

Material Safety Data Sheet (MSDS) - Engineered Rigid (SPC) Core Bamboo



For Engineered Rigid (SPC) Core Strand Bamboo Flooring

This MSDS solely applies to Ambient™ bamboo flooring products.

SECTION A of this MSDS refers to the *strand woven bamboo wear layer* (1mm thickness) of this flooring.

SECTION B of this MSDS refers to the *rigid stone polymer composite (SPC) core* of this flooring.

SECTION C of this MSDS refers to the *IXPE foam underlayment* located on the underside of this flooring.

I. PRODUCT IDENTIFICATION

PRODUCT NAME	Prefinished Engineered Rigid (SPC) Core Strand Woven Bamboo Flooring
MANUFACTURER/ DISTRIBUTOR	Ambient Bamboo Floors Contact
APPLICATIONS	Residential and Commercial Flooring (Indoor Use Only)
PRODUCTS	Link

SECTION A - Strand Woven Bamboo Wear Layer

II. INGREDIENTS

NAME	PERCENT	EXPOSURE LIMITS	COMMENTS	REGULATORY AGENCY
BAMBOO	94-95%	PEL-TWA 15 mg/m ³ PEL-TWA 5 mg/m ³ TLV-TWA 3 mg/m ³ TLV-STEL 10 mg/m ³	Total dust Respirable dust fraction Respirable dust fraction Inhalable particles	OSHA OSHA ACGIH ACGIH
PHENOL FORMALDEHYDE RESIN SOLIDS	4-5%	PEL-TWA 0.75 ppm PEL-STEL 2 ppm TLV- Ceiling 0.3 ppm	Free gaseous formaldehyde Free gaseous formaldehyde Free gaseous formaldehyde	OSHA OSHA ACGIH
POLYMERIZED POLYURETHANE (UV FINISH)	0-1%	PEL-TWA None TLV-TWA None	None None	OSHA ACGIH

III. HAZARD IDENTIFICATION

Appearance and Odor: A natural or toasted honey (carbonized) bamboo fiber with no, to a slight odor.

Primary Health Hazards: The extent to which health hazards are of primary concern for this product is the exposure to dust particles generated during machining, sanding, cutting, sawing, planing or routing.

Primary Route(s) of Exposure:

Eyes: Dust

Ingestion: N/A

Inhalation: Dust

Skin: Dust

Medical Conditions Generally Aggravated by Exposure: Dust particles can trigger respiratory conditions or pre-existing allergies.

Chronic Health Hazards: No tests have shown any correlating long term effects of bamboo dust and respiratory conditions, or cancer.

Carcinogenicity:

NTP - Formaldehyde, Group: N/A

IARC Monographs - Formaldehyde, Group: N/A

OSHA Regulated - Formaldehyde: N/A

IV. EMERGENCY AND FIRST-AID PROCEDURES

Ingestion: N/A

Eye Contact: Dust in eye may cause redness or watering, but should be treated as a foreign object. Flush with water several times. If irritation persists, you should seek medical attention.

Skin Absorption: Has not been known to occur under normal use

Inhalation: Out-of-the-box, or in whole form, this is N/A. Bamboo dust can cause sensitive individuals to experience respiratory difficulties, nasal irritation, cough or sneezing. Leave area and go to fresh air. Seek medical attention if respiratory difficulties or cough become severe, or nasal irritation persists.

V. FIRE AND EXPLOSION

Flash Point Method: N/A

Flammable Limits: N/A

LEL: N/A

UEL: N/A

Extinguishing Media: Carbon Dioxide, Dry Chemical or Sand. Water

Auto ignition Temperature: Variable (400-500 F)

Special Firefighting Procedures: None.

Unusual Fire/Explosion Hazards: None.

VI. ACCIDENTAL RELEASE MEASURES

Out-of-the-box, this procedure is N/A. However, dust generated from cutting, drilling, planning, routing or sanding and related machining may be shoveled or vacuumed and properly disposed of. A NOISH-approved dust respirator and goggles should be worn if dust exposure limits are exceeded.

