What is the HPD Open Standard?

Three Component Parts

- Standardized reporting format
- Step-by-step reporting instructions
- Best Practices on hazard screening, residuals & impurities, etc.

HPD Open Standard Simplifies

Disclosure and Transparency levels are determined by the Manufacturer

Reporting

What is the Data?

How do I report it?

- Accurate
- Reliable
- Consistent

Disclosure

How Precise is the Reporting?

Who Receives the Data?

- Completeness?
- Threshold levels?
- Handling CBI data?

Transparency

Make the Data Public

- Open Innovation
- Collaboration

Provides plug-and-play compatibility

- Eliminates barriers to connectivity
  - A standard for data reporting among key players, such as: International Living Future Institute (ILFI), Cradle to Cradle Products Innovation Institute (C2CPII), USGBC, WELL
  - Open to all others
- Reduced cost and improved quality
  - Report once – reuse many times
  - Further analysis and assessment, such as for advanced product health certifications, can count on a standard for data completeness and quality

Creating a free-flowing universe of open material health information

Product Libraries, Data Management and Interpretive Tools

Certifications

Data Management, Screening, Assessment Methods and Tools

PARSONS HEALTHY MATERIALS LAB
GREEN BADGER
buildingclean.org
ORIGIN
mindful MATERIALS
Sustainable Minds Transparency Catalog
BIMsmith
HomeFree
ecomedes
LIVING BUILDING CHALLENGE
level
Declare.
LEED
Google
Enterprise green communities
CERTIFIED cradle to cradle
Healthy Flooring criteria
INTERNATIONAL WELL BUILDING INSTITUTE
GREEN SCREEN FOR SAFER CHEMICALS
toxnot PBC
GLOBAL GREEN TAG INTERNATIONAL green product certification trust brands
Pharos
Makersite

Building Design and Construction Project Teams

Product Manufacturers and Suppliers

Note: Not an information technology network diagram. Logos and programs shown represent illustrative examples, not an exhaustive list. Registered Marks are the property of their owners.

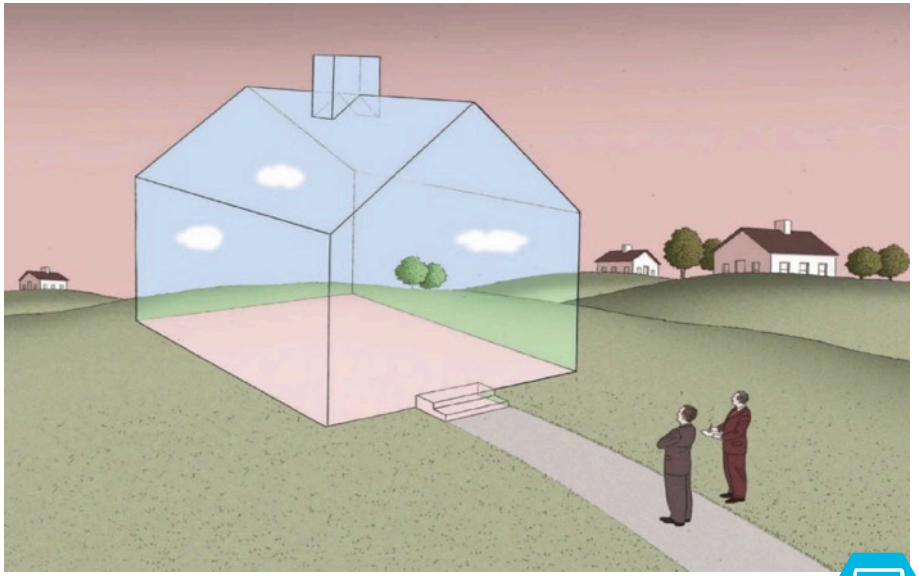
Reporting is the first step

Reporting enables manufacturers and designers to know what is in a product and associated health information

It is the first step toward optimization for healthier and safer products and buildings

Circularity requires transparency

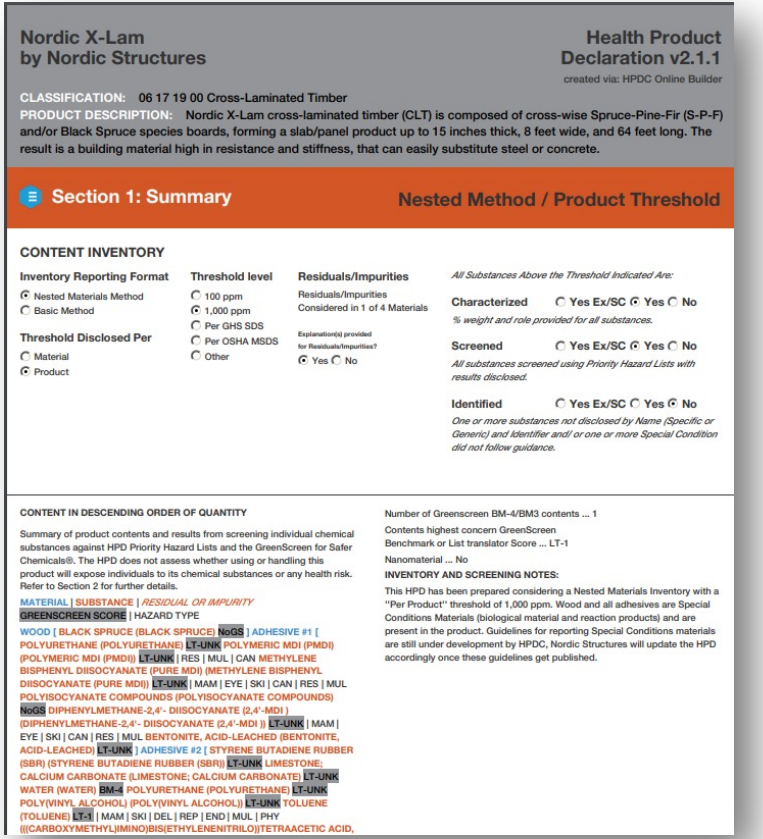
- How can we plan for recycling and reuse without knowing what is in products?
- Whether planning for a 1, 10, or 100-year lifespan, responsible end-of-life management of buildings requires knowing “what’s in there”
- Even if health information is not known today, knowing the chemical contents enables using new health information as it emerges



Art: Guy Billout, from GreenSource magazine

What is a published HPD report?

- A publicly-available archive of manufacturer-provided data, reported in compliance with the HPD Open Standard
  - Product Content
  - Associated Health Information
- Not a rating or certification
- Data can be provided using HPD Builder or other connected systems, such as Toxnot



Nordic X-Lam
by Nordic Structures

Health Product Declaration v2.1.1
created via: HPDC Online Builder

CLASSIFICATION: 06 17 19 00 Cross-Laminated Timber
PRODUCT DESCRIPTION: Nordic X-Lam cross-laminated timber (CLT) is composed of cross-wise Spruce-Pine-Fir (S-P-F) and/or Black Spruce species boards, forming a slab/panel product up to 15 inches thick, 8 feet wide, and 64 feet long. The result is a building material high in resistance and stiffness, that can easily substitute steel or concrete.

Section 1: Summary — Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format: (•) Nested Materials Method ( ) Basic Method
Threshold Disclosed Per: ( ) Material (•) Product
Threshold level: ( ) 100 ppm (•) 1,000 ppm ( ) Per GHS SDS ( ) Per OSHA MSDS ( ) Other
Residuals/Impurities: Residuals/Impurities Considered in 1 of 4 Materials
Explanation(s) provided for Residuals/Impurities? (•) Yes ( ) No

All Substances Above the Threshold Indicated Are:

Characterized ( ) Yes Ex/SC (•) Yes ( ) No
% weight and role provided for all substances.

Screened ( ) Yes Ex/SC (•) Yes ( ) No
All substances screened using Priority Hazard Lists with results disclosed.

Identified ( ) Yes Ex/SC ( ) Yes (•) No
One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | *RESIDUAL OR IMPURITY*
GREENSCREEN SCORE | HAZARD TYPE

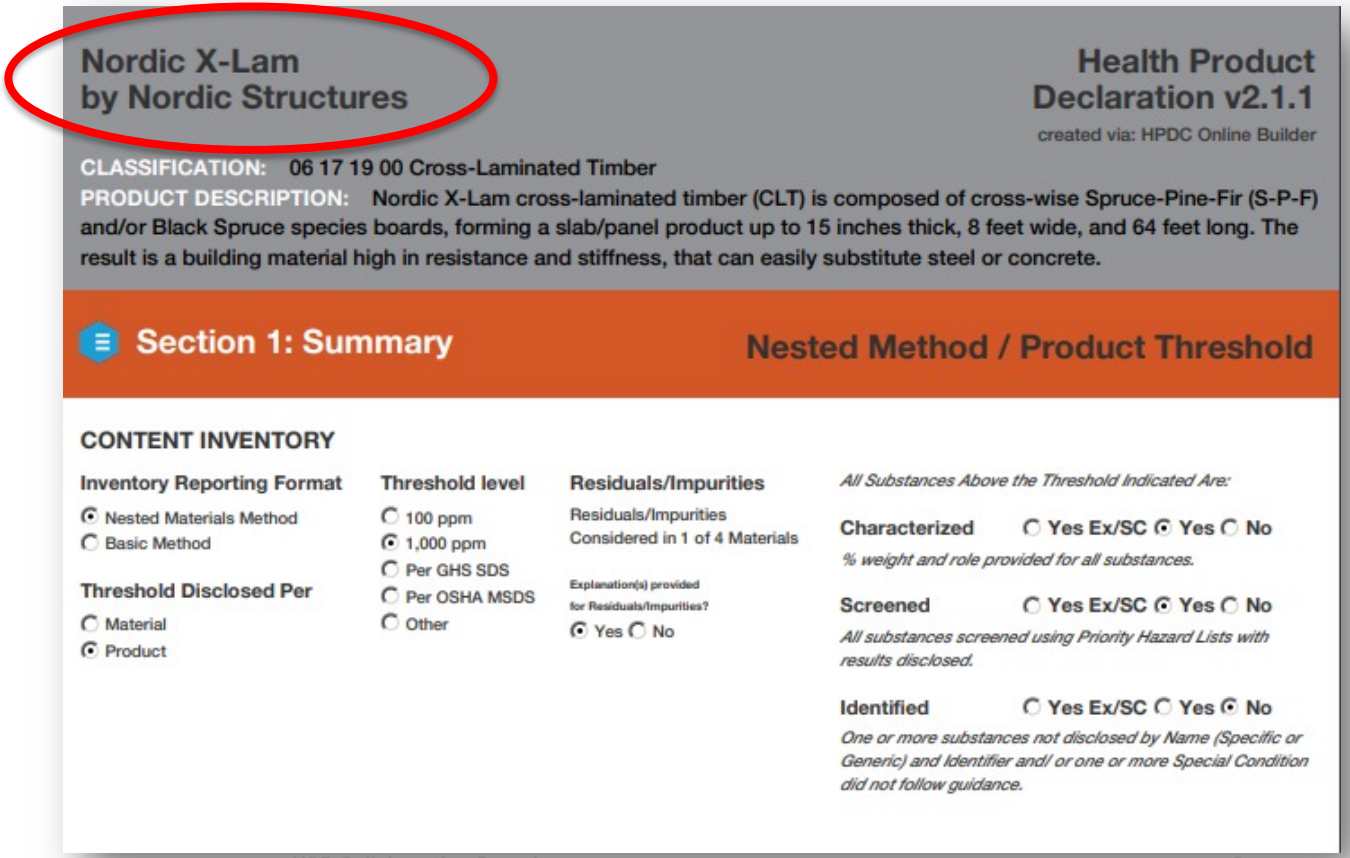
WOOD [BLACK SPRUCE (BLACK SPRUCE) NoGS] ADHESIVE #1 [POLYURETHANE (POLYURETHANE) LT-UNK POLYMERIC MDI (PMDI) (POLYMERIC MDI (PMDI)) LT-UNK | RES | MUL | CAN METHYLENE BISPHENYL DIISOCYANATE (PURE MDI) (METHYLENE BISPHENYL DIISOCYANATE (PURE MDI)) LT-UNK | MAM | EYE | SKI | CAN | RES | MUL POLYISOCYANATE COMPOUNDS (POLYISOCYANATE COMPOUNDS) NoGS DIPHENYLMETHANE-2,4'- DIISOCYANATE (2,4'-MDI) (DIPHENYLMETHANE-2,4'- DIISOCYANATE (2,4'-MDI)) LT-UNK | MAM | EYE | SKI | CAN | RES | MUL BENTONITE, ACID-LEACHED (BENTONITE, ACID-LEACHED) LT-UNK] ADHESIVE #2 [STYRENE BUTADIENE RUBBER (SBR) (STYRENE BUTADIENE RUBBER (SBR)) LT-UNK LIMESTONE; CALCIUM CARBONATE (LIMESTONE; CALCIUM CARBONATE) LT-UNK WATER (WATER) BM-4 POLYURETHANE (POLYURETHANE) LT-UNK POLY(VINYL ALCOHOL) (POLY(VINYL ALCOHOL)) LT-UNK TOLUENE (TOLUENE) LT-1 | MAM | SKI | DEL | REP | END | MUL | PHY (((CARBOXYMETHYL)IMINO)BIS(ETHYLENENITRILO))TETRAACETIC ACID,

Number of Greenscreen BM-4/BM3 contents ... 1
Contents highest concern GreenScreen Benchmark or List translator Score ... LT-1
Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

This HPD has been prepared considering a Nested Materials Inventory with a "Per Product" threshold of 1,000 ppm. Wood and all adhesives are Special Conditions Materials (biological material and reaction products) and are present in the product. Guidelines for reporting Special Conditions materials are still under development by HPDC, Nordic Structures will update the HPD accordingly once these guidelines get published.

Product and manufacturer identification



Nordic X-Lam
by Nordic Structures

Health Product Declaration v2.1.1
created via: HPDC Online Builder

CLASSIFICATION: 06 17 19 00 Cross-Laminated Timber
PRODUCT DESCRIPTION: Nordic X-Lam cross-laminated timber (CLT) is composed of cross-wise Spruce-Pine-Fir (S-P-F) and/or Black Spruce species boards, forming a slab/panel product up to 15 inches thick, 8 feet wide, and 64 feet long. The result is a building material high in resistance and stiffness, that can easily substitute steel or concrete.

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format
- (•) Nested Materials Method
- ( ) Basic Method

Threshold Disclosed Per
- ( ) Material
- (•) Product

Threshold level
- ( ) 100 ppm
- (•) 1,000 ppm
- ( ) Per GHS SDS
- ( ) Per OSHA MSDS
- ( ) Other

Residuals/Impurities
Residuals/Impurities Considered in 1 of 4 Materials

Explanation(s) provided for Residuals/Impurities?
- (•) Yes ( ) No

All Substances Above the Threshold Indicated Are:

