

Kirei Board

material safety data sheet

Effective Date: 8/1/08



PART I: PRODUCT IDENTIFICATION

Product: Kirei Board
Synonyms: Sorghum Plywood, Sorghum Board
Trade Names: Kirei Board

Manufacturer: Kirei USA, LLC
Corporate Office: 412 N. Cedros Ave.
Solana Beach, CA 92075
www.kireiusa.com

Non-Emergency phone: 619-236-9924

In Case of Emergency: Dial 911

PART II: COMPOSITION

Ingredients Sorghum Straw
KR Bond adhesive
Poplar Wood

PART V: REACTIVITY DATA

Stability: Stable under normal conditions.
Incompatibility: None known.
Conditions of reactivity: Hazardous polymerization will not occur.

PART III: PHYSICAL PROPERTIES

Physical State: Solid
Density Range: .5
Odor and appearance: Pale golden color,
no distinctive odor
Odor threshold: Not applicable
pH: Not applicable
Vapor pressure (mm Hg): Not applicable
Vapor density (air = 1): Not applicable
Evaporation rate (water = 1): Not applicable
% volatile by volume: Not applicable
Solubility in water: Not soluble-moisture resistant
Boiling point (OC): Not applicable
Freezing point (OC): Not applicable
Coefficient of oil/water distribution: Not applicable

PART VI: HEALTH AND HAZARD DATA

WHIMIS classification: Not a controlled product.
Primary routes of exposure: Sawing or sanding may produce sawdust particles which may irritate skin and eyes on contact and if inhaled.
Acute effects of exposure: Saw dust may cause mild irritation and redness to eyes.
Inhalation: Saw dust may cause mild irritation of the respiratory tract.
Chronic effects: None anticipated
Sensitizer: None anticipated

PART IV: FIRE AND EXPLOSION DATA

Autoignition temperature: Auto Ignition point for Kirei Board exceeds 200 degrees Fahrenheit.
Flammability classification: Class "C"
Conditions of flammability: Open flame
Special firefighting procedures: Cool boards in vicinity of fire with water spray. Fire fighters should be equipped with full protective gear, including self contained breathing apparatus.
Means of extinction: Water, foam, carbon dioxide, dry chemical.
Sensitivity to mechanical impact: Not applicable
Sensitivity to static discharge: Not applicable

PART VII: PREVENTION MEASURES

Gloves: May be used to protect the hands.
Respirator: Particulate mask recommended where necessary to protect against breathing sawdust.
Footwear: No special requirements.
Clothing: To prevent skin contact.
Engineering controls: Avoid generating sawdust where possible.
Leak and spill procedures: Sawdust should be gathered up without generating dust clouds and contained for disposal.
Waste disposal: Incinerate or landfill in accordance to municipal, provincial, state, and federal regulations.
Handling and storage: No special storage requirements.
Special shipping information: Not controlled under T.D.G.

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PART VIII: FIRST AID MEASURES

Skin contact: If sawdust irritates the skin, wash thoroughly with soap and water. Remove clothing and launder before re-use.

Eye contact: Flush eyes and under eyelids with plenty of cool water until dust particles are flushed away. Consult a physician if irritation persists. Inhalation: Move to fresh air.

PART IX: SPILL, LEAK, STORAGE, AND DISPOSAL

Important: Pick up, vacuum, or sweep spills for recovery and/or disposal. Avoid creating dusty conditions. Provide good ventilation where dust conditions cannot be avoided during cleanup. Place recovered dust in a container for proper disposal. Dispose in accordance with Federal, State, and Local regulations. Disposal is the responsibility of the generator.

PART X: PREPARATION DATA

Important: THE INFORMATION HEREIN IS BASED ON THE VENDOR'S MSDS, CCOSH, AND CCINFO WITH ADDITIONS AS NECESSARY TO COMPLY WITH CURRENT REGULATIONS.

THE INFORMATION IS BELIEVED TO BE ACCURATE AT THE TIME OF PREPARATION.

HOWEVER, KIREIUSA. MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED CONCERNING THE ACCURACY OR COMPLETENESS OF THE INFORMATION.

Kirei Bamboo

material safety data sheet

Effective Date: 5/1/08



PART I: PRODUCT IDENTIFICATION

Product: Kirei Bamboo Plywood, Panels, Veneer and Countertops
Synonyms: Bamboo Plywood, Furniture panel
Trade Names: Kirei Bamboo, Kirei Bamboo Veneer, Kirei Bamboo Countertops

Manufacturer: Kirei USA, LLC
Corporate Office: 412 N. Cedros Ave.
Solana Beach, CA 92075
www.kireiusa.com

Non-Emergency phone: 619-236-9924

In Case of Emergency: Dial 911

PART II: HAZARDOUS INGREDIENTS

Name	CAS#	%	Agency	Exposure Limits	Comments
Bamboo ⁽¹⁾	N/A	88-89%	OSHA OSHA ACGIH ACGIH	PEL-TWA 15 mg/m ³ PEL_TWA 5mg/m ³ TLV-TWA 3mg/m ³ TLV-STEL 10mg/m ³	Total Dust Respirable Dust Fraction Respirable Dust Fraction Inhalable Particles
Urea ⁽²⁾	9011-05-6	10-11	OSHA	PEL-TWA 0.75 ppm	Free gaseous formaldehyde
Formaldehyde			OSHA	PEL-STEL 2 ppm	Free gaseous formaldehyde
Solids			ACGIH	TLV- Ceiling 0.3 ppm	Free gaseous formaldehyde

(1) Bamboo is a member of the grass family which has distinct anatomical differences from that of wood. Therefore, bamboo would be regulated as an organic dust in a category known as "Particulates Not Otherwise Regulated" (PNOR), or Nuisance Dust. By OSHA. The ACGIH classifies dust or particulate in this category as "Particulates Not otherwise Specified".

(2) Contains less than 0.1% free formaldehyde

PART III: PHYSICAL PROPERTIES

Description: Unfinished plywood panels, veneers and countertops consisting of bamboo layers and veneers bonded using low-emitting adhesives. Generally used in cabinets, furnishings, flooring, and in other non-structural applications. Typically provided as veneers, 4' X 8' panels and countertops. Other dimensions of bamboo plywood and veneers are available. Thickness of products range from 1/42" of an inch to over 1".

Specific gravity: Usually less than 1, but varies depending on moisture content.

Boiling point: Not applicable.

Solubility in water: Insoluble.

Appearance/Odor: Light to dark in color. Color and odor vary by species and grain style

PART IV: FIRE AND EXPLOSION DATA

Flash point: N/A

Autoignition temperature: Varies (typically 400° F to 500° F)

Explosive limits in air: N/A

Extinguishing dry media: Water, carbon dioxide, sand or chemical

Special firefighting procedures: Follow established procedures for extinguishing wood source fire.

Unusual fire and explosion hazard: Bamboo plywood, panels and veneers do not present an explosion hazard. Sawing, sanding, or machining of bamboo plywood can produce dust as a by-product which may present an explosion hazard if a dust cloud contacts an ignition.

PART V: REACTIVITY DATA

Stability: Stable under normal conditions.

Incompatibility: Avoid contact with strong oxidizing agents and drying oils. Avoid open flame. Product may ignite at temperatures in excess of 400° F, depending on length of time of exposure.

Hazardous decomposition products: Thermal decomposition products include carbon monoxide, carbon dioxide, aliphatic aldehydes, osin acids, terpenes, and polycyclic aromatic hydrocarbons.

Conditions to avoid: Avoid open flames or other ignition source.

Storage: In a cool, dry place, away from ignition sources. Provide adequate ventilation

PART VI: HEALTH AND HAZARD DATA:

Eye contact: Bamboo dust can cause mechanical irritation.

Skin contact: Bamboo dust may evoke allergic contact dermatitis in sensitized individuals.

Ingestion: Not likely to occur.

Inhalation: Bamboo dust may cause nasal dryness and/or irritation. Coughing, sneezing, wheezing, sinusitis, prolonged colds, and headaches have also been reported. May aggravate preexisting respiratory conditions or allergies. Bamboo dust may cause nasal obstruction.

Chronic effects: Depending on species, wood dust may cause dermatitis on prolonged, repetitive contact. Bamboo dust may cause respiratory irritation. Respiratory disorders may be aggravated by exposure.

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PART VI: HEALTH AND HAZARD DATA (Cont.):

- NTP - Group 2:** Reasonably anticipated to be a carcinogen.
 A) Limited evidence of carcinogenicity from studies in humans which indicates that causal relationship is credible.
 B) Sufficient evidence of carcinogenicity from studies in experimental animals
- IARC - Group 2A:** Probably carcinogenic to humans; limited human evidence and sufficient evidence in experimental animals. Studies of cancer incidence among workers in a wide variety of occupations have failed to convincingly show carcinogenic activity of formaldehyde in humans.
 Gaseous formaldehyde has been shown to cause cancer in certain laboratory animals after long term exposure to very high concentrations (14+ ppm), far above the levels of formaldehyde gas emitted by this product.