VII. HANDLING AND STORAGE

Precautions to be Taken In Handling and Storage: Out-of-the-box there is no special handling required for this product. These products may release very small quantities of formaldehyde in gaseous form. Under foreseeable conditions of use, these products release less than 0.010 ppm in standard large chamber test conditions. This product should be kept in cool, dry environment and not exposed to high heat or flame. Store in well-ventilated area.

VIII. EXPOSURE CONTROL MEASURES

Personal Protective Equipment:

RESPIRATORY PROTECTION: Not required when taken out-of-the-box, however a NOISH-approved dust respirator is recommended for high dust producing activities such as cutting, drilling, planning or routing.

PROTECTIVE GLOVES: Not required when taken out-of-the-box, however some sort of work glove is recommended to avoid splinters or silvers after machining and handling the product.

EYE PROTECTION: Not required, but strongly recommended when machining or milling any material.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Are not required, but long sleeves and/or pants might be desirable.

WORK/HYGIENE PRACTICES: It is recommended to clean up dusty areas to avoid excess accumulation. Minimize practices that generate high air-borne dust particles.

Ventilation:

LOCAL EXHAUST: Provide local exhaust as needed so that exposure limits are met.

MECHANICAL: Good ventilation in processing and storage areas should be provided so that exposure limits are met.

IX. PHYSICAL/CHEMICAL PROPERTIES

Boiling Point: N/A

Vapor Pressure: N/A

Vapor Density: N/A

Specific Gravity: 1.03 g/ml

Melting Point: N/A

Evaporation Rate: N/A

Solubility in Water: <0.1

% Volatile by Vol: 0

X. STABILITY AND REACTIVITY

Stability:

() Unstable

(X) Stable

Conditions to Avoid: Excessive moisture, condensation or water vapor as this may cause warping or popping of the boards. Open flame or conditions above 400 F may cause the product to ignite.

Incompatibility (Materials to Avoid): Avoid contact with oxidizing agents.

Hazardous Decomposition or By-Products: Thermal decomposition by-products include carbon monoxide, carbon dioxide, aliphatic aldehydes, rosin acids, terpenes, and polycyclic aromatic hydrocarbons.

Hazardous Polymerization: Will not occur.

Sensitivity to Mechanical Impact: N/A

Sensitivity to Static Discharge: N/A

XII. TOXICOLOGICAL INFORMATION

The product, in the finished form, has no reportable toxicological information. Formaldehyde OSHA Hazard rating = 3 for local and systemic acute and chronic exposures; highly toxic. Irritation studies: human skin, 150 ug/3 days, intermittent exposure produced mild results; human eye, 1 ppm/6 minutes, produced mild results. Toxicity studies: human inhalation TCLO of 8 ppm reported but response not specified; human inhalation TCLO of 17/mg/m³ for 30 minutes produced eye and pulmonary results; human inhalation TCLO of 300ug/m³ produced nose and CNS results; LC50 (rat, inhalation) = 1,000 mg/m³/30 minutes; LC50 (mice, inhalation) = 400mg/m³/2 hours.

Sources: Lewis, R.J., Sr. *1992 Sax's Dangerous Properties of Industrial Materials*, Eighth

Edition, Van Nostrand Reinhold, NY.; *NIOSH Registry of Toxic Effects of Chemical Substances*

(RTECS), 1983-1984 Cumulative Supplement to 1981-1982 Edition and May 1995;
OSHA
Regulated Hazardous Substances, Government Institutes, Inc., February 1990.

XII. ECOLOGICAL INFORMATION

Ambient Bamboo (Moso species) is a rapidly renewable product, and can contribute up to two LEED credits. This product does not contribute to the diminishment of natural wood forests.

XIII. DISPOSAL CONSIDERATIONS

Waste Disposal Method: In out-of-the-box product form, incineration is the preferred disposal method. However, if you choose Land disposal, refer to the RCRA criteria and local requirements, and determine if the material is considered hazardous waste. Take the appropriate steps according the information acquired above.

