Material Safety Data Sheet
alpha-D(+) -Glucose, anhydrous

ACC# 95120

Section 1 - Chemical Product and Company Identification

MSDS Name: alpha-D(+) -Glucose, anhydrous
Catalog Numbers: AC170080000, AC170080010, AC170080025
Synonyms: Dextrose.
Company Identification:
   Acros Organics N.V.
   One Reagent Lane
   Fair Lawn, NJ 07410
For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>492-62-6</td>
<td>alpha-D(+) -Glucose, anhydrous</td>
<td>99+</td>
<td>207-757-8</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white crystalline powder.
Caution! May cause eye, skin, and respiratory tract irritation. This is expected to be a low hazard for usual industrial handling.
Target Organs: None known.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation. Low hazard for usual industrial handling.
Ingestion: No hazard expected in normal industrial use. May cause irritation of the digestive tract.
Inhalation: Causes respiratory tract irritation. Low hazard for usual industrial handling.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: If irritation develops, get medical aid. Immediately flush eyes with plenty of water for at least 15 minutes.
Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: Do not induce vomiting. Get medical aid if irritation or symptoms occur.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash Point: Not available.
Autoignition Temperature: Not available.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 0; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.
Storage: Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>alpha-D(+) Glucose, anhydrous</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: alpha-D(+) Glucose, anhydrous: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment
Eyes: 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:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** 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.

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**Section 9 - Physical and Chemical Properties**

**Physical State:** Crystalline powder  
**Appearance:** white  
**Odor:** odorless  
**pH:** Not available.

**Vapor Pressure:** Not available.  
**Vapor Density:** Not available.  
**Evaporation Rate:** Not available.  
**Viscosity:** Not available.  
**Boiling Point:** Not available.  
**Freezing/Melting Point:** 156 - 158 deg C  
**Decomposition Temperature:** Not available.  
**Solubility:** Soluble.  
**Specific Gravity/Density:** Not available.  
**Molecular Formula:** C6H12O6  
**Molecular Weight:** 180.16

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**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Incompatible materials, dust generation, excess heat.  
**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, halogenated agents, permanganates, nitrates.  
**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide.  
**Hazardous Polymerization:** Will not occur.

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**Section 11 - Toxicological Information**

**RTECS#:**  
**CAS#** 492-62-6 unlisted.  
**LD50/LC50:** Not available.

**Carcinogenicity:**  
**CAS#** 492-62-6: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found  
**Teratogenicity:** No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No information available.
Physical: No information available.
Other: Do not empty into drains.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>Shipping Name:</th>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class:</td>
<td>Not Regulated</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>UN Number:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing Group:</td>
<td></td>
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</tr>
</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 492-62-6 is not listed on the TSCA inventory. It is for research and development use only.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

Section 313  No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 492-62-6 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
Not available.

Risk Phrases:

Safety Phrases:
S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)
CAS# 492-62-6: No information available.

Canada - DSL/NDSL
CAS# 492-62-6 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of Not controlled.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 9/22/1998
Revision #5 Date: 8/28/2007

The information above is believed to be accurate and represents the best information currently available to us.
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possibility of such damages.