PART VII: PRECAUTIONS AND SAFE HANDLING

- Ventilation:** Provide adequate ventilation and exhaust to keep airborne contaminant concentration levels below the OSHA PELs.
- Personal protective equipment:** Wear goggles or safety glasses when manufacturing or machining any wood product. Wear NIOSH/MSHA approved respirator when the allowable limits may be exceeded. Other protective equipment, such as gloves and outer garments may be needed, depending on dust conditions.
- Fire prevention:** Avoid open flames or other ignition sources. Keep fire extinguisher readily available.

PART VIII: EMERGENCY AND FIRST AID PROCEDURES

- Eyes:** Flush with large amounts of water. Remove to fresh air. If irritation persists, seek medical attention.
- Skin:** Wash affected area with soap and water. If rash, persistent irritation, or dermatitis occurs, seek medical attention.
- Inhalation:** Remove to fresh air. Get medical advice if persistent irritation, severe coughing, or breathing difficulty occurs.
- Ingestion:** Not applicable.

PART IX: SPILL, LEAK, STORAGE, AND DISPOSAL

- Important:** Pick up, vacuum, or sweep spills for recovery and/or disposal. Avoid creating dusty conditions. Provide good ventilation where dust conditions cannot be avoided during cleanup. Place recovered dust in a container for proper disposal. Dispose in accordance with Federal, State, and Local regulations. Disposal is the responsibility of the generator.

PART X: KEY TO COMMONLY USED ACRONYMS:

- ACGIH:** American Conference of Government & Industrial Hygienists
EPA: Environmental Protection Agency
HUD: US Department of Housing & Urban Development
IARC: International Agency for Research on Cancer
LEL: Lowest explosion limit
Mg/m3: Milligrams per cubic meter
MSDS: Material Safety Data Sheet
NTP: National Toxicology Program
OSHA: Occupational Safety & Health Administration
PEL: Permissible exposure limit
PPM: Parts per million
STEL: Short term exposure limit
TLV: Threshold limit value
TWA: Time weighted average

PART XI: USER RESPONSIBILITY

Important: This information is offered in good faith. It is believed to be accurate and has been compiled from sources believed to be reliable. It is offered for your consideration, investigation, and verification. Kirei USA, LLC makes no warranty of any kind, expressed or implied, concerning the accuracy or completeness of the information and data herein. Furthermore, Kirei USA, LLC will not be liable for claims relating to any party's use of, or reliance on information and data contained herein, regardless of whether it is claimed that the information and data are inaccurate, incomplete, or otherwise misleading.

It is the responsibility of the user to comply with local, state, and/or federal regulations concerning the storage, use, processing, and disposal of the product or subsequently generated waste. It is the responsibility of the user to ensure that this MSDS is the most current version.

Kirei Wheatboard

material safety data sheet

Effective Date: 5/1/08



PART I: PRODUCT IDENTIFICATION

Product: Kirei Wheatboard
Synonyms: Wheatboard, Strawboard
Trade Names: Kirei Wheatboard

Manufacturer: Kirei USA, LLC
Corporate Office: 412 N. Cedros Ave.
Solana Beach, CA 92075
www.kireiusa.com

Non-Emergency phone: 619-236-9924

In Case of Emergency: Dial 911

PART II: COMPOSITION

Wheat Straw 90-95%
MDI Adhesive 5-10%

PART III: HAZARDS IDENTIFICATION

Emergency Overview: Solid straw board. Mild characteristic odor. Toxic fumes may be released in fire situations.

Potential Health Effects: (See Section 11 for toxicological data.)

Eye contact: Dust generated in processing may cause irritation or corneal injury due to mechanical action.

Skin contact: Solid or dusts may cause skin irritation due to mechanical abrasion. No adverse effects anticipated by skin absorption.

Ingestion: Swallowing is unlikely because of the physical state.

Inhalation: Dust generated by mechanical handling may cause irritation of the upper respiratory tract (nose and throat).

Systemic (Other Target Organ) Effects: No relevant information found.

Cancer Information: No relevant information found.

Teratology (Birth Defects): No relevant information found.

Reproductive Effects: No relevant information found.

PART IV: FIRST AID

Eye: Flush eyes with plenty of water; remove contact lenses after the first 1-2 minutes then continue flushing for several minutes. Only mechanical effects expected.

