Material Safety Data Sheet
Kelcoloid® K3B426

This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200 And Canadian Workplace Hazardous Materials Information System (WHMIS) requirements.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Kelcoloid® K3B426

Synonyms: Propylene glycol alginate (INCI name), : Alginic acid propylene glycol ester; Hydroxypropyl alginate; 1,2-Propanediol alginate; Propylene alginate; 1,2-Propylene glycol alginate; Propyleneglycol alginate; Algin, PGA; Hydroxypropyl Alginate

Recommended use: Pharmaceutical.

Manufacturer: FMC Corporation
1735 Market Street
Philadelphia, PA 19103
(800) 526-3649
msdsinfo@fmc.com

Emergency telephone number:
(207) 594-3200 (FMC Plant - Rockland, ME)
(303) 595-9048 (Medical - U.S. - Call Collect)
For leak, fire, spill, or accident emergencies, call:
(800) 494-9300 (CHEMTREC - U.S.A. & Canada)
(703) 527-3887 (CHEMTREC - all other countries)

2. HAZARDS IDENTIFICATION

Emergency Overview
Powder becomes slippery when wet.
Dry or powdered ingredients are combustible. Dispersal of finely divided dust from products into air may form mixtures that are ignitable and explosive. Minimize airborne dust generation and eliminate sources of ignition.

Appearance: dry powder

Physical state: dry powder

Odor: Not identified

Eyes: May cause slight irritation.
Skin: Non-irritating to the skin.
Ingestion: None under normal use conditions.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Non-Hazardous

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol alginate</td>
<td>9005-37-2</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Eye contact  
Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.

Skin contact  
Wash with water and soap as a precaution.

Inhalation  
Move to fresh air. If breathing is irregular or stopped, administer artificial respiration. Consult a physician.

Ingestion  
Never give anything by mouth to an unconscious person. Drink plenty of water. Get medical attention if symptoms occur.

Indication of immediate medical attention and special treatment needed, if necessary  
Treat symptomatically. This product has low oral toxicity and it may be irritating to the eyes. Ingestion of large quantities of alginates may cause intestinal obstruction. Aspiration or inhalation of alginates could cause chemical pneumonitis.

Protection of first-aiders  
Use personal protective equipment.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical  
Dry or powdered ingredients are combustible. Dispersal of finely divided dust from products into air may form mixtures that are ignitable and explosive. Minimize airborne dust generation and eliminate sources of ignition.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions  
Powder becomes slippery when wet. For personal protection see section 8.

Methods for containment  
Maintain good housekeeping practices to avoid accumulation of settled dust, especially on overhead surfaces.

Methods for cleaning up  
Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling  
Avoid dust formation in confined areas. Wear personal protective equipment. In case of insufficient ventilation, wear suitable respiratory equipment if release of airborne dust is expected. Refer to Section 8. Material becomes slippery when wet. Use caution if wet.

Storage  
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Occupational exposure controls

Engineering measures
Use with local exhaust ventilation.

Personal Protective Equipment

General Information
If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

Respiratory protection
Local nuisance dust standards apply. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Eye/face protection
Safety glasses

Skin and body protection
No special precautions required.

Hand protection
No special precautions required. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion and the contact time. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves.

Hygiene measures
When using, do not eat, drink or smoke. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product. Wash hands with water as a precaution. Regular cleaning of equipment, work area and clothing is recommended. Avoid breathing vapors, mist or gas.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
No information available

Color
White to yellowish brown

Physical state
dry powder

Odor
No information available.

Odor Threshold
No information available.

pH
~4 (1% solution)

Melting Point/Range
not determined

Freezing point
No information available

Boiling Point/Range
Not applicable

Flash Point
Not applicable

Evaporation rate
Not applicable

Autoignition Temperature
Not applicable

Vapor pressure
Not applicable

Vapor density
No information available

Density
No information available

Specific Gravity
No information available

Bulk density
No information available

Water solubility
Soluble in water

Percent volatile
No information available

Partition coefficient
Not applicable

Viscosity
No information available

Oxidizing properties
Not applicable
10. STABILITY AND REACTIVITY

Stability: Stable.

Conditions to avoid: Heat, Humid air

Materials to avoid: Strong oxidizing agents

Hazardous decomposition products: None known.

Hazardous polymerization: Hazardous polymerization does not occur.

Hazardous reactions: None under normal processing.

11. TOXICOLOGICAL INFORMATION

Skin contact: Non-irritating (Rabbit).

Eye contact: Non-irritating (Rabbit).

Inhalation: May cause irritation of respiratory tract. Inhalation may cause chemical pneumonitis.

Ingestion: Low order of toxicity based on components. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration may cause chemical pneumonitis.

LD50 Oral: > 5000 mg/kg

Chronic Toxicity

Carcinogenicity: Contains no ingredient listed as a carcinogen.

12. ECOLOGICAL INFORMATION

Ecotoxicity: There are no data available for this product. Not expected to have significant environmental effects.

Persistence and degradability: Product is biodegradable

Bioaccumulation: Bioaccumulation is unlikely.

Mobility: No information available.

Other adverse effects: None known

13. DISPOSAL CONSIDERATIONS

Waste disposal methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging: Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

DOT: not regulated
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>TSCA Inventory (United States of America)</th>
<th>DSL (Canada)</th>
<th>EINECS/E LINCS (Europe)</th>
<th>ENCS (Japan)</th>
<th>IECSC (China)</th>
<th>KECL (Korea)</th>
<th>PICCS (Philippines)</th>
<th>AICS (Australia)</th>
<th>NZIoC (New Zealand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol alginate 9005-37-2</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<td>X</td>
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</table>

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
- Acute Health Hazard: no
- Chronic Health Hazard: no
- Fire Hazard: no
- Sudden Release of Pressure Hazard: no
- Reactive Hazard: no

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

International Regulations

Mexico - Grade: Slight risk, Grade 1

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

WHMIS Hazard Class
Non-controlled
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Stability</th>
<th>Special precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0</td>
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</tbody>
</table>

**Revision Date:** 2014-02-21  
**Reason for revision:** (M)SDS sections updated.

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End of Material Safety Data Sheet