarks on results: other:
LC50 Inhalation - Rat [ppm]	> 4000 ppm Animal: rat, Guideline: other:, Remarks on results: other:

HEXEN-2-AL (6728-26-3)	
ATE US (oral)	850 mg/kg body weight
ATE US (dermal)	600 mg/kg body weight

ALLYL HEPTANOATE (142-19-8)	
LD50 oral rat	218 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	810 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE US (oral)	218 mg/kg body weight
ATE US (dermal)	810 mg/kg body weight
ATE US (vapors)	3 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

ISOBUTYL ACETATE (110-19-0)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

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MALTOL (118-71-8)	
NOAEL (oral,rat,90 days)	500 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

HEXEN-2-AL (6728-26-3)	
NOAEL (oral,rat,90 days)	300 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
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MALTOL (118-71-8)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Static system, Experimental value)
EC50 - Crustacea [1]	27 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	7.2 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

ETHYL BUTYRATE (105-54-4)	
LC50 - Fish [1]	≥ 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	116.6 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	28833 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	1483 mg/l Test organisms (species): other: Duration: '28 d'

HEXEN-2-AL (6728-26-3)	
EC50 - Other aquatic organisms [1]	22.8 mg/l Test organisms (species):
EC50 - Other aquatic organisms [2]	26.9 mg/l Test organisms (species):

ALLYL HEPTANOATE (142-19-8)	
LC50 - Fish [1]	0.117 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	0.89 mg/l Test organisms (species): Daphnia magna

12.2. Persistence and degradability

MALTOL (118-71-8)	
Persistence and degradability	Readily biodegradable in water.
ThOD	1.52 g O ₂ /g substance

12.3. Bioaccumulative potential

MALTOL (118-71-8)	
Partition coefficient n-octanol/water (Log Pow)	2.3 (Experimental value, Equivalent or similar to OECD 117, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

MALTOL (118-71-8)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.668 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

12.5. Other adverse effects

No additional information available

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SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapors may accumulate in the container.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description (DOT) : UN1197 Extracts, flavoring, liquid (Regulated for Bulk only), 3, III
UN-No.(DOT) : UN1197
Proper Shipping Name (DOT) : Extracts, flavoring, liquid
(Regulated for Bulk only)
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 3 - Flammable liquid



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242
DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 220 L
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Emergency Response Guide (ERG) Number : 127
Other information : No supplementary information available.

Transportation of Dangerous Goods

- Transport document description (TDG) : UN1197 EXTRACTS, FLAVOURING, LIQUID (Regulated for Bulk only), 3, III
UN-No. (TDG) : UN1197
Proper Shipping Name (TDG) : EXTRACTS, FLAVOURING, LIQUID
TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids
Packing group (TDG) : III - Minor Danger
Explosive Limit and Limited Quantity Index : 5 L
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 60 L

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Transport by sea

Transport document description (IMDG)	: UN 1197 EXTRACTS, FLAVOURING, LIQUID, 3, III
UN-No. (IMDG)	: 1197
Proper Shipping Name (IMDG)	: EXTRACTS, FLAVOURING, LIQUID
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: III - substances presenting low danger
Limited quantities (IMDG)	: 5 L

Air transport

Transport document description (IATA)	: UN 1197 Extracts, liquid, 3, III
UN-No. (IATA)	: 1197
Proper Shipping Name (IATA)	: Extracts, liquid
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: III - Low danger

SECTION 15: Regulatory information

15.1. US Federal regulations

MALTOL (118-71-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

HEXEN-2-AL (6728-26-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

ALLYL HEPTANOATE (142-19-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

ISOBUTYL ACETATE (110-19-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313

CERCLA RQ

5000 lb

15.2. International regulations

CANADA

MALTOL (118-71-8)

Listed on the Canadian DSL (Domestic Substances List)

ETHYL BUTYRATE (105-54-4)

Listed on the Canadian DSL (Domestic Substances List)

HEXEN-2-AL (6728-26-3)

Listed on the Canadian DSL (Domestic Substances List)

ALLYL HEPTANOATE (142-19-8)

Listed on the Canadian DSL (Domestic Substances List)

3-HEXENOL (928-96-1)

Listed on the Canadian DSL (Domestic Substances List)

ISOBUTYL ACETATE (110-19-0)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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ETHYL BUTYRATE (105-54-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

3-HEXENOL (928-96-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
ETHYL BUTYRATE(105-54-4)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
3-HEXENOL(928-96-1)	U.S. - Pennsylvania - RTK (Right to Know) List
ISOBUTYL ACETATE (110-19-0)	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Full text of H-phrases:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H227	Combustible liquid
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H331	Toxic if inhaled
H336	May cause drowsiness or dizziness

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.