SAFETY DATA SHEET

1. Identification

Product Name
Fruit Juice/Puree, 6-18 Bx, or Fruit Juice/Puree Concentrate, 40-70 Brix

Catalog Numbers:
all relating to juices/purees, or their concentrates; Growers or their customer’s numbers

Synonyms
Fruit juice, fruit puree, fruit juice concentrate, or fruit puree concentrate, made from any fruit, including Concord grape, Niagara grape, Catawba grape, Fredonia grape, other grapes, apple, blueberry, bilberry, cherry, cranberry, peach, plum, or other fruits.

Recommended Use
Blending with water and essence to provide food grade fruit juice or puree.

Uses advised against
No information available

Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Company</th>
<th>Entity / Business Name</th>
<th>Emergency Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growers Co-operative Grape Juice Co</td>
<td>same</td>
<td>For Information US, call: 716-326-3161</td>
</tr>
<tr>
<td>112 North Portage St</td>
<td></td>
<td>Emergency number, US: 716-326-3161</td>
</tr>
<tr>
<td>Westfield NY 14787</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Hazard(s) identification

Classification

Based on available data, the hazard classification criteria are not met for any components of this mixture.

Label Elements
None required

Hazards not otherwise classified (HNOC)
None identified

3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>26 - 91</td>
</tr>
<tr>
<td>Fructose</td>
<td>57-48-7</td>
<td>2 - 35</td>
</tr>
<tr>
<td>Glucose</td>
<td>50-99-7</td>
<td>2 – 30</td>
</tr>
<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td>0 - 30</td>
</tr>
<tr>
<td>Tartaric acid</td>
<td>87-69-4</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Malic acid</td>
<td>97-67-6</td>
<td>0 - 4</td>
</tr>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>0 - 15</td>
</tr>
</tbody>
</table>

4. First-aid measures

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if symptoms occur.

Skin Contact
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Inhalation
Get medical attention if symptoms occur.
Ingestion
Give water to drink. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed: Contacted areas may exhibit irritation

Chronic symptoms: None expected in normal conditions of use.

Notes to Physician Food grade material that is potentially concentrated. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool unopened containers. Cool closed containers exposed to fire with water spray.

Unsuitable Extinguishing Media none

Flash Point, method no data available

Autoignition Temperature no data available

Explosion Limits
Upper unlikely to be explosive
Lower unlikely to be explosive

Sensitivity to Mechanical Impact unlikely to be sensitive to mechanical impact

Sensitivity to Static Discharge unlikely to be sensitive to static discharge

Specific Hazards Arising from the Chemical none known

Hazardous Combustion Products Carbon monoxide (CO), Carbon dioxide (CO₂).

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. Thermal decomposition can lead to release of irritating gases and vapors.

6. Accidental release measures

Personal Precautions Use personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing.

Environmental Precautions None known

Methods for Containment, Clean Up Dilute with water and flush to drain. Dispose of in accordance with local and state regulatory requirements.

7. Handling and storage

Handling Wash hands before/after breaks and before/after handling product. Avoid contact with eyes, skin, and clothing.

Storage Keep containers closed in a dry, cool and well-ventilated place. May be stored frozen. May be shipped at ambient temperatures for a few days.

8. Exposure controls / personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
</tr>
<tr>
<td>Fructose</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
</tr>
<tr>
<td>Glucose</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
</tr>
</tbody>
</table>
Engineering Measures

Ensure adequate ventilation and floor drainage. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice

9. Physical and chemical properties

Physical State liquid
Appearance characteristic of fruit, from yellow to red to purple, water-like to viscous
Odor fruity, characteristic of the named fruit
Odor Threshold No information available.

pH 2.5 – 4.0
Melting Point/Range -25 – 28F/ -32 -2C
Boiling Point/Range 214 – 217 F/ 101 - 103 C
Flash Point no data available
Evaporation Rate no data available
Flammability (solid, gas) no data available
Flammability or explosive limits
Upper no data available
Lower no data available
Vapor Pressure no data available
Vapor Density no data available
Relative Density 1.03 – 1.34
Solubility Infinitely soluble in water
Partition coefficient; n-octanol/water no data available (log Pow)
Autoignition Temperature no data available
Decomposition temperature No information available.
Viscosity water-like

Molecular Formula mixture
Molecular Weight mixture

10. Stability and reactivity

Reactive Hazard None known, based on information available.
Stability
Stable under ambient, refrigerated, and freezing conditions.

Conditions to Avoid
Non-food grade environments. Excess heat. Mixing with yeast may lead to fermentation into ethanol.

