APEX FLAVORS, INC.

SAFETY DATA SHEET.

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

Revision Date 02-Dec-2019 **Version** 1

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

1.1. Product identifier

Product Code(s) 613
Product name BEER FLAVOR WHEAT TYPE, NATURAL FLAVOR BLEND

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

Acute toxicity - Inhalation (Dusts/Mists)	Category 2 - (H330)

2.2. Label elements

Product identifier
Contains BENZYL ALCOHOL

Signal Word
Danger

Hazard Statements
H330 - Fatal if inhaled

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

P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor
P320 - Specific treatment is urgent (see .? on this label)
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

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
PROPYLENE GLYCOL	200-338-0	57-55-6	50-90%	No data available	No data available
BENZYL ALCOHOL	202-859-9	100-51-6	1-5%	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	No data available
ISOAMYL ACETATE	Present	123-92-2	<1%	Aquatic Acute 3 (H402) (EFFA) (EUH066) Flam. Liq. 3 (H226)	No data available
ISOBUTYL ACETATE	Present	110-19-0	<1%	Aquatic Acute 3 (H402) (EFFA) Flam. Liq. 2 (H225) (EFFA) (EUH066) Flam. Liq. 2 (H225)	No data available
CAPRYLIC ACID	204-677-5	124-07-2	<1%	Skin Corr. 1C (314) (EFFA) Eye Dam. 1 (H318) (EFFA) Acute Tox. 4 (H302) (EFFA) Acute Tox. 3 (H311)(EFFA)	No data available
ISOAMYL ALCOHOL	204-633-5	123-51-3	<1%	Flam. Liq. 3 (H226)(EFFA) Acute Tox. 4 (H332)(EFFA)	No data available
ISOBUTLY ALCOHOL	201-148-0	78-83-1	<1%	Eye Dam. 1 (H318) (EFFA) Skin Irrit. 2 (315) (EFFA) Flam. Liq. 3 (H226)(EFFA) Eye Dam. 1 (H318) Skin Irrit. 2 (H315) STOT SE 3 (H335) STOT SE 3 (H336) Flam. Liq. 3 (H226)	No data available
DIMETHYL SULFIDE	200-846-2	75-18-3	<1%	Skin Irrit. 3 (316) (EFFA) Acute Tox. 3 (H301) (EFFA) Flam. Liq. 2 (H225) (EFFA)	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

Inhalation Move to fresh air.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

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.

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
Ensure adequate ventilation.

For emergency responders
Use personal protection recommended in Section 8.

6.2. Environmental precautions

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 Use personal protective equipment. Dam up. Cover liquid spill with sand, earth or other noncombustible absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly.

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.

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

7.2. Conditions for safe storage, including any incompatibilities

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

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
PROPYLENE GLYCOL 57-55-6	-	STEL: 450 ppm STEL: 1422 mg/m³ STEL: 30 mg/m³ TWA: 150 ppm TWA: 474 mg/m³ TWA: 10 mg/m³	-	-	-
ISOAMYL ACETATE 123-92-2	TWA 50 ppm TWA 270 mg/m³ STEL 100 ppm STEL 540 mg/m³	TWA: 50 ppm TWA: 270 mg/m³	TWA: 50 ppm TWA: 270 mg/m³ STEL: 100 ppm STEL: 540 mg/m³	STEL: 100 ppm STEL: 540 mg/m³ TWA: 50 ppm TWA: 270 mg/m³	-
ISOBUTYL ACETATE 110-19-0	-	STEL: 187 ppm STEL: 903 mg/m³ TWA: 150 ppm TWA: 724 mg/m³	TWA: 150 ppm TWA: 710 mg/m³ STEL: 200 ppm STEL: 940 mg/m³	TWA: 150 ppm TWA: 724 mg/m³	-
ISOAMYL ALCOHOL 123-51-3	-	STEL: 125 ppm STEL: 458 mg/m³ TWA: 100 ppm TWA: 366 mg/m³	TWA: 100 ppm TWA: 360 mg/m³	STEL: 125 ppm STEL: 458 mg/m³ TWA: 100 ppm TWA: 366 mg/m³	-
ISOBUTLY ALCOHOL 78-83-1	-	STEL: 75 ppm STEL: 231 mg/m³ TWA: 50 ppm TWA: 154 mg/m³	TWA: 50 ppm TWA: 150 mg/m³	TWA: 50 ppm TWA: 154 mg/m³	-
DIMETHYL SULFIDE 75-18-3	-	-	-	VLA-ED: 10 ppm	-

Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
BENZYL ALCOHOL 100-51-6	-	-	-	TWA: 10 ppm TWA: 45 mg/m³	-
ISOAMYL ACETATE 123-92-2	TWA: 50 ppm TWA: 270 mg/m³ STEL: 100 ppm STEL: 540 mg/m³	STEL: 100 ppm STEL: 540 mg/m³ TWA: 50 ppm	STEL: 530 mg/m³	TWA: 50 ppm TWA: 270 mg/m³ STEL: 100 ppm STEL: 540 mg/m³	TWA: 50 ppm TWA: 271 mg/m³
ISOBUTYL ACETATE 110-19-0	-	TWA: 150 ppm	-	TWA: 150 ppm TWA: 720 mg/m³ STEL: 200 ppm STEL: 960 mg/m³	TWA: 150 ppm TWA: 710 mg/m³
ISOAMYL ALCOHOL 123-51-3	-	STEL: 125 ppm TWA: 100 ppm	-	TWA: 100 ppm TWA: 370 mg/m³ STEL: 150 ppm STEL: 550 mg/m³	TWA: 100 ppm TWA: 360 mg/m³
ISOBUTLY ALCOHOL 78-83-1	-	TWA: 50 ppm	-	-	Ceiling: 50 ppm Ceiling: 150 mg/m³ Skin
DIMETHYL SULFIDE 75-18-3	-	TWA: 10 ppm	-	-	-

Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
PROPYLENE GLYCOL 57-55-6	-	-	-	TWA: 25 ppm TWA: 79 mg/m³ STEL: 37.5 ppm STEL: 118.5 mg/m³	TWA: 150 ppm TWA: 470 mg/m³ TWA: 10 mg/m³
BENZYL ALCOHOL 100-51-6	-	-	NDS: 240 mg/m³	-	-
ISOAMYL ACETATE 123-92-2	STEL 100 ppm STEL 540 mg/m³ TWA: 50 ppm TWA: 270 mg/m³	TWA: 50 ppm TWA: 260 mg/m³	STEL: 500 mg/m³ TWA: 250 mg/m³	TWA: 50 ppm TWA: 260 mg/m³ STEL: 75 ppm STEL: 325 mg/m³	TWA: 50 ppm TWA: 260 mg/m³ STEL: 100 ppm STEL: 520 mg/m³
ISOBUTYL ACETATE 110-19-0	STEL 100 ppm STEL 480 mg/m³ TWA: 100 ppm TWA: 480 mg/m³ Ceiling 100 ppm Ceiling 480 mg/m³	STEL: 200 ppm STEL: 960 mg/m³ TWA: 100 ppm TWA: 480 mg/m³	STEL: 400 mg/m³ TWA: 200 mg/m³	-	TWA: 150 ppm TWA: 700 mg/m³ STEL: 187 ppm STEL: 875 mg/m³
ISOAMYL ALCOHOL 123-51-3	STEL 200 ppm STEL 720 mg/m³ TWA: 100 ppm TWA: 360 mg/m³	STEL: 80 ppm STEL: 292 mg/m³ TWA: 20 ppm TWA: 73 mg/m³	STEL: 400 mg/m³ TWA: 200 mg/m³	TWA: 50 ppm TWA: 180 mg/m³ STEL: 75 ppm STEL: 225 mg/m³	TWA: 100 ppm TWA: 360 mg/m³ STEL: 125 ppm STEL: 450 mg/m³
ISOBUTLY ALCOHOL 78-83-1	STEL 200 ppm STEL 600 mg/m³ TWA: 50 ppm TWA: 150 mg/m³	STEL: 50 ppm STEL: 150 mg/m³ TWA: 50 ppm TWA: 150 mg/m³	STEL: 200 mg/m³ TWA: 100 mg/m³	Skin Ceiling: 25 ppm Ceiling: 75 mg/m³	TWA: 50 ppm TWA: 150 mg/m³ STEL: 75 ppm STEL: 225 mg/m³
DIMETHYL SULFIDE 75-18-3	-	-	-	-	TWA: 20 ppm

