



SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Identifier: Cellulose Insulation
Product Name: InsulGreen
Manufacturer: Acoustical Surfaces, Inc.
123 Columbia Court North, Suite 201
Chaska, MN 55318
Emergency Phone: (800) 854-2948

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification: Eye Irritation Hazard Category 2B

Signal Word: Warning

Hazard Statements: Causes eye irritation

Precautionary Statements: Wash hands thoroughly after handling. If in eyes, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, seek medical attention.

OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION: None.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS #</u>	<u>Percentage</u>
Cellulose fiber, recycled cotton	65996-61-4	40-90%
Polyethylene terephthalate (PET)	25038-59-9	10-20%
Boric acid*	10043-35-3	5-10%
Sodium polyborate	183290-63-3	5-10%
Ammonium sulfate	7783-20-2	5-10%

*May not be present in final product.

SECTION 4 – FIRST AID MEASURES

Eyes: In case of contact with dust or particles, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician if irritation persists.

Skin: Wash with soap and water after handling. If skin irritation develops, consult a physician.

Ingestion: No specific intervention is indicated, as compound is not likely to be hazardous by ingestion. Consult a physician if necessary.

Inhalation: The compound is not likely to be hazardous by inhalation exposure during normal use. If large amounts of dust are inhaled, remove affected person to fresh air. Consult a physician if breathing difficulty occurs.

Notes to physicians or first aid providers: None

SECTION 5 – FIRE-FIGHTING MEASURES

Extinguishing media: Any fire extinguishing media, including Water Spray, Foam, Dry Chemical, CO₂.

Special fire-- fighting procedures: Wear self-contained breathing apparatus (pressure demand MSHA/NIOSH approved, or equivalent) and full protective gear.

Unusual fire and explosion hazards: None, InsulGreen material is not flammable, combustible, or explosive. The product itself is a flame retardant.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

General: Contain & Remove by mechanical means. Dispose of in accordance with applicable local regulations. No personal protective equipment is needed to clean up.

SECTION 7 – HANDLING AND STORAGE

Precautions for Safe Handling: No special handling precautions are required.

Conditions for safe storage, including incompatibilities: Dry, indoor storage is recommended.

Storage temperature: Ambient

Storage pressure: Atmospheric

Special sensitivity: None known

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA PEL-TWA: Not applicable

ACGIH TLV-TWA-OEL: Not applicable

Cal OSHA PEL-TWA: Not applicable Not applicable

Engineering controls and ventilation: Good general ventilation should be sufficient.

Respiratory protection: No special control or handling procedures are required.

Eye protection: No special control or handling procedures are required.

Skin protection: No special control or handling procedures are required.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gray, fiber

Odor: Not applicable

Odor threshold: Not applicable

pH as supplied: 7.3

Melting point / freezing point: Not applicable

Boiling point / boiling range: Not established

Flash point: Not applicable

Evaporation rate: Not applicable

Flammability / flammability range: Not applicable

Explosive limits: Not applicable

Vapor pressure: Not applicable

Vapor density: Negligible at 20°C

Relative density: Not applicable

Solubility in water: Insoluble

Specific gravity: Not applicable

Partition coefficient: Not applicable

Auto-ignition temperature: Not applicable, not self-heating

Decomposition temperature: Not applicable

Viscosity: Not applicable

Explosive properties: Not explosive, does not contain chemical groups associated with explosivity

Oxidizing properties: Not oxidizing, does not contain chemical groups associated with oxidation

SECTION 10 – STABILITY AND REACTIVITY

Stability and reactivity: Stable and non-reactive under normal conditions.

Conditions to avoid: High temperature (above 80°C) for an extended time.

Incompatible materials: Strong acids and bases.

Hazardous decomposition or by-products: None known.

SECTION 11 – TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE: Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern as cellulose and boron compounds are not absorbed through intact skin.

SYMPTOMS RELATED TO THE PHYSICAL, AND CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS: InsulGreen is not intended for ingestion. Small amounts swallowed accidentally are not likely to cause effects; swallowing larger amounts may cause gastrointestinal symptoms. InsulGreen does not cause irritation to intact skin in normal industrial use. Prolonged exposure to dust levels in excess of regulatory limits should always be avoided.

DELAYED AND IMMEDIATE EFFECTS AS WELL AS CHRONIC EFFECTS FROM SHORT AND LONG TERM EXPOSURE:

Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to cellulose, boric acid, PET, sodium polyborate, or ammonium sulfate.

ACUTE HEALTH HAZARDS

Cellulose:

Oral LD₅₀ (rat): >5,000 mg/kg of body weight

Dermal LD₅₀ (rabbit): >2,000 mg/kg of body weight

Inhalation LC₅₀ (rat): >5.8 mg/L

Dermal irritation/corrosivity: Nonirritating, nonsensitizing.

Eye irritation: No information found.

Boric acid:

Oral LD₅₀ (rat): 2,550 mg/kg of body weight

Dermal LD₅₀ (rabbit): >2,000 mg/kg of body weight

Inhalation LC₅₀ (rat): >2.01 mg/L

Dermal irritation/corrosivity: Nonirritating, nonsensitizing.

Eye irritation: Nonirritating

Polyethylene terephthalate (PET):

Oral LD₅₀ (rat): No information found.

Dermal LD₅₀ (rabbit): No information found.

Inhalation LC₅₀ (rat): No information found.

Dermal irritation/corrosivity: Nonirritating.

Eye irritation: Mechanical irritation only.

