



SAFETY DATA SHEET.

This safety data sheet complies with the requirements of:
 OSHA CFR Title 29 CFR 1910.1200

Version 1

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

Product identifier
Product Code(s) 792BEV
Product name Apple Sour Type, Natural Flavor Blend

UN/ID No 1197

Recommended use of the chemical and restrictions on use
Recommended Use No information available.
Uses advised against No information available

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

Emergency telephone
 Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye irritation	Category 2
Skin Sensitization	Category 1
Carcinogenicity	Category 1A
Flammable liquids	Category 3

GHS Label elements, including precautionary statements

Emergency Overview

Danger

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

Appearance clear **Physical state** liquid **Aroma** Typical of apple.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

Specific treatment (see .? on this label)

IF IN EYES: 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

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

In case of fire: Use CO2, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up

Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)**Other information**

- Toxic to aquatic life with long lasting effects
- Toxic to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
GLYCERINE	56-81-5	50-90%	*
ETHYL ALCOHOL	64-17-5	30-50%	*
CITRIC ACID	77-92-9	1-5%	*
ACETIC ACID	64-19-7	1-5%	*
PROPIONIC ACID	79-09-4	<1	*
ACETALDEHYDE	75-07-0	<1	*
TRANS-2-HEXENAL	6728-26-3	<1	*

4. FIRST AID MEASURES

First aid measures for different exposure routes

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

Most important symptoms/effects, acute and delayed

Main Symptoms Hives.

Indication of immediate medical attention and special treatment needed, if necessary

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable extinguishing media

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact none.

Sensitivity to Static Discharge Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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.

Methods and materials 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.

7. HANDLING AND STORAGE

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.

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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

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

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
ETHYL ALCOHOL 64-17-5	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m ³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m ³	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m ³
GLYCERINE 56-81-5	-	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	
ACETIC ACID 64-19-7	STEL: 15 ppm TWA: 10 ppm	TWA: 10 ppm TWA: 25 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m ³	IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m ³ STEL: 15 ppm STEL: 37 mg/m ³
ACETALDEHYDE 75-07-0	Ceiling: 25 ppm	TWA: 200 ppm TWA: 360 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 180 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 270 mg/m ³	IDLH: 2000 ppm
PROPIONIC ACID 79-09-4	TWA: 10 ppm	(vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³	TWA: 10 ppm TWA: 30 mg/m ³ STEL: 15 ppm STEL: 45 mg/m ³
ETHYL ACETATE 141-78-6	TWA: 400 ppm	TWA: 400 ppm TWA: 1400 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 1400 mg/m ³	IDLH: 2000 ppm TWA: 400 ppm TWA: 1400 mg/m ³
ISOAMYL ACETATE 123-92-2	STEL: 100 ppm TWA: 50 ppm	TWA: 100 ppm TWA: 525 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 525 mg/m ³	IDLH: 1000 ppm TWA: 100 ppm TWA: 525 mg/m ³
ISOAMYL ALCOHOL 123-51-3	STEL: 125 ppm TWA: 100 ppm	TWA: 100 ppm TWA: 360 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 360 mg/m ³ (vacated) STEL: 125 ppm (vacated) STEL: 450 mg/m ³	IDLH: 500 ppm TWA: 100 ppm TWA: 360 mg/m ³ STEL: 125 ppm STEL: 450 mg/m ³
FURFURAL 98-01-1	TWA: 2 ppm S*	TWA: 5 ppm TWA: 20 mg/m ³ (vacated) TWA: 2 ppm (vacated) TWA: 8 mg/m ³ (vacated) S* S*	IDLH: 100 ppm

NIOSH IDLH: Immediately Dangerous to Life or Health

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Exposure controls**Engineering Controls**

Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment**Eye/face protection**

If splashes are likely to occur, wear:.

Skin and body protection

Chemical resistant apron.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection must be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and chemical properties

Physical state liquid
Appearance clear
Aroma Typical of apple.
Color light yellow

<u>Property</u>	<u>Values</u>	<u>Method</u>
pH		No information available
Melting/freezing point		FCC Method
Boiling point/boiling range		FCC Method
Flash Point	36 °C / 96 °F	Closed cup
Evaporation rate	No information available	No information available
Flammability (solid, gas)	No information available	No information available
Flammability Limits in Air		No information available
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
Specific Gravity @ 25C	1.0350 - 1.0550	FCC Method
Specific Gravity @ 20C	1.038 - 1.058	FCC Method
Refractive Index		FCC Method
Water solubility	Soluble in water	
Solubility in other solvents		No information available
Partition coefficient: n-octanol/water		No information available
Autoignition temperature	No information available	No information available
Decomposition temperature		No information available
Viscosity, kinematic	No information available	No information available
Viscosity, dynamic	No information available	
Explosive properties	No information available	
Oxidizing Properties	No information available	

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

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Product does not present an acute toxicity hazard based on known 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.

