STARCH SOLUBLE

MSDS Number: S6506 --- Effective Date: 11/17/99

1. Product Identification

Synonyms: Amglogen; Amylodextrin; Potato starch
CAS No.: 9005-84-9
Molecular Weight: Not applicable to mixtures.
Chemical Formula: (C6H10O5) x
Product Codes:
J.T. Baker: 4006, 4010
Mallinckrodt: 8188

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Soluble</td>
<td>9005-84-9</td>
<td>90 - 100%</td>
<td>Ye</td>
</tr>
</tbody>
</table>

3. Hazards Identification

Emergency Overview

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes and clothing.

J.T. Baker SAF-T-DATA\(^{(tm)}\) Ratings (Provided here for your convenience)

- Health Rating: 0 - None
- Flammability Rating: 1 - Slight
- Reactivity Rating: 0 - None
- Contact Rating: 1 - Slight
- Lab Protective Equip: GOGGLES; LAB COAT
Storage Color Code: Orange (General Storage)

Potential Health Effects

**Inhalation:**
Symptoms similar to those caused by nuisance dust; coughing, sneezing.

**Ingestion:**
Not expected to be a health hazard.

**Skin Contact:**
No adverse effects expected.

**Eye Contact:**
No adverse effects expected but dust may cause mechanical irritation.

**Chronic Exposure:**
No adverse effects expected.

**Aggravation of Pre-existing Conditions:**
Persons with respiratory impairment may be sensitive to starch dust.

---

4. First Aid Measures

**Inhalation:**
Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**
If large amounts were swallowed, give water to drink and get medical advice.

**Skin Contact:**
Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:**
Wash thoroughly with running water. Get medical advice if irritation develops.

---

5. Fire Fighting Measures

**Fire:**
Autoignition temperature: > 380C (> 716F)
Combustible solid.
Minimum ignition energy > 30 m (Depends on particle size, moisture content, etc.) Contact with strong oxidizers may cause fire.
Explosion:
Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum ignition temperature, cloud: 430C (806F).

Fire Extinguishing Media:
If involved in a fire, use water spray.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill.
Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container.

7. Handling and Storage

Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
- OSHA Permissible Exposure Limit (PEL):
  15 mg/m3 total dust, 5 mg/m3 respirable fraction
- ACGIH Threshold Limit Value (TLV):
  10 mg/m3 total dust containing no asbestos and < 1% crystalline silica

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the

**Personal Respirators (NIOSH Approved):**
If the exposure limit is exceeded, a half-face dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece dust/mist respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:**
Wear protective gloves and clean body-covering clothing.

**Eye Protection:**
Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

9. **Physical and Chemical Properties**

**Appearance:**
White, amorphous powder or granules.

**Odor:**
Slight characteristic odor.

**Solubility:**
Dispersible in hot water.

**Specific Gravity:**
ca. 1.5

**pH:**
No information found.

**% Volatiles by volume @ 21C (70F):**
0

**Boiling Point:**
Not applicable.

**Melting Point:**
No information found.

**Vapor Density (Air=1):**
No information found.

**Vapor Pressure (mm Hg):**
No information found.

**Evaporation Rate (BuAc=1):**
No information found.
10. Stability and Reactivity

**Stability:**
Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:**
Heavy, black acid smoke.

**Hazardous Polymerization:**
Will not occur.

**Incompatibilities:**
Strong oxidizers.

**Conditions to Avoid:**
Heat, flames, ignition sources and incompatibles.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>NTP Carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Soluble (9005-84-9)</td>
<td>Known</td>
</tr>
<tr>
<td></td>
<td>Anticipated</td>
</tr>
<tr>
<td></td>
<td>IARC Category</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>None</td>
</tr>
</tbody>
</table>

12. Ecological Information

**Environmental Fate:**
No information found.

**Environmental Toxicity:**
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.
14. Transport Information

Not regulated.

15. Regulatory Information

---
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>TSCA</th>
<th>EC</th>
<th>Japan</th>
<th>Austr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Soluble (9005-84-9)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Ye</td>
</tr>
</tbody>
</table>

---
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Korea</th>
<th>DSL</th>
<th>NDSL</th>
<th>Phil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Soluble (9005-84-9)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

---
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>RQ</th>
<th>TPQ</th>
<th>List</th>
<th>Chemical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Soluble (9005-84-9)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

---
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CERCLA</th>
<th>261.33</th>
<th>8(d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch Soluble (9005-84-9)</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Chemical Weapons Convention: No  TSCA 12(b): No  CDTA: No  SARA 311/312: Acute: Yes  Chronic: No  Fire: No  Pressure: No  Reactivity: No  (Pure / Solid)

**Australian Hazchem Code:** No information found.

**Poison Schedule:** No information found.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

**NFPA Ratings:** Health: 0  Flammability: 2  Reactivity: 0

**Label Hazard Warning:**

As part of good industrial and personal hygiene and safety procedure, avoid all unnecessary exposure to the chemical.
substance and ensure prompt removal from skin, eyes and clothing.

Label Precautions:
None.
Label First Aid:
Not applicable.
Product Use:
Laboratory Reagent.
Revision Information:
No changes.
Disclaimer:
*****************************************************************************

Mallinckrodt Baker, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT BAKER, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT BAKER, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

*****************************************************************************

Prepared by: Strategic Services Division
Phone Number: (314) 539-1600 (U.S.A.)