

SECTION 1 – PRODUCT AND COMPANY INFORMATION

PRODUCT IDENTIFIER: Cellulose Insulation, Loose Fill Low Dust

PRODUCT NAME: INS551LD Cocoon® Insulation 22.55 lbs

MANUFACTURER: US GreenFiber
 2500 Distribution Street, Charlotte, NC 28203, USA
Emergency Telephone Number: 800-666-4824 (8 am – 5 pm EST Mon-Fri)

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

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/m ³ .
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:** shovel, 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

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	<i>This product is listed/regulated by OSHA, Cal/OSHA and ACGIH as “Particulates Not Otherwise Classified” or “Nuisance Dust.”</i>

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Gray, odorless fiber	Boiling/Melting Point	Not applicable
Bulk Density	9 lb/ft ³ compressed	Flash Point	Not applicable
Vapor Pressure	Negligible @ 20° C	pH	<8.2 (2.0% suspension @ 25° C)
Solubility in Water	Product is not soluble	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

Inhalation	LCLo, inhalation, rat, 28 mg/m ³ /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
Mutagenicity	Mutation in microorganisms, Escherichia Coli, 17000 ppm/24H.

AMMONIUM SULFATE	
Eye	None listed
Skin	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 Entry	Ingestion or inhalation
Target Organs	Respiratory system, eyes and skin
Acute Exposure	May cause skin irritation, eye irritation, possible corneal burn, irritation to nose and throat
Chronic Exposure	May cause skin dermatitis, eye conjunctivitis
Chronic	No known ingestion reaction anticipated
Teratology	May cause inhalation reflex bronchoconstriction

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	N/A

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

	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.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose as a non-hazardous waste.

SECTION 14 – TRANSPORT INFORMATION

May be shipped normally as a non-hazardous material.

SECTION 15 – REGULATORY INFORMATION

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.



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

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

BIBLIOGRAPHY

1. The Guide to Occupational Exposure Values, American Conference of Governmental Industrial Hygienists, 1997.
2. Registry of Toxic Effects of Chemical Substances, National Institute of Occupational Safety and Health, Q-1, 1998.
3. Dangerous Properties of Industrial Materials, Sax's, 1997 CD-Folio.
4. Hazardous Substances Data Bank, Canadian Centre for Occupational Health and Safety, Q-1, 1998.
5. Integrated Risk Information System, EPA, on-line.
6. Toxicological Profiles, Agency for Toxic Substances and Disease Registry, U.S. Public Health Service, 1997.
7. TLVs and other Occupational Exposure Values, American Conference of Governmental Industrial Hygienists, 1996.