Incompatible Materials
Strong oxidizing agents, strong acids

Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity
not acutely toxic

LD50 and LC50 data
no data available, see component data below

Routes of exposure/symptoms, both immediate and delayed effects as well as chronic effects from short and long term exposure:

Eyes
Contacted areas may exhibit irritation

Skin
Contacted areas may exhibit irritation

Inhalation
No hazard in normal use

Ingestion
This is a food product. May give nourishment if swallowed.

Sensitization
Not likely

Toxicologically Synergistic Products
no information available

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LD50 Inhalation</th>
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<tr>
<td>Water</td>
<td>7732-18-5</td>
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<td>Not listed</td>
<td>Not listed</td>
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<tr>
<td>Fructose</td>
<td>57-48-7</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Glucose</td>
<td>50-99-7</td>
<td>25.8 g/kg (rat)</td>
<td>Not listed</td>
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<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Tartaric acid</td>
<td>87-69-4</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Malic acid</td>
<td>97-67-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>3000 mg/kg (rat)</td>
<td>Greater than 2 g/kg (rat)</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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<tr>
<td>Fructose</td>
<td>57-48-7</td>
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<td>Not listed</td>
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<tr>
<td>Glucose</td>
<td>50-99-7</td>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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<tr>
<td>Tartaric acid</td>
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</tr>
<tr>
<td>Malic acid</td>
<td>97-67-6</td>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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</tr>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

IARC: International Agency for Research on Cancer
NTP: National Toxicology Program
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety & Health Administration
Mexico: Occupational Exposure Limits – Carcinogens

Mutagenic Effects
None known

Reproductive Effects
None known

Developmental Effects
None known

Teratogenicity
None known

Reproductive Effects
None known

STOT (specific target organ toxicity) - single exposure
None known

STOT (specific target organ toxicity) - repeated exposure
None known

Endocrine Disruptor Information
None known

Other Adverse Effects
None known
12. Ecological information

Ecotoxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
<th>log P(o/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>Not listed</td>
</tr>
<tr>
<td>Fructose</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>Not listed</td>
</tr>
<tr>
<td>Glucose</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>Not listed</td>
</tr>
<tr>
<td>Sucrose</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>-3.67</td>
</tr>
<tr>
<td>Tartaric acid</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>EC50=230 mg/L 48h</td>
<td>-1.7</td>
</tr>
<tr>
<td>Malic acid</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>No limits</td>
<td>Not listed</td>
</tr>
<tr>
<td>Citric acid</td>
<td>No limits</td>
<td>Leuciscus idus: LC50 = 440-760 mg/L/96h</td>
<td>Photobacterium phosphoreum: EC50 = 14mg/L/15 min</td>
<td>EC50 = 120 mg/L/72h</td>
<td>-1.72</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Persistence is unlikely. Soluble in water. Biodegradable.

Bioaccumulation/ Accumulation
Does not bioaccumulate

Mobility
Will likely be mobile in the environment due to its water solubility.

Other adverse effects
None known

13. Disposal considerations

Waste Disposal Methods
Dilute and flush to drain. Dispose of in accordance with local, state, and federal regulations.

14. Transport information

DOT (USA) Not regulated
TDG (Canada) Not regulated
IATA (air transport) Not regulated
IMDG/IMO (maritime) Not regulated

15. Regulatory information

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINC</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-791-2</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fructose</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-333-3</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Glucose</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-075-1</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sucrose</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-334-9</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Tartaric acid</td>
<td>X</td>
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<td>-</td>
<td>201-766-0</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Malic acid</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>202-601-5</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Citric acid</td>
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<td>201-069-1</td>
<td>-</td>
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<td>X</td>
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</tr>
</tbody>
</table>

Legend: X - Listed

U.S. Federal Regulations

TSCA 12(b) Not applicable
SARA 313 Not applicable

SARA 311/312 Hazardous Categorization

- Acute Health Hazard No
- Chronic Health Hazard No
- Fire Hazard No
- Sudden Release of Pressure Hazard No
- Reactive Hazard No

Clean Water Act Not applicable
Clean Air Act Not applicable

OSHA Occupational Safety and Health Administration Not applicable

CERCLA Not Applicable
California Proposition 65
To the best of our knowledge, this product does not contain any chemicals listed under Proposition 65

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Fructose</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Glucose</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Sucrose</td>
<td>x</td>
<td>Not listed</td>
<td>x</td>
<td>Not listed</td>
<td>x</td>
</tr>
<tr>
<td>Tartaric acid</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Malic acid</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Citric acid</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

U.S. Department of Transportation
Reportable Quantity (RQ): not listed
DOT Marine Pollutant not listed
DOT Severe Marine Pollutant not listed

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade not listed

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this SDS contains all the information required by the CPR.

WHMIS Hazard Class Not controlled

16. Other information

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
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</tbody>
</table>

Prepared By Steve Cockram
Growers Co-op

Revision Date 15-May-2015
Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer
The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

End of SDS