SECTION 1 – PRODUCT AND COMPANY INFORMATION

PRODUCT IDENTIFIER: Cellulose Insulation, Loose Fill Low Duct

PRODUCT NAME: GREEN SEAL Loose Fill Low Duct – 26.5 lbs

MANUFACTURER: FiberAmerica
7072 Snowdrift Road, Allentown, PA 18106, USA
Emergency Telephone Number: 877-279-1969

SECTION 2 – COMPOSITION AND INGREDIENT INFORMATION

COMPONENT/CAS #

% BY WEIGHT

EXPOSURE LIMITS

CANCER DESIGNATION

Newsprint (Cellulose Fiber) #65996-61-4
Not less than 85%

PEL-TWA=15mg/m³ total dust (PNOC)
PEL-TWA=15mg/m³ respirable fraction
TLV-TWA=10mg/m³ inhalable, no asbestos and quartz<1% (PNOC)
TLV-TWA=3mg/m³ respirable, no asbestos and quartz<1% (PNOC)

None

Boric Acid H₃BO₃ #10043-35-3
Not more than 10%

Same

None

Ammonium Sulfate (NH₄)₂SO₄ #7783-20-2
Not more than 11%

Same

None

Zinc Sulfate ZnSO₄·H₂O #7446-19-7
Not more than 2%

Same

None

Distillate Mineral Oil #8042-47-5
Not more than 1.2%

Same

None

Boric acid is classified as hazardous under the OSHA Hazard Communication Standard based on animal chronic toxicity studies. Refer to Sections 3 and 11 for details on hazards.

HMIS Rating

National Fire Protection Association (NFPA)

Health 1 Red (Flammability) 0
Flammability 1 Yellow (Reactivity) 0
Reactivity 0 Blue (Acute Health) 1*

Personal Protection E *Chronic Effects

SECTION 3 – HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Avoid extreme heat and open flame. May emit carbon monoxide gas and boric acid and other hazardous particulates during thermal decomposition. This product is a finely divided, light gray material with no perceptible odor. It presents no unusual hazard if involved in a fire.

Physical Characteristics

Boiling Point (F) Not applicable
Vapor Pressure (mm Hg) Not applicable
Vapor Density Not applicable
Solubility in Water Insoluble; dispersible
Specific Gravity (H₂O=1) Not applicable
Reactivity in Water None
Melting Point Not applicable

Effective November 2009
Potential Health Effects

Inhalation  Slightly irritating to upper respiratory system. Persons with respiratory problems should avoid breathing dust.
Eyes  Slight irritant. In case of eye contact, flush with water.
Ingestion  Small amounts are not likely to cause harm. Ingestion of large amounts may cause rash, diarrhea, nausea.
Skin  Does not normally irritate skin. In case of broken skin, wear gloves and wash dust from skin with soap and plenty of water. Large amounts absorbed into bloodstream may cause rash, skin peeling, diarrhea, nausea, dizziness.
Acute  None
Chronic  None
Cancer  Neither the end product nor any of its components.

SECTION 4 – FIRST AID

Eyes  For dust exposure, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
Skin  If skin is exposed, wash with soap and large amounts of water. If irritation persists, seek medical attention.
Inhalation  If irritation or difficulty in breathing occurs, remove to fresh air. Seek medical attention if condition persists.
Ingestion  Symptoms may include diarrhea, nausea and vomiting. Seek medical attention if material was ingested and symptoms occur.
Note to Physicians  Exposure to dust may aggravate symptoms of persons with pre-existing respiratory tract conditions and may cause skin and gastrointestinal symptoms.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point (Method Used)  Not applicable
Combustible  Material may decompose on contact with extreme temperatures and open flames.
Flammable Limits  LEL: Not applicable  UEL: Not applicable
Autoignition Temperature  Not determined
Explosion Hazard  None expected for product based on particle size. Note: Airborne concentrations of combustible dust, when combined with an ignition source, can create an explosion hazard if the dust concentration exceeds 15 mg/m³.
Extinguishing Media  Water, dry chemical and other agents rated for a wood fire (Type A fire). Use Type A rated extinguisher.
Fire Fighting Instructions  Evacuate the area and notify the fire department. If possible, isolate the fire by moving other combustible materials. If the fire is small, use a hose-line or extinguisher rated for a Type A fire. If possible, dike and collect water used to fight fires. Fire-fighters should wear normal protective equipment (full bunker gear) and positive-pressure, self-contained breathing apparatus.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Contains water-soluble inorganic mineral salts which may damage trees or vegetation exposed to large quantities.