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
GLYCERINE 56-81-5	-	10 g/kg (Rabbit)	570 mg/m ³ (Rat) 1 h
ETHYL ALCOHOL 64-17-5	7060 mg/kg (Rat)	-	124.7 mg/L (Rat) 4 h
CITRIC ACID 77-92-9	3000 mg/kg (Rat)	-	-
ACETIC ACID 64-19-7	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h
ACETALDEHYDE 75-07-0	1930 mg/kg (Rat)	-	-

Information on toxicological effects

Symptoms No information available.

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

Sensitization No information available.
Germ Cell Mutagenicity No information available.
Carcinogenicity This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group I), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B).

Chemical Name	ACGIH	IARC	NTP	OSHA
ETHYL ALCOHOL 64-17-5	A3	Group 1	Known	X
ACETALDEHYDE 75-07-0	A3	Group 1 Group 2B	Reasonably Anticipated	X

ACGIH (American Conference of Governmental Industrial Hygienists)
 A3 - *Animal Carcinogen*
 IARC (International Agency for Research on Cancer)
 Group 1 - *Carcinogenic to Humans*
 Group 2B - *Possibly Carcinogenic to Humans*
 NTP (National Toxicology Program)
 Known - *Known Carcinogen*
 Reasonably Anticipated - *Reasonably Anticipated to be a Human Carcinogen*
 OSHA (Occupational Safety and Health Administration of the US Department of Labor)
 X - *Present*

Reproductive toxicity No information available.
Specific target organ systemic toxicity (single exposure) No information available.
Specific target organ systemic No information available.

toxicity (repeated exposure)**Chronic toxicity
Target Organ Effects**

May cause adverse liver effects. Contains a known or suspected reproductive toxin.
Blood, Central nervous system, Eyes, Kidney, Liver, Reproductive system, Respiratory system, Skin, Teeth.

Aspiration hazard

No information available.

Numerical measures of toxicity - Product Information

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

. mg/kg mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic life with long lasting effects

0.0015% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Chemical Name	log Pow
GLYCERINE 56-81-5	-1.76
ETHYL ALCOHOL 64-17-5	-0.32
CITRIC ACID 77-92-9	-1.72
ACETIC ACID 64-19-7	-0.31
PROPIONIC ACID 79-09-4	0.33
ACETALDEHYDE 75-07-0	0.5

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment**Waste Disposal Methods**

It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations.

Contaminated packaging

Do not reuse container.

US EPA Waste Number

D001 U001 U112 U125

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
ETHYL ALCOHOL 64-17-5	Toxic Ignitable
ACETIC ACID 64-19-7	Toxic Corrosive Ignitable

PROPIONIC ACID 79-09-4	Toxic Corrosive Ignitable
ACETALDEHYDE 75-07-0	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT/ADR

UN/ID No 1197
Proper shipping name EXTRACTS, FLAVOURING, LIQUID
Hazard class 3
Packing Group III
ERG Code 127

ICAO/IATA

UN/ID No 1197
Proper shipping name EXTRACTS, FLAVOURING, LIQUID
Hazard class 3
Packing Group III

IMDG / IMO

UN/ID No 1197
Proper shipping name EXTRACTS, FLAVOURING, LIQUID
Hazard class 3
Packing Group III

15. REGULATORY INFORMATION

International Inventories

TSCA -
DSL/NDSL -
EINECS/ELINCS -
ENCS -
IECSC -
KECL -
PICCS -
AICS -

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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

SARA 311/312 Hazard Categories

Acute Health Hazard	no
Chronic Health Hazard	no
Fire Hazard	Yes
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
ACETIC ACID 64-19-7	5000 lb			X
PROPIONIC ACID 79-09-4	5000 lb			X
ACETALDEHYDE 75-07-0	1000 lb			X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
ACETIC ACID 64-19-7	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
PROPIONIC ACID 79-09-4	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
ACETALDEHYDE 75-07-0	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
ETHYL ALCOHOL - 64-17-5	Carcinogen
ACETALDEHYDE - 75-07-0	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
GLYCERINE 56-81-5	X	X	X
ETHYL ALCOHOL 64-17-5	X	X	X
ACETALDEHYDE 75-07-0	X	X	X
PROPIONIC ACID 79-09-4	X	X	X
ETHYL BUTYRATE 105-54-4	X	X	X
ETHYL ACETATE 141-78-6	X	X	X
ISOAMYL ACETATE 123-92-2	X	X	X
ETHYL CAPROATE 123-66-0	X	X	X

U.S. EPA Label information**16. OTHER INFORMATION**

<u>NFPA</u>	Health Hazard 2	Flammability 3	Instability 0	Physical and chemical hazards *
<u>HMIS</u>	Health Hazard 2	Flammability 3	Physical Hazard 0	Personal protection B

Revision Date 02-Jul-2020
Revision Note No information available

Revision# 1

WARNING/DISCLAIMER:

The ingredients/flavors provided by Trilogy have not been tested, nor have they been deemed safe, for inhalation or use in electronic smoking devices, electronic nicotine delivery systems, electronic cigarettes or other similar devices (collectively "E-Cigarettes"). In supplying ingredients/flavors, Trilogy instructs, and by receiving such ingredients/flavors recipient confirms, that the ingredients/flavors will not be used in connection with the manufacture and distribution of E-Cigarettes or any component thereof.

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.

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