XIV. TRANSPORT INFORMATION

Not regulated as a hazardous material by U.S. Department of Transportation. Not listed as hazardous material in Canadian Transportation of Hazardous Goods regulations.

XV. REGULATORY INFORMATION

TSCA: All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

Chemicals listed: Formaldehyde CAS# 50-00-0

DSL: All ingredients are listed or are not required to be listed under the Canadian Domestic Substance List.

Chemicals listed: Formaldehyde CAS# 50-00-0

WHMIS Classification

Not a controlled product

State Right to Know:

- **California Prop 65** – This product contains formaldehyde which may be emitted from product. Formaldehyde is a compound that is known in the State of California to cause cancer. Ambient has emission-tested its products for formaldehyde, and finds the emissions rate to be well below a significant risk level that would require product warnings.
- **Pennsylvania** – This product contains formaldehyde which depending on humidity and temperature may be emitted from product.

SARA Section 313 Information:

This product contains formaldehyde at a concentration that lists it with the chemical to SARA Title III, Section 313 supplier notification requirements. This product falls considerably below the Threshold Planning Requirement for Formaldehyde of 500 lbs.

SARA Section 311/312 Hazard Category

Under the above referenced category, and reviewed against definitions, the product meets:

- An immediate (acute) health hazard: Yes – dust only
- A delayed (chronic) health hazard: No
- A fire hazard: No
- A reactivity hazard: No
- A sudden release hazard: No

XVI. ADDITIONAL INFORMATION

USER RESPONSIBILITY: The information contained in this MSDS comes from sources believed to be accurate or otherwise technically correct, and information from occupational health and safety professionals, and regulatory agencies. It is the user's responsibility to determine if this information is suitable for their applications, and to follow safety precautions as necessary. The user has the responsibility to make sure that this sheet is the most up-to-date initial or revision issue.

GLOSSARY

ACGIH-	American Conference of Government Industrial Hygienists Ceiling limit
CAS# -	Chemical Abstracts Numbering System
DSL-	Canadian Domestic Substance List
EPA-	U.S. Environmental Protection Agency
IARC-	International Agency for Research on Cancer
LCLo-	Lowest concentration in air resulting in death
LC50-	Administered dose resulting in death to 50% of experimental animals
LDLo-	Lowest dose resulting in death
MSHA-	Mining Safety and Health Administration
ND-	Not determined
N/A-	Not applicable
NAV-	Not available
NIOSH-	National Institute for Occupational Safety and Health
NTP-	National Toxicology Program
OSHA-	Occupational Safety and Health Administration
PEL-	Permissible Exposure Level
PPM-	Parts of gas or vapor per million parts of air
RCRA-	Resource Conservation and Recovery Act
SARA-	Superfund Amendments and Reauthorization Act
STEL-	Short-Term Exposure Limit (15 minutes)
TDG-	Canadian Transportation of Dangerous Goods
TCLo-	Lowest concentration in air resulting in a toxic effect
TDLo-	Lowest dose resulting in a toxic effect

TLV- Threshold Limit Value
TSCA- Toxic Substance Control Act
TWA- Time-Weighted Average (8 hours)
WHMIS- Workplace Hazardous Materials Information System

SECTION B - Rigid Stone Polymer Composite (SPC) Core

II. INGREDIENTS

NAME	PRODUCT NO.	80	92	PERCENTAGE
PVC	SG-5	50	50	16.461%
Calcium Carbonate	--	150	180	54.321%
Regrind	--	75	75	24.691%
Stabilizer	FM100	5.5	4.5	1.646%
PE Wax	--	1	1.2	0.362%
ACR	HF-801	3	3	0.988%
CPE	135A	3	3	0.988%
External lubricant	A380	0.8	0.6	0.230%
Internal Lubricant	FMS60	0.8	0.8	0.263%
Carbon Black	N330	0.3	--	0.049%

III. HAZARD SUMMARY

SPC does not contain formaldehyde, benzene, hydroxybenzene etc. There are no hazardous ingredients.

IV. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use dry chemical, CO₂, water spray (fog).

