1. Product and Company Identification

Material name: DEXTROSE
Version #: 02
Revision date: 08-26-2011
CAS #: 50-99-7
Product Codes: J.T.Baker: 1916, 1919, 1920, 4893, 5587
Macron: 4908, 4912, 4915, 7730
Synonym(s): D-glucose; dextrosol; corn sugar; grape sugar
Manufacturer: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway
Suite #200
Center Valley, PA 18034
US
Customer Service: 855-282-6867
24 Hour Emergency: 908-859-2151
Chemtrec: 800-424-9300

2. Hazards Identification

Emergency overview: Low hazard for usual industrial or commercial handling. Handle in accordance with good industrial hygiene and safety practice.

OSHA regulatory status: This material is not considered hazardous by the OSHA Hazard Communication Standard, OSHA 29 CFR 1910.1200.

Potential health effects:
- Routes of exposure: Inhalation. Skin contact. Eye contact. Ingestion.
- Eyes: Dust or powder may irritate eye tissue. If irritation should occur, it is expected to be transient.
- Skin: Health injuries are not known or expected under normal use.
- Inhalation: Health injuries are not known or expected under normal use.
- Ingestion: Expected to be a low ingestion hazard.

Chronic effects: None known.

Potential environmental effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Non-hazardous components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEXTROSE</td>
<td>50-99-7</td>
<td>90 - 100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures:
- **Eye contact**: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.
- **Skin contact**: Wash off with soap and water. Get medical attention if irritation develops and persists.
- **Inhalation**: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.
- **Ingestion**: Seek medical advice.
- **Notes to physician**: Treat symptomatically.
General advice

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties
Dust may form explosive mixture with air.

Extinguishing media
Suitable extinguishing media
Water. Carbon dioxide (CO2). Dry chemical.

Unsuitable extinguishing media
None known.

Protection of firefighters
Firefighters should wear full protective gear. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.

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

Specific methods
In the event of fire, cool tanks with water spray. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products
Carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Personal precautions
Keep unnecessary personnel away. Keep upwind. Ventilate the area. Avoid inhalation of dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions
Prevent further leakage or spillage if safe to do so.

Methods for containment
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas.

Methods for cleaning up
Avoid dust formation.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Large Spills: Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water.

Never return spills in original containers for re-use. Clean contaminated surface thoroughly. Clean up in accordance with all applicable regulations.

7. Handling and Storage

Handling
Keep formation of airborne dusts to a minimum. Dust may form explosive mixture with air. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment.

Storage
Keep container tightly closed. Store in a well-ventilated place.

8. Exposure Controls / Personal Protection

Exposure guidelines
No exposure standards allocated.

Engineering controls
Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

Personal protective equipment
Eye / face protection
Use tight fitting goggles if dust is generated.

Skin protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Respiratory protection
Wear respirator if there is dust formation.
Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Powder to Crystals</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless to White.</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>Physical state</td>
<td>Solid.</td>
</tr>
<tr>
<td>Form</td>
<td>Solid.</td>
</tr>
<tr>
<td>Melting point</td>
<td>294.8 °F (146 °C)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>294.8 °F (146 °C)</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limits in air, upper, % by volume</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limits in air, lower, % by volume</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.544</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Soluble</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>-3.24</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>180.16 g/mol</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>C6-H12-O6</td>
</tr>
</tbody>
</table>

10. Chemical Stability & Reactivity Information

- Chemical stability: Stable under normal temperature conditions.
- Conditions to avoid: Heat, flames and sparks. Dust clouds may be explosive under certain conditions.
- Hazardous decomposition products: Carbon monoxide. Carbon Dioxide.
- Possibility of hazardous reactions: Hazardous polymerization does not occur.

11. Toxicological Information

- Sensitization: Not a skin sensitizer.
- Acute effects: Low hazard for usual industrial or commercial handling.
- Chronic effects: None known.
- Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
- Skin corrosion/irritation: Not applicable.
- Epidemiology: No epidemiological data is available for this product.
- Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Neurological effects
None known.

Reproductive effects
Contains no ingredient listed as toxic to reproduction

Teratogenicity
No data available to indicate product or any components present at greater than 0.1% may cause birth defects.

Symptoms and target organs
None known.

12. Ecological Information

Ecotoxicity
This product has no known eco-toxicological effects.

Environmental effects
Ecological injuries are not known or expected under normal use. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Aquatic toxicity
This material is not expected to be harmful to aquatic life.

Persistence and degradability
Expected to be readily biodegradable.

Partition coefficient
-3.24

13. Disposal Considerations

Disposal instructions
Dispose of contents/container in accordance with local/regional/national/international regulations. Incinerate the material under controlled conditions in an approved incinerator.

Contaminated packaging
Offer rinsed packaging material to local recycling facilities. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations
This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA (Superfund) reportable quantity
None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 311 hazardous chemical
No

Food and Drug Administration (FDA)
Total food additive
Direct food additive
GRAS food additive

Inventory status
Country(s) or region
Australia

Inventory name
Australian Inventory of Chemical Substances (AICS)

On inventory (yes/no)*
Yes
<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)*

**State regulations**

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**Saf-T-Data**

- **Health:** 0 - None
- **Flammability:** 2 - Moderate
- **Reactivity:** 0 - None
- **Contact:** 0 - None
- **Lab Protective Equip:** B - GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
- **Storage Color Code:** G - Green (General Storage)

**16. Labeling Info**

- **Label Hazard Warning:** Low hazard for usual industrial or commercial handling. Handle in accordance with good industrial hygiene and safety practice.
- **Label Precautions:** Keep away from heat, sparks and flame. Wash thoroughly after handling. Keep container closed.
- **Label First Aid:** Immediately flush eyes with plenty of water for at least 15 minutes. Flush skin thoroughly with water. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Get medical attention if irritation develops or persists. If ingestion of a large amount does occur, call a poison control center immediately.

**17. Other Information**

- **NFPA ratings**
  - **Health:** 0
  - **Flammability:** 1
  - **Instability:** 0
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Issue date

08-26-2011