Sodium polyborate:

Oral LD₅₀ (rat): 3,479 mg/kg of body weight

Dermal LD₅₀ (rabbit): >2000 mg/kg of body weight

Inhalation LC₅₀ (rat): >5.8 mg/L

Dermal irritation/corrosivity: 0 (Zero), sodium polyborate is non-corrosive.

Eye irritation: Draize test in rabbits produced mild eye irritation effects. Many years of occupational exposure history reflects no indication of human eye injury from exposure to sodium polyborate.

Ammonium sulfate:

Oral LD₅₀ (rat): >5,000 mg/kg of body weight

Dermal LD₅₀ (rabbit): >2,000 mg/kg of body weight

Inhalation LC₅₀ (rat): >5.8 mg/L

Dermal irritation/corrosivity: Nonirritating, nonsensitizing.

Eye irritation: No information found.

CHRONIC HEALTH HAZARDS: No chronic effects from cellulose, PET, sodium polyborate, or ammonium sulfate have been reported in the literature. Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to inorganic borates and sodium borate dust.

REPRODUCTIVE EFFECTS: No reproductive effects from PET, sodium polyborate, or ammonium sulfate were found in the literature. Borate-treated cellulose insulation contains boric acid and cellulose fiber. Borate-treated cellulose insulation was tested for purposes of hazard classification under the Occupational Safety and Health Administration's 2012 Hazard Communication Standard.

In a study conducted under OECD Guideline 414, there were no developmental effects in rats exposed to up to 270 mg/m³ (the highest exposure tested). In workers chronically exposed to high levels of borates for several years by way of inhalation, food, and drinking water, there was a clear absence of any reproductive effects.

CARCINOGENICITY: Cellulose, boric acid, sodium polyborate, PET, and ammonium sulfate are not listed as known or suspected carcinogens by OSHA, ACGIH, NTP, or IARC.

SECTION 12 – ECOLOGICAL INFORMATION

Cellulose: No information found.

Polyethylene terephthalate (PET): No information found.

Boron: No information specific to boric acid was found in the literature. The following information is based on other boron compounds and normalized for boron.

LC₅₀ (Water flea, *D. magna*): 101.2 mg/L (48-hr)

NOEC (Water flea, *D. magna*): 5.7 mg/L (21-d)

LC₅₀ (Rainbow trout, *O. mykiss*): 351.7 mg boron/L (96-hr)

LC₅₀ (Bluegill, *L. macrochirus*): 4.6 mg boron/L (24-hr)

Ammonium sulfate:

LC₅₀ (Water flea, *D. magna*): 423 mg/L (25-hr)

LC₅₀ (Water flea, *D. magna*): >100 mg/L (96-hr)

LC₅₀ (Rainbow trout, *O. mykiss*): 1.56 mg/L (24-hr)

LC₅₀ (Channel catfish, *I. punctatus*): 36.7 mg/L (96-hr)

PHYTOTOXICITY: Boron is an essential micronutrient for healthy growth of plants. It can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimize the amount of borate product released to the environment.

PERSISTENCE AND DEGRADABILITY: Biodegradation is not an applicable endpoint since the product is an inorganic substance.

BIOACCUMULATIVE POTENTIAL: This product will undergo hydrolysis in water to form undissociated boric acid. Boric acid will not biomagnify through the food chain. Octanol/Water partition coefficient: Log Pow = -0.7570 @ 25°C (based on boric acid).

MOBILITY IN SOIL: The product is soluble in water and is leachable through normal soil. Absorption to soils or sediments is insignificant.

OTHER EFFECTS: None.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste disposal method: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Materials can be reissued for appropriate applications. Please contact Acoustical Surfaces, Inc. for further information.

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

SECTION 14 – TRANSPORT INFORMATION

US Department of Transportation: Not regulated.

SECTION 15 – REGULATORY INFORMATION

TSCA NO.: InsulGreen does not appear on the EPA TSCA inventory list. Boric acid does appear on the EPA TSCA inventory list (10043i 35i 3)

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

SUPERFUND: CERCLA/SARA. InsulGreen is not listed under CERCLA (the Comprehensive Environmental Response Compensation and Liability Act) or its 1986 amendments, SARA, (the Superfund Amendments and Reauthorization Act), 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.

SAFE DRINKING WATER ACT: InsulGreen is not regulated under the SDWA, 42 USC 300g(i)(1), 40 CFR 141 et seq. Consult state and local regulations for possible water quality advisories regarding boron.
Clean Water Act (Federal Water Pollution Control Act): 33 USC 1251 et seq.

- a.) InsulGreen is not itself a discharge covered by any water quality criteria of Section 304 of the CWA, 33 USC 1314
- b.) It is not on the Section 307 List of Priority Pollutants, 33 USC 1317, 40 CFR 129
- c.) It is not on the Section 311 List of Hazardous Substances, 33 USC 1321, 40 CFR 116.

OSHA/CAL OSHA: This SDS document meets the requirements of both OSHA (29 CFR 1910.1200) and Cal OSHA (Title 8 CCR 5194(g)) hazard communication standards. Refer to Exposure Control/Personal Protection for regulatory exposure limits.

SECTION 16 – OTHER INFORMATION

Other information: This SDS was finalized on June 1, 2015 and is compliant with OSHA HCS/HazCom 2012 Final Rule. This replaces the previous version dated January, 2010.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. Therefore, no warranty either express or implied of merchantability or fitness for particular purpose is made with respect to the product or the information contained herein.