Skin: Wash skin with plenty of water.

Ingestion: No emergency medical treatment necessary.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Note to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

PART V: FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

Flashpoint: Not Applicable.

Method Used: Not Applicable.

Autoignition Temperature: >392°F, >200°C

Flammability Limits: LFL: Not Applicable.
UFL: Not Applicable.

Hazardous Combustion Products: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to phenolics, carbon monoxide, carbon dioxide and polycyclic aromatic compounds. Hazardous combustion products may include trace amounts of nitrogen oxides and hydrogen cyanide.

Other Flammability Information: Mechanical cutting, grinding or sawing can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.

Extinguishing Media: Water, carbon dioxide, dry chemical.

Fire Fighting Instructions: Keep people away. Isolate fire area and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. Cool surroundings with water to localize fire zone. Hand held carbon dioxide or dry chemical extinguishers may be used for small fires.

Protective Equipment For Fire Fighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting equipment (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Part VI: ACCIDENTAL RELEASE MEASURES

(See Section 15 for Regulatory Information)

Protect People: See MSDS Section 10 for information on stability and reactivity.

Protect the Environment: For additional information see Regulatory Information, MSDS Section 15.

Clean Up: Sweep up. Place in properly labeled containers.

PART VII: HANDLING AND STORAGE

Handling: This product is combustible and may constitute a fire hazard if improperly used or installed. When installed, this product should be adequately protected as directed by national building regulations or instructions in the specific application brochure.

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PART VII: HANDLING AND STORAGE (Cont.)

No smoking, open flame or sources of ignition in handling and storage area. Mechanical handling equipment can cause formation of dusts. Maintain good housekeeping. Layers of flammable dusts should not be permitted to accumulate. Keep dust away from ignition sources. Provide adequate local ventilation and appropriate dust handling systems.

Storage: Store flat with adequate support. Store in a dry place. Keep away from possible ignition sources. Keep away from open flames and spark producing equipment. Store in a cool, well ventilated area, away from sources of ignition. Proper ventilation is recommended to control dust formation.

PART VIII: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Personal Protective Equipment

Eye/Face Protection: Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles.

Skin Protection: No precautions other than clean body-covering clothing should be needed.

Respiratory Protection: In dusty atmospheres, use an approved particulate respirator.

Exposure Guideline(s): ACGIH TLV is 10 mg/m³ inhalable, 3 mg/m³ respirable for Particulates (insoluble) Not Otherwise Classified (PNOC). OSHA PEL is 15 mg/m³ total, 5 mg/m³ respirable for PNOC.

PART IX: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid, Straw board

Odor: Mild characteristic odor

Vapor Pressure: Not applicable

Vapor Density: Not applicable

Boiling Point: Not applicable

Solubility in Water: Not applicable

Specific Gravity: Not applicable

PART X: STABILITY AND REACTIVITY

Chemical Stability: Thermally stable at typical use temperatures.

Conditions to Avoid: Avoid temperatures above 200°C (392°F). Product can decompose at elevated temperatures.

Incompatibility with Other Materials: Avoid contact with drying oils and oxidizing materials.

Hazardous Decomposition Products: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials.

Hazardous Polymerization: Will not occur

PART XI: TOXICOLOGICAL INFORMATION

(See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

Mutagenicity: No relevant information found.

PART XII: ECOLOGICAL INFORMATION

(For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

Environmental Fate

Movement & Partitioning: No bioconcentration is expected because of the relatively high molecular weight (MW >1000). In the terrestrial environment, material is expected to remain in the soil.

Degradation & Persistence: No appreciable biodegradation is expected.

Ecotoxicity: Not expected to be acutely toxic to aquatic organisms.

PART XIII: DISPOSAL CONSIDERATIONS

(See Section 15 for Regulatory Information)

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. KIREI USA, LLC HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients). FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator, landfill.

PART XIV: TRANSPORT INFORMATION

Department of Transportation (D.O.T.):

This product is not regulated by D.O.T. when shipped domestically by land.

PART XV: REGULATORY INFORMATION

(Not meant to be all-inclusive—selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

SARA 313 Information:

To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

State Right-To-Know:

This product is not known to contain any substances subject to the disclosure requirements of New Jersey and Pennsylvania

OSHA Hazard Communication Standard:

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. CANADIAN REGULATIONS

WHMIS Information:

The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:
This product is exempt under WHMIS.

Canadian Environmental Protection Act (CEPA):

All substances in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.