Fire Protecting Performance: No combustion, can stop burning.

V. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Color: Grey

Abrasion Resistance: <0.023g/cm*cm (GB4085-83)

Fire-Protection Rating: B1

Corrosion Resistance: Alcohol, Acetone, HCL and NAOH aqueous solution resistance.

Chemical Stability: The product is stable.

Possibility of Hazardous Reactions: No

SECTION C - IXPE Foam Underlayment

1 Identification

- **Product identifier**
- **Trade name:** *IXPE foam*
- **Application of the substance / the preparation:** *Packaging*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
*AMBIENT BUILDING PRODUCTS, INC.
8230 PRESTON COURT STE C, JESSUP MD 20794
301-498-0234*
- **Further information obtainable from:** *AMBIENT BUILDING PRODUCTS, INC.*
- **Emergency telephone number:**
301-498-0234
- **Email:** *info@ambientbp.com*
- **Reference Number:** *SHTY130300003358; SHATY1304161602*

2 Hazards identification

- **Hazard description:** *Not applicable.*
- **Information pertaining to particular dangers for man and environment:**
The product is not classified as dangerous according to OSHA Hazard Communication Standard (29 CFR 1910.1200).
- **Classification system:**
The classification is according to the latest edition of OSHA Hazard Communication Standard (29 CFR 1910.1200), and extended by company and literature data.
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**



3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

471-34-1	calcium carbonate	2-3%
14807-96-6	Talc ($Mg_3H_2(SiO_3)_4$)	0.7-1%

· **Non dangerous components:**

9002-88-4	polyethylene	95-97%
123-94-4	glycerol 1-stearate	1-2%

4 First aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

(Contd. on page 2)

USA

Trade name: IXPE foam

(Contd. of page 1)

- **After swallowing:**
Rinse out mouth with water.
If symptoms persist consult doctor.

5 Firefighting measures

- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Avoid formation of dust.
Keep away from ignition sources.
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose contaminated material as waste according to item 13.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Keep receptacles tightly sealed.
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
- **Information about protection against explosions and fires:** Normal measures for preventive fire protection.
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from flammable substances.
Store away from oxidizing agents.
- **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

471-34-1 calcium carbonate

PEL	15* 5** mg/m ³ *total dust **respirable fraction
REL	10* 5** mg/m ³ *total dust **respirable fraction
TLV	TLV withdrawn

(Contd. on page 3)

USA

14807-96-6 Talc (Mg₃H₂(SiO₃)₄)

PEL 20 mppcf ppm
(containing <1% Quartz)

REL 2* mg/m³
*respirable dust

TLV 2* mg/m³
*as respirable fraction; E

- *Additional information: The lists that were valid during the creation were used as basis.*
- *Based on the composition shown in section 3, the following measures are suggested for occupational safety measure*
- *Personal protective equipment*
- *General protective and hygienic measures:*
The usual precautionary measures for handling chemicals should be followed.
- *Breathing equipment: Suitable respiratory protective device recommended.*
- *Protection of hands:*
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- *Material of gloves:*
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- *Penetration time of glove material:*
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- *Eye protection: Safety glasses*

9 Physical and chemical properties

- | | |
|--|-----------------------|
| · <i>General Information</i> | |
| · <i>Appearance:</i> | |
| · <i>Form:</i> | <i>Solid</i> |
| · <i>Color:</i> | <i>Beige</i> |
| · <i>Odor:</i> | <i>Odorless</i> |
| · <i>Odour threshold:</i> | <i>Not available.</i> |
| · <i>pH-value:</i> <i>Not available.</i> | |
| · <i>Change in condition</i> | |
| · <i>Melting point/Melting range:</i> | <i>Not available.</i> |
| · <i>Freezing point:</i> | <i>Not available.</i> |
| · <i>Boiling point/Boiling range:</i> | <i>Not available.</i> |
| · <i>Flash point:</i> | <i>Not available.</i> |
| · <i>Flammability (solid, gaseous):</i> | <i>Not available.</i> |
| · <i>Auto-Ignition temperature:</i> | <i>Not available.</i> |
| · <i>Decomposition temperature:</i> | <i>Not available.</i> |
| · <i>Explosion limits:</i> | |
| · <i>Lower:</i> | <i>Not available.</i> |
| · <i>Upper:</i> | <i>Not available.</i> |

· Vapor pressure:	Not available.
· Density:	Not available.
· Relative density	Not available.
· Vapour density	Not available.
· Evaporation rate	Not available.
· Solubility in / Miscibility with Water:	Not available.
· Partition coefficient (n-octanol/water):	Not available.
· Viscosity:	
Dynamic:	Not available.

