Printing date 10/10/2018 Reviewed on 10/10/2018

1 Identification

· Product identifier

· Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

· Article number / sku: 65.002 / AJAE

· CAS Number:

64-17-5

· EC number:

200-578-6

· Index number:

603-002-00-5

- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

OliveNation LLC

13 Robbie Road

Suite A4

Avon, MA 02322

- · Information department: Regulatory department
- · Emergency telephone number:

During normal opening times: Call Chemtrec Day or Night

Domestic North America 800.424.9300/International 703.527.3887 (Collect calls accepted)

2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

Eye Irrit. 2B H320 Causes eye irritation.

- · Label elements
- · GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 1)

· Hazard pictograms





GHS02 GHS07

- · Signal word Danger
- · Hazard-determining components of labeling:

ethyl alcohol

· Hazard statements

Highly flammable liquid and vapor.

Causes skin and eye irritation.

May cause respiratory irritation.

· Precautionary statements

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

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 thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 3)

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 2)

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 1Fire = 3

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



1 Health = 1

Fire = 3

REACTIVITY \bigcirc Reactivity = 0

- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Substances
- · CAS No. Description 64-17-5 ethyl alcohol
- · Identification number(s)
- · EC number: 200-578-6
- · Index number: 603-002-00-5

4 First-aid measures

- · Description of first aid measures
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Generally the product does not irritate the skin.
- · After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- · After swallowing: If symptoms persist consult doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed No further relevant information available.

(Contd. on page 4)

Printing date 10/10/2018 Reviewed on 10/10/2018

Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 3)

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- · Handling:
- · Precautions for safe handling No special precautions are necessary if used correctly.
- · Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 4)

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

64-17-5 ethyl alcohol

PEL Long-term value: 1900 mg/m³, 1000 ppm REL Long-term value: 1900 mg/m³, 1000 ppm TLV Short-term value: 1880 mg/m³, 1000 ppm

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

| 9 Physical | and cl | hemical | prop | perties |
|------------|--------|---------|------|---------|
|------------|--------|---------|------|---------|

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Fluid

Color: According to product specification

Odor: CharacteristicOdor threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:Undetermined.Boiling point/Boiling range:Undetermined.

• Flash point: $17 \,^{\circ}C \, (62.6 \,^{\circ}F)$

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature:

Decomposition temperature: Not determined.

· Auto igniting: Not determined.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor

mixtures are possible.

· Explosion limits:

Lower:Not determined.Upper:Not determined.

· Vapor pressure: Not determined.

• Density at 20 °C (68 °F): $0.81617 \text{ g/cm}^3 (6.81094 \text{ lbs/gal})$

Relative density
Vapor density
Evaporation rate
Not determined.
Not determined.
Not determined.

(Contd. on page 7)

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 6)

· Solubility in / Miscibility with

Water at 20 $^{\circ}C$ (68 $^{\circ}F$): 1,000 g/l

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic at 20 $^{\circ}C$ (68 $^{\circ}F$): 1.2 mPas

Kinematic: Not determined.

 Organic solvents:
 99.0 %

 VOC content:
 99.00 %

808.0 g/l / 6.74 lb/gl

Solids content: 0.0 %

• Other information No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · *Incompatible materials:* No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- · LD/LC50 values that are relevant for classification:

64-17-5 ethyl alcohol

 Oral
 LD50
 7,060 mg/kg (rat)

 Inhalative
 LC50/4 h
 20,000 mg/l (rat)

- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: Irritating effect.
- · Sensitization: No sensitizing effects known.

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 7)

- · Additional toxicological information:
- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

1

· NTP (National Toxicology Program)

Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · **vPvB**: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

- []

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 8)

| 14 Transport information | | |
|--|--|--|
| · UN-Number · DOT, IMDG, IATA | UN1197 | |
| · UN proper shipping name · DOT · IMDG, IATA | Extracts, flavoring, liquid mixture EXTRACTS, FLAVOURING, LIQUID mixture | |
| · Transport hazard class(es) | | |
| · DOT | | |
| FLAMABLE LIDID | | |
| · Class · Label | 3 Flammable liquids 3 | |
| · IMDG, IATA | | |
| | | |
| · Class · Label | 3 Flammable liquids 3 | |
| · Packing group · DOT, IMDG, IATA | II | |
| · Environmental hazards: | Not applicable. | |
| Special precautions for user Danger code (Kemler): EMS Number: Stowage Category | Warning: Flammable liquids 33 F-E,S-D B | |
| Transport in bulk according to Annex MARPOL73/78 and the IBC Code | II of Not applicable. | |
| · Transport/Additional information: | | |
| · DOT · Quantity limitations | On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L | |

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 9)

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· UN ''Model Regulation'': UN 1197 EXTRACTS, FLAVORING, LIQUID MIXTURE, 3, II

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Sara
- · Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act) (Substances not listed):

Substance is listed.

- · TSCA new (21st Century Act) (Substances not listed)
- · Proposition 65
- · Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

64-17-5 ethyl alcohol

- · Carcinogenic categories
- · EPA (Environmental Protection Agency)

Substance is not listed.

· TLV (Threshold Limit Value established by ACGIH)

A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 10)

· GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms





GHS02 GHS07

- · Signal word Danger
- · Hazard-determining components of labeling:

ethyl alcohol

· Hazard statements

Highly flammable liquid and vapor.

Causes skin and eye irritation.

May cause respiratory irritation.

· Precautionary statements

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

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 thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a poison center/doctor if you feel unwell.

Specific treatment (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Trade name: ONION FLAVOR EXTRACT - TTB, PG FREE, NATURAL

(Contd. of page 11)

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Regulatory department
- · Date of preparation / last revision 10/10/2018 / 3
- · Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* * Data compared to the previous version altered.

US