



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

1.1. Product identifier

Number 089

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

Product name APPLE CIDER TYPE, NATURAL FLAVOR BLEND
Pure substance/mixture Mixture

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

Recommended Use No information available

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

| | |
|-------------------|-------------|
| Carcinogenicity | Category 1A |
| 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)
Not dangerous

2.2. Label elements



Signal Word
Danger

Hazard Statements

H317 - May cause an allergic skin reaction

H401 - Toxic to aquatic life

H227 - Combustible liquid

Precautionary Statements

P201 - Obtain special instructions before use

P281 - Use personal protective equipment as required

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

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 |
|------------------|-----------|---------|-----------------|----------|--|--|---------------------------|
| PROPYLENE GLYCOL | 200-338-0 | 57-55-6 | | 50-90% | - | No data available | No data available |
| Trade Secret | Listed | - | | <1 | - | Aquatic Acute 2 (H401) (EFFA) Skin Sens. 1 (H317) (EFFA) Skin Irrit. 3 (316) (EFFA) Aquatic Chronic 2 (H411) (EFFA) Acute Tox. 4 (H302) (EFFA) Acute Tox. 3 (H311)(EFFA) Flam. Liq. 3 (H226)(EFFA) | No data available |
| Trade Secret | Listed | - | | <1 | XI; R38, XI; R43, N; R51/53; | Aquatic Acute 2 (H401) Skin Sens. 1 (H317) Skin Irrit. 2 (H316) Acute Tox. 5 (H303) Acute Tox. 5 (H313) | No data available |
| Trade Secret | Listed | - | | <1 | XI; R38, XI; R41, XI; R43; | Aquatic Acute 2 (H401) Skin Sens. 1 (H317) Eye Dam. 1 (H318) Skin Irrit. 2 (H316) 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**

| | |
|---------------------|---|
| Eye contact | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |
| Inhalation | Move to fresh air. |

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

5. FIRE-FIGHTING MEASURES**5.1. Extinguishing media****Suitable Extinguishing Media**

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

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**

Ensure adequate ventilation.

See Section 12 for additional Ecological Information

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

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**

Ensure adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

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

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 |
|-----------------------------|----------------|--|--------|-------|---------|
| 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 | | | |

| Chemical Name | Austria | Sweden - Occupational Exposure Limits - TLVs (LLVs) | Switzerland | Poland | Norway |
|-----------------------------|---------|--|-------------|--------|---|
| PROPYLENE GLYCOL 57-55-6 | | | | | TWA: 25 ppm TWA: 79 mg/m ³ STEL: 37.5 ppm STEL: 118.5 mg/m ³ |

| Component | Ireland |
|--|---|
| PROPYLENE GLYCOL 57-55-6 (50-90%) | TWA: 150 ppm TWA: 470 mg/m ³ TWA: 10 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
Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

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

Environmental Exposure Controls No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

| | | | |
|--|--------------------------|--------------------------|-----------|
| Physical state | liquid | Appearance | clear |
| Odor | Characteristic of apple | Color | colorless |
| Property | Values | Method | |
| pH | | No information available | |
| Melting/freezing point | | No information available | |
| Boiling point/boiling range | | FCC Method | |
| Flash Point | 93 °C / 200 °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 | | No information available | |
| Vapor density | | No information available | |
| Relative density | | No information available | |
| Specific Gravity @ 25C | 1.0315 - 1.0515 | FCC Method | |
| Specific Gravity @ 20C | 1.0345 - 1.0545 | FCC Method | |
| Refractive Index | 1.4040 - 1.4240 | FCC Method | |
| Water solubility | | No information available | |
| Partition coefficient: n-octanol/water | | 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(%) | 75.1592120211571 |
| 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 | 23.2365999% 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 | 20,817.00 mg/kg |
| Dermal | 15,951.00 mg/kg |

| Chemical Name | Oral LD50 | Dermal LD50 | LC50 Inhalation |
|------------------|---------------------|------------------------|-----------------|
| PROPYLENE GLYCOL | 20000 mg/kg (Rat) | 20800 mg/kg (Rabbit) | |
| Trade Secret | 780 mg/kg (Rat) | 600 mg/kg (Rabbit) | |
| Trade Secret | 3450 mg/kg (Rat) | 2650 mg/kg (Rabbit) | |
| Trade Secret | 3600 mg/kg (Rat) | 5000 mg/kg (Rabbit) | |

| | |
|----------------------------------|--------------------------|
| 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

Specific target organ systemic toxicity (repeated exposure) No information available

Target Organ Effects No information available

Aspiration hazard No information available

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|------------------|---|--|---|
| PROPYLENE GLYCOL | 19000: 96 h Pseudokirchneriella subcapitata mg/L EC50 | 51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 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 | 10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static |

12.2. Persistence and degradability

No information available

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

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

14. TRANSPORT INFORMATION

DOT Not regulated

IMDG / IMO Not regulated

ICAO/IATA Not regulated

15. REGULATORY INFORMATION

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

WGK Classification

| Chemical Name | Germany - Water Classification (Vw/VwS) - Annex 2 - Water Hazard Classes |
|-----------------------------|--|
| PROPYLENE GLYCOL 57-55-6 | Hazard Class 1 |
| Trade Secret | Hazard Class 1 |

International Inventories

All of the components in the product are on the following inventory lists: United States of America (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), China (IECSC), Japan (ENCS), Philippines (PICCS).

| | |
|----------------------|----------|
| TSCA | Complies |
| EINECS/ELINCS | Complies |
| DSL/NDSL | Complies |
| PICCS | Complies |
| ENCS | Complies |

| | |
|-------|----------|
| 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**

R51/53 - Toxic 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

H401 - Toxic to aquatic life H317 - May cause an allergic skin reaction H316 - Causes mild skin irritation H303 - May be harmful if swallowed H313 - May be harmful in contact with skin H318 - Causes serious eye damage H411 - Toxic to aquatic life with long lasting effects H302 - Harmful if swallowed H311 - Toxic in contact with skin H226 - Flammable liquid and vapor

Revision Date 10-Feb-2016

Revision Note Not applicable.

Revision# 1

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.

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