



This safety data sheet complies with the requirements of:
 Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision Date 09-Jul-2019

Version 1.01

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) 310BEV
 Product name GENTIAN EXTRACT, NATURAL (GENTIANA LUTEA)

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.
 1371 Brass Mill Rd.
 Suite A
 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/ 703-527-3887 outside US

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

| | |
|-----------------------------------|----------------------|
| Serious eye damage/eye irritation | Category 2 - (H319) |
| Carcinogenicity | Category 1A - (H350) |
| Chronic aquatic toxicity | Category 3 - (H412) |
| Flammable liquids | Category 3 - (H226) |

2.2. Label elements

Product identifier
 Contains ETHYL ALCOHOL



Signal Word

Danger

Hazard Statements

H319 - Causes serious eye irritation

H350 - May cause cancer

H412 - Harmful to aquatic life with long lasting effects

H226 - Flammable liquid and vapor

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

P201 - Obtain special instructions before use

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P370 + P378 - In case of fire: Use .? to extinguish

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

P273 - Avoid release to the environment

2.3. Other information

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

| Chemical Name | EC-No | CAS-No | Weight % | Classification according to Regulation (EC) No. 1272/2008 [CLP] | REACH Registration Number |
|---------------|-----------|---------|----------|---|---------------------------|
| ETHYL ALCOHOL | 200-578-6 | 64-17-5 | 50-90% | Flam. Liq. 2 (H225) Eye Irrit. 1 (H319) | No data available |

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

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

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

| | |
|---|--|
| General advice | Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance. |
| Inhalation | Move to fresh air. |
| Skin contact | Wash off immediately with plenty of water. |
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |
| Self-protection of the first aider | Remove all sources of ignition. |

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

Main Symptoms No information available.

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

Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

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

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Dam up. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers.

6.4. 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. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

General Hygiene Considerations

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

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep tightly closed in a dry and cool place. Keep in properly labeled containers.

Incompatible products

None known based on information supplied.

7.3 Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

| Chemical Name | European Union | The United Kingdom | France | Spain | Germany |
|--------------------------|--|--|--|--|--|
| ETHYL ALCOHOL 64-17-5 | - | STEL: 3000 ppm STEL: 5760 mg/m ³ TWA: 1000 ppm TWA: 1920 mg/m ³ | VME: 1000 ppm VME: 1900 mg/m ³ VLCT: 5000 ppm VLCT: 9500 mg/m ³ | VLA-ED: 1000 ppm VLA-ED: 1910 mg/m ³ | - |
| Chemical Name | Italy | Portugal | The Netherlands | Finland | Denmark |
| ETHYL ALCOHOL 64-17-5 | - | TWA: 1000 ppm | Skin STEL: 1900 mg/m ³ TWA: 260 mg/m ³ | TWA: 1000 ppm TWA: 1900 mg/m ³ STEL: 1300 ppm STEL: 2500 mg/m ³ | TWA: 1000 ppm TWA: 1900 mg/m ³ |
| Chemical Name | Austria | Switzerland | Poland | Norway | Ireland |
| ETHYL ALCOHOL 64-17-5 | STEL 2000 ppm STEL 3800 mg/m ³ MAK: 1000 ppm MAK: 1900 mg/m ³ | STEL: 1000 ppm STEL: 1920 mg/m ³ MAK: 500 ppm MAK: 960 mg/m ³ | NDS: 1900 mg/m ³ | TWA: 500 ppm TWA: 950 mg/m ³ STEL: 625 ppm STEL: 1187.5 mg/m ³ | TWA: 1000 ppm TWA: 1900 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/face protection Tightly fitting safety goggles.
Skin and body protection Antistatic boots. Wear fire/ flame resistant/ retardant clothing. Impervious gloves.
Respiratory protection NIOSH/MSHA approved respiratory protection is required to be worn.

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 | clear |
| Aroma | Earthy with herbal notes. |
| Color | Dark 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 | 24 °C / 76 °F | Closed cup |
| Evaporation rate | | FCC Method |
| Flammability (solid, gas) | | No information available |
| Flammability Limits in Air | | |
| Upper flammability limit | | No information available |
| lower flammability limit | | No information available |
| Vapor pressure mm Hg 20°C | | No information available |
| Vapor density | | No information available |
| Relative density | | No information available |
| Specific Gravity @ 25C | 0.9725 - 1.0175 | FCC Method |
| Specific Gravity @ 20C | N/A | FCC Method |
| Refractive Index | N/A | FCC Method |
| Water solubility | | No information available |
| Solubility in other solvents | | No information available |
| Partition coefficient: n-octanol/water | | No information available |
| Autoignition temperature | | No information available |
| Decomposition temperature | | No information available |
| Viscosity, kinematic | | No information available |
| Viscosity, dynamic | | No information available |
| Explosive properties | No information available | |
| Oxidizing Properties | No information available | |

9.2. Other information

| | |
|--------------------|--------------------------|
| Softening point | No information available |
| Molecular Weight | No information available |
| VOC Content(%) | No information available |
| Density VALUE | No information available |
| Bulk Density VALUE | No information available |

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion data

| | |
|----------------------------------|-------|
| Sensitivity to Mechanical Impact | none. |
| Sensitivity to Static Discharge | Yes. |

10.3. Possibility of hazardous reactions

Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

None under normal use conditions.

Section 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. |

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

ATEmix (oral) 6,712.00 mg/kg

ATEmix (inhalation-dust/mist) 66,196.70 mg/l

Unknown Acute Toxicity

99.9976% of the mixture consists of ingredient(s) of unknown toxicity.

28.3576 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

99.9976 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

99.9976 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

99.9976 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

30.3976 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Oral LD50

| Chemical Name | Oral LD50 | Dermal LD50 | LC50 Inhalation |
|---------------|--------------------|-------------|------------------------|
| ETHYL ALCOHOL | 7060 mg/kg (Rat) | | 124.7 mg/L (Rat) 4 h |

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.

Reproductive toxicity 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 Blood, Central nervous system, Eyes, Liver, Reproductive system, Respiratory system, Skin.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity Toxic to aquatic life Harmful to aquatic life with long lasting effects

39.6% of the mixture consists of component(s) of unknown hazards to the aquatic environment

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|---------------|-------------------|--|---|
| ETHYL ALCOHOL | - | 12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through | 9268 - 14221: 48 h Daphnia magna mg/L LC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static |

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

| Chemical Name | log Pow |
|---------------|---------|
| ETHYL ALCOHOL | -0.32 |

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. 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.

Contaminated packaging Empty remaining contents.

Section 14: TRANSPORT INFORMATION

IMDG / IMO

| | |
|---------------------------|------------------------------|
| 14.1 UN/ID No | 1197 |
| 14.2 Proper shipping name | EXTRACTS, FLAVOURING, LIQUID |
| 14.3 Hazard class | 3 |
| 14.4 Packing Group | III |

DOT/ADR/RID

| | |
|---------------------------|------------------------------|
| 14.1 UN/ID No | 1197 |
| 14.2 Proper shipping name | EXTRACTS, FLAVOURING, LIQUID |
| 14.3 Hazard class | 3 |
| 14.4 Packing Group | III |

ICAO/IATA

| | |
|---------------------------|--------------------------|
| 14.1 UN/ID No | 1197 |
| 14.2 Proper shipping name | GENTIAN EXTRACT, NATURAL |
| 14.3 Hazard class | 3 |
| 14.4 Packing Group | III |
| 14.5 Environmental hazard | Not applicable |
| 14.6 Special Provisions | None |

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****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 | Complies |
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |
| ENCS | Complies |
| IECSC | Complies |
| KECL | Complies |
| PICCS | Complies |
| AICS | Complies |

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

No information available

Section 16: OTHER INFORMATION

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

Full text of R-phrases referred to under sections 2 and 3

R10 - Flammable
 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 section 3

H400 - Very toxic to aquatic life
 H317 - May cause an allergic skin reaction
 H315 - Causes skin irritation
 H304 - May be fatal if swallowed and enters airways
 H410 - Very toxic to aquatic life with long lasting effects
 H226 - Flammable liquid and vapor
 H225 - Highly flammable liquid and vapor
 H319 - Causes serious eye irritation

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Revision Date 09-Jul-2019

Reason for revision: Not applicable.

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.