Land: shove, sweep or vacuum product. Place in disposal container. Avoid bodies of water. Water: large quantities may cause localized contamination of surrounding waters depending on the quantity spilled. At high concentrations may damage localized vegetation, fish and other aquatic life. This product is a non-hazardous waste when spilled or disposed.

Effective November 2009
of as defined in the Resource Conservation and Recovery Act (RCRA) regulations (40 CFR 261). Refer to regulatory information in Section 15 for additional information regarding EPA and California regulations.

**SECTION 7 – HANDLING AND STORAGE**

| General | No special handling is required. Storage of sealed bags in a dry, indoor location is recommended. To maintain product integrity, handle on a "first-in-first-out" basis. Use good housekeeping and engineering controls so that dust levels are below the exposure limits listed in Section 2. |
| Storage Temperature | Ambient |
| Storage Pressure | Atmospheric |
| Special Sensitivity | None |

**SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION**

| General Exposure Controls | No specific controls are needed. Use standard good housekeeping practices and engineering controls to minimize nuisance levels. |
| Respiratory Protection | If housekeeping and engineering controls do not maintain nuisance levels below regulatory limits or dust concentration is unknown, use a NIOSH-approved mask. |
| Eye Protection | Wear ANSI-approved eye protection if environment is excessively dusty. |
| Hand Protection | If skin is broken or sensitive, use gloves |
| Other Protective Clothing | None |
| Ventilation | Normal and adequate ventilation |
| Work/Hygienic Practices | Standard hygienic practices |
| Occupational Exposure Limits | This product is listed/regulated by OSHA, Cal/OSHA and ACGIH as “Particulates Not Otherwise Classified” or “Nuisance Dust.” |

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

| Appearance | Gray, odorless fiber |
| Bulk Density | 9 lb/ft³ compressed |
| Vapor Pressure | Negligible @ 20°C |
| Solubility in Water | Product is not soluble |
| Boiling/Melting Point | Not applicable |
| Flash Point | Not applicable |
| pH | <8.2 (2.0% suspension @ 25°C) |
| Viscosity | Not applicable |

**SECTION 10 – STABILITY AND REACTIVITY**

| Stability | Stable |
| Hazardous Decomposition Products | None |
| Hazardous Polymerization | Will not occur |
| Conditions and Materials to Avoid | Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard. Keep away from strong oxidizers, such as concentrated nitric acid, hydrogen peroxide and chlorine. |

**SECTION 11 – TOXICOLOGICAL INFORMATION**

| BORIC ACID |
| Eye | None listed, is expected to be an eye irritant |
| Skin | Mild irritation based on Standard Draize Test. LDLo, skin, human, 1200 mg/kg |
| Ingestion | LDLo, oral, human, 429 mg/kg. LD40, oral, rat, 2600 mg/kg |

Effective November 2009
Inhalation LCLo, inhalation, rat, 28 mg/m3/4H
Subchronic TDLo, oral, rat, 45 gm/kg/90D-C
Chronic TDLo, oral, rat, 244 gm/kg/2Y-C
Teratology None reported
Reproduction TDLo, oral, rat, 6600 mg/kg, specific developmental abnormalities – musculoskeletal system.