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 Long sleeved clothing.
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 cloudy
Aroma characteristic of wheat beer
Color yellow

Property	Values	• Method
pH		No information available
Melting/freezing point		No information available
Boiling point/boiling range		FCC Method
Flash Point	100 °C / 212 °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	1.0344 1.0644	FCC Method
Specific Gravity @ 20C		FCC Method
Refractive Index	1.4062 1.4362	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 none.

10.3. Possibility of hazardous reactions

Hazardous Reactions
None under normal processing.

10.4. Conditions to avoid

None known.

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)	17,182.00 mg/kg
ATEmix (dermal)	16,399.30 mg/kg
ATEmix (inhalation-dust/mist)	0.18 mg/l
ATEmix (inhalation-vapor)	40.40 mg/l

Unknown Acute Toxicity

97.326% of the mixture consists of ingredient(s) of unknown toxicity.
23.26 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.
23.26 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.
97.326 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).
96.326 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).
96.326 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist).

Oral LD50

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
PROPYLENE GLYCOL	20000 mg/kg (Rat)	20800 mg/kg (Rabbit)	
BENZYL ALCOHOL	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h
MYRCENE	5 g/kg (Rat)	5 g/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.
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.
Aspiration hazard	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

23.26% of the mixture consists of components(s) of unknown hazards to the aquatic environment

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	10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static

		promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50	
BENZYL ALCOHOL	35: 3 h Anabaena variabilis mg/L EC50	10: 96 h Lepomis macrochirus mg/L LC50 static 460: 96 h Pimephales promelas mg/L LC50 static	23: 48 h water flea mg/L EC50
ISOBUTYL ACETATE	-	101: 48 h Leuciscus idus melanotus mg/L LC50 static 101 - 123: 48 h Leuciscus idus melanotus mg/L LC50 flow-through	168: 24 h Daphnia magna mg/L EC50
CAPRYLIC ACID	-	310: 96 h Oryzias latipes mg/L LC50 semi-static 110: 96 h Brachydanio rerio mg/L LC50 semi-static	170: 24 h Daphnia magna mg/L EC50
ISOAMYL ALCOHOL	493: 72 h Desmodesmus subspicatus mg/L EC50 181: 96 h Desmodesmus subspicatus mg/L EC50	700: 96 h Salmo gairdneri mg/L LC50 static	260: 48 h Daphnia magna mg/L EC50
ISOBUTLY ALCOHOL	230: 48 h Desmodesmus subspicatus mg/L EC50	1370 - 1670: 96 h Pimephales promelas mg/L LC50 flow-through 375: 96 h Pimephales promelas mg/L LC50 static 1480 - 1730: 96 h Lepomis macrochirus mg/L LC50 flow-through 1120 - 1520: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	1300: 48 h Daphnia magna mg/L EC50 1070 - 1933: 48 h Daphnia magna mg/L EC50 Static
DIMETHYL SULFIDE	-	-	23: 48 h Daphnia pulex mg/L EC50

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	log Pow
BENZYL ALCOHOL	1.1
ISOBUTYL ACETATE	1.72
CAPRYLIC ACID	2.92
ISOAMYL ALCOHOL	1.28
ISOBUTLY ALCOHOL	0.79

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	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated

Not regulated

DOT/ADR/RID

14.1 UN/ID No	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated

ICAO/IATA

14.1 UN/ID No	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
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	-
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

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
No information available
R20/22 - Harmful by inhalation and if swallowed
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
EUH066 - Repeated exposure may cause skin dryness or cracking
H225 - Highly flammable liquid and vapor
H226 - Flammable liquid and vapor
H301 - Toxic if swallowed
H302 - Harmful if swallowed
H311 - Toxic in contact with skin
H315 - Causes skin irritation
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H333 - May be harmful if inhaled
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H402 - Harmful to aquatic life

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 02-Dec-2019

Reason for revision: Not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.