

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Product Identifier: Cellulose Insulation

Product Name: Nu-Wool[®] Premium Cellulose Insulation
Energy Care[®] Cellulose Insulation

Manufacturer: Nu-Wool Co., Inc.
2472 Port Sheldon St.
Jenison, MI 49428

Emergency Phone: (800) 748-0128

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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	65996-61-4	85-92%
Sodium polyborate	183290-63-3	5-10%
Boric acid	10043-35-3	3-5%

Other ingredients are present in the final product at less than 1% and do not pose a health hazard.

SECTION 4 – FIRST AID MEASURES

Eyes: For dust exposure, immediately flush eyes with plenty of water for at least 10 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.

Ingestion: Symptoms include diarrhea, nausea, and vomiting. Seek medical attention if material was ingested and symptoms persist.

Inhalation: If irritation or difficulty breathing occurs, remove to fresh air. Seek medical attention if conditions persist.

Notes to physicians or first aid providers: Exposure to dust may aggravate symptoms of persons with preexisting respiratory tract conditions and may cause skin and gastrointestinal symptoms.

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, CMS material is not flammable, combustible, or explosive. The product itself is a flame retardant.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

General: Boric acid may damage trees or vegetation when exposed to large quantities.

Land spill: Shovel, sweep, or vacuum product. Place in disposal container. Avoid bodies of water.

Water spill: 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.

SECTION 7 – HANDLING AND STORAGE

Precautions for Safe Handling: No special handling is required.

Conditions for safe storage, including incompatibilities: 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 controls so that dust levels are below the exposure limits listed in Section 8.

Storage temperature: Ambient

Storage pressure: Atmospheric

Special sensitivity: None

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA PEL-TWA: 15 mg/m³ total dust and 5 mg/m³ respirable dust

ACGIH TLV-TWA-OEL: 2 mg/m³ inhalable particles

ACGIH STEL: 6 mg/m³

Cal OSHA PEL-TWA: 10 mg/m³ total dust and 5 mg/m³ respirable fraction

ENGINEERING CONTROLS AND VENTILATION: Use local exhaust ventilation to keep airborne concentrations of dust below permissible exposure limits.

RESPIRATORY PROTECTION: Where airborne concentrations are expected to exceed exposure limits, NIOSH/MSHA certified respirators (e.g., N95) must be used.

EYE PROTECTION: Eye protection according to ANSI Z.87.1 or other national standards may be warranted if environment is excessively dusty.

SKIN PROTECTION: Standard work gloves (cotton, canvas or leather) may be warranted if environment is excessively dusty.

SECTION 8 NOTES: PEL: Permissible Exposure Limit, TLV: Threshold Limit Value, TWA: Time Weighted Average, STEL: Short Term Exposure Limit

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

Reactivity: Non-reactive

Stability: Stable

Possibility of hazardous reactions: Non-reactive

Conditions to avoid: None

Incompatible materials: None

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 fibers are not absorbed through intact skin. Nu-Wool® Premium Cellulose Insulation and Energy Care® Cellulose Insulation are not intended for ingestion.

Symptoms related to the physical, chemical, and toxicological characteristics: Symptoms of cellulose fiber exposure include runny nose, sneezing, and coughing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure: No chronic or reproductive effects from cellulose have been reported in the literature.

Acute toxicity:

Cellulose fiber:

- 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.

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.

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

CHRONIC HEALTH HAZARDS: No chronic effects from cellulose fiber, sodium polyborate, or boric acid 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: 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.

Classification: No classification

CARCINOGENICITY: Cellulose fiber, sodium polyborate, and boric acid are not listed as a known or suspected carcinogen by OSHA, ACGIH, NTP, or IARC.

SECTION 12 – ECOLOGICAL INFORMATION

Cellulose: No information found in the literature.

Boron: No information specific to sodium polyborate or 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)

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. Adsorption to soils or sediments is insignificant.

OTHER EFFECTS: None.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste disposal method: Dispose as a non-hazardous waste.

RCRA Hazard Class: This product is a non-hazardous waste when spilled or disposed of as defined in the Resource Conservation and Recovery Act (RCRA) regulations (40CFR 261).

SECTION 14 – TRANSPORT INFORMATION

May be shipped as a non-hazardous material.

SECTION 15 – REGULATORY INFORMATION

TSCA NO.: Nu-Wool® Premium Cellulose Insulation and Energy Care® Cellulose Insulation do not appear on the EPA TSCA inventory list. Boric acid does appear on the EPA TSCA inventory list (10043-35-3)

RCRA: Nu-Wool® Premium Cellulose Insulation and Energy Care® Cellulose Insulation are 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. Nu-Wool® Premium Cellulose Insulation and Energy Care® Cellulose Insulation are 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: Nu-Wool® Premium Cellulose Insulation and Energy Care® Cellulose Insulation are 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.

Clean Water Act (Federal Water Pollution Control Act): 33 USC 1251 et seq.

- a.) Nu-Wool® Premium Cellulose Insulation and Energy Care® Cellulose Insulation are not itself a discharge covered by any water quality criteria of Section 304 of the CWA, 33USC 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 May 2010.

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.