AMMONIUM SULFATE

Eye None listed
Ingestion TDLo, oral, human, 1500 mg/kg, diarrhea, nausea, vomiting, LD50, oral, rat, 2840 mg/kg
Inhalation None reported
Subchronic None reported
Chronic None reported
Teratology None reported
Reproduction None reported
Mutagenicity None reported

ZINC SULFATE

Route of Ingestion or inhalation
Entry
Target Respiratory system, eyes and skin
Organs Acute May cause skin irritation, eye irritation, possible corneal burn, irritation to nose and throat
Exposure Chronic May cause skin dermatitis, eye conjunctivitis
Exposure Chronic No known ingestion reaction anticipated
Teratology May cause inhalation reflex brochoconstruction

ZINC SULFATE - PHYSICAL DATA

Physical State White powder or granules
Boiling Point N/A
Melting Point No Data
Crystallization Point 70 degrees F
Vapor Density 0 (water = 1)
Gravity Solubility in Water 30% at 70° F
Appearance White powder or granules
Evaporation Rate None listed

DISTILLATE MINERAL OIL

Physical State Colorless, Odorless Liquid
Boiling Point N/A
Specific Gravity 0.81+or -.0500
Flash Point >175°C
Viscosity @ 40 C <12.38 cps

SECTION 12 – ECOLOGICAL INFORMATION

BORIC ACID LC50, Daphnia magna, 133 mg/l/48H. RfD, oral, human, 0.09 mg/kg/day, testicular
Ecotoxicity

Effective November 2009
atrophy, spermatogenic arrest. LC50, Trout, 100 ppm

Chemical Fate Information
Boron is absorbed into clay particles, with the maximum absorption in the pH range of 7-9. The amount of boron absorbed depends on the surface area of the clay.

AMMONIUM SULFATE
Ecotoxicity
TLm, Daphnia magna, 423 mg/L/24H.
Chemical Fate Information
Not listed.

ZINC SULFATE (Personal Protective Equipment)
Respirator
If exposure cannot be maintained at or below established OSHA guidelines, respiratory protection must be provided in accordance with 29 CFR 1910.134 requirements
Skin Protection
Wear appropriate protective clothing and chemical resistant gloves as needed to prevent skin contact. Consult manufacturer to determine appropriate type of gloves or clothing for your particular application. Clean contaminated clothing and protective equipment before reuse. Wash thoroughly after handling material.
Eye Protection
Wear splash proof or dust proof safety goggles whenever there is a potential for eye contact.
Ventilation
Provide local exhaust or process enclosing ventilation to maintain exposure below OSHA guidelines 29 CFR 1910.1000 subpart 7.

Dispose as a non-hazardous waste.

May be shipped normally as a non-hazardous material.

Superfund: CERCLA/SARA. This product is not listed under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) or its 1986 amendments, the Superfund Amendments and Reauthorization Act (SARA), including substances listed under Section 313 of SARA, Toxic Chemicals, 42 USC 11023, 40 CFR 372.65; Section 302 of SARA Extremely Hazardous Substances, 42 USC 11002, 40 CFR 355; or the CERCLA Hazardous Substances list, 42 USC 9604, 40 CFR 302.

RCRA: This product is not listed as a hazardous waste under any sections of the Resource Conservation and Recovery Act or regulations (40 CFR 261 et seq.).

Safe Drinking Water Act: This product is not regulated under the SDWA, 42 USC 300g-1, 40 CFR 141 et seq. Consult state and local regulations for possible water quality advisories regarding boron and ammonia.

California Proposition 65: This product is not listed on any Proposition 65 lists of carcinogens or reproductive toxicants.

OSHA Carcinogen: Not listed.

Clean Water Act (Federal Water Pollution Control Act): 33 USC 1251 et seq.: This product is not itself a discharge covered by any water quality criteria of Section 304 of the CWA, 33 USC 1314. This product is not on the Section 307 List of Priority Pollutants, 33 USC 1317, 40 CFR 116. This product is not on the Section 311 List of Hazardous Substances, 33 USC 1321, 40 CFR 116.