10 Stability and reactivity

- **Reactivity** No decomposition if used according to specifications.
- **Chemical stability** Stable under recommended storage conditions.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Strong oxidizing agents
- **Hazardous decomposition products:**
Hazardous decomposition products formed under fire conditions. - carbon oxides

11 Toxicological information

- **Acute toxicity**

- **LD/LC50 values that are relevant for classification:**

9002-88-4 polyethylene

Oral LD50 > 2000 mg/kg (rat)

471-34-1 calcium carbonate

Oral LD50 6450 mg/kg (rat)

- **Primary irritant effect**
- **on the skin:** Irritating effect possible.
- **on the eye:** Irritating effect possible.
- **Sensitization:** Sensitization possible.
- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

9002-88-4 polyethylene

3

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

2B

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

- *Persistence and degradability* No further relevant information available.
- *Bioaccumulative potential* No further relevant information available.
- *Mobility in soil* No further relevant information available.
- *Additional ecological information:*
- *General notes:*
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- *Waste treatment methods*
- *Recommendation: Smaller quantities can be disposed of with household waste.*
- *Uncleaned packagings*
- *Recommendation: Disposal must be made according to official regulations.*

14 Transport information

- | | |
|---|------------------------|
| · <i>UN-Number</i> | |
| · <i>DOT, IMDG, IATA</i> | <i>Not applicable.</i> |
| · <i>UN proper shipping name</i> | |
| · <i>DOT, IMDG, IATA</i> | <i>Not applicable.</i> |
| · <i>Transport hazard class(es)</i> | |
| · <i>DOT, IMDG, IATA</i> | |
| · <i>Class</i> | <i>Not applicable.</i> |
| · <i>Packing group</i> | |
| · <i>DOT, IMDG, IATA</i> | <i>Not applicable.</i> |
| · <i>Environmental hazards</i> | |
| · <i>Marine pollutant:</i> | <i>No</i> |
| · <i>Special precautions for user</i> | <i>Not applicable.</i> |
| · <i>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</i> | <i>Not applicable.</i> |

15 Regulatory information

- *Safety, health and environmental regulations/legislation specific for the substance or mixture*
- *Sara*

· *Section 355 (extremely hazardous substances):*

None of the ingredient is listed.

· *Section 313 (Specific toxic chemical listings):*

None of the ingredients is listed.

· *TSCA (Toxic Substances Control Act):*

All ingredients are listed.

· *Proposition 65*

· *Chemicals known to cause cancer:*

None of the ingredients is listed.

· *Chemicals known to cause reproductive toxicity for females:*

None of the ingredients is listed.

· *Chemicals known to cause reproductive toxicity for males:*

None of the ingredients is listed.

· *Chemicals known to cause developmental toxicity:*

None of the ingredients is listed.

· *Carcinogenicity categories*

· *EPA (Environmental Protection Agency):*

None of the ingredients is listed.

· *TLV (Threshold Limit Value established by ACGIH):*

14807-96-6 Talc ($Mg_3H_2(SiO_3)_4$)

A4

· *NIOSH-Ca (National Institute for Occupational Safety and Health):*

None of the ingredients is listed.

· *OSHA-Ca (Occupational Safety & Health Administration):*

None of the ingredients is listed.

· *National regulations*

· *Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.*

16 Other information

· *****
The contents and format of this SDS are in accordance with 29 CFR 1910.1200(g).

DISCLAIMER OF LIABILITY :

The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

· *****
End of document