Effective November 2009
**MATERIAL SAFETY DATA SHEET**

**TSCA No.:** This product does not appear on the EPA TSCA inventory list. Ammonium sulfate and boric acid appear on the EPA TSCA inventory list under the CAS Nos. 7783-20-2 and 10043-35-3 respectively.

**OSHA/Cal/OSHA:** This MSDS document meets the requirements of both OSHA and Cal/OSHA hazard communication standards. Refer to Section 8 for regulatory exposure limits.

**IARC:** The International Agency for Research on Cancer (of the World Health Organization) does not list or categorize this product as a carcinogen.

**NTP Annual Report on Carcinogens:** Not listed.

**SECTION 16 – OTHER INFORMATION**

INFORMATION PRESENTED HEREIN HAS BEEN COMPILED FROM SOURCES CONSIDERED DEPENDABLE AND IS ACCURATE AND RELIABLE TO THE BEST OF OUR KNOWLEDGE AND BELIEF, BUT IS NOT GUARANTEED TO BE SO. NOTHING HEREIN IS TO BE CONSTRUED AS RECOMMENDING ANY PRACTICE OR ANY PRODUCT IN VIOLATION OF ANY PATENT OR IN VIOLATION OF ANY LAW OR REGULATION. THE USER IS RESPONSIBLE TO DETERMINE THE SUITABILITY OF ANY MATERIAL FOR A SPECIFIC PURPOSE AND ADOPT NECESSARY SAFETY PRECAUTIONS. WE MAKE NO WARRANTY AS TO RESULTS TO BE OBTAINED IN USING ANY MATERIAL AND, SINCE CONDITIONS OR USE ARE NOT UNDER OUR CONTROL, WE MUST NECESSARILY DISCLAIM ALL LIABILITY WITH RESPECT TO USE OF ANY MATERIAL SUPPLIED BY US.

**ABBREVIATIONS**

<table>
<thead>
<tr>
<th>CAS</th>
<th>Chemical Abstract Services (identifies specific chemical)</th>
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<tbody>
<tr>
<td>mg/m³</td>
<td>Milligrams per cubic meter</td>
</tr>
<tr>
<td>LCLo</td>
<td>Lethal concentration low</td>
</tr>
<tr>
<td>LDLo</td>
<td>Lethal dose low</td>
</tr>
<tr>
<td>LC50</td>
<td>Lethal concentration 50%</td>
</tr>
<tr>
<td>LD50</td>
<td>Lethal dose 50%</td>
</tr>
<tr>
<td>LOAEL</td>
<td>Lowest Observed Adverse Effect Level</td>
</tr>
<tr>
<td>mg/l/h</td>
<td>Milligrams per liter per hour</td>
</tr>
<tr>
<td>mg/kg</td>
<td>Milligrams per kilogram</td>
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<tr>
<td>mg/ m³</td>
<td>Milligrams per cubic meter</td>
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<table>
<thead>
<tr>
<th>OSHA</th>
<th>Occupational Safety and Health Administration</th>
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<tbody>
<tr>
<td>POCN</td>
<td>Particulates Not Otherwise Classified</td>
</tr>
<tr>
<td>PEL</td>
<td>OSHA Permissible Exposure Limit</td>
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<tr>
<td>ppm</td>
<td>Parts per million</td>
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<tr>
<td>RD</td>
<td>Reference Dose</td>
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<tr>
<td>RTECS</td>
<td>Registry of Toxic Effects of Chemical Substances</td>
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<tr>
<td>TDLo</td>
<td>Toxic dose low</td>
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<tr>
<td>TLV</td>
<td>ACGIH Threshold Limit Value</td>
</tr>
<tr>
<td>TWA</td>
<td>8 hour Time Weighted Average exposure</td>
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**BIBLIOGRAPHY**

5. Integrated Risk Information System, EPA, on-line.
7. TLVs and other Occupational Exposure Values, American Conference of Governmental Industrial Hygienists, 1996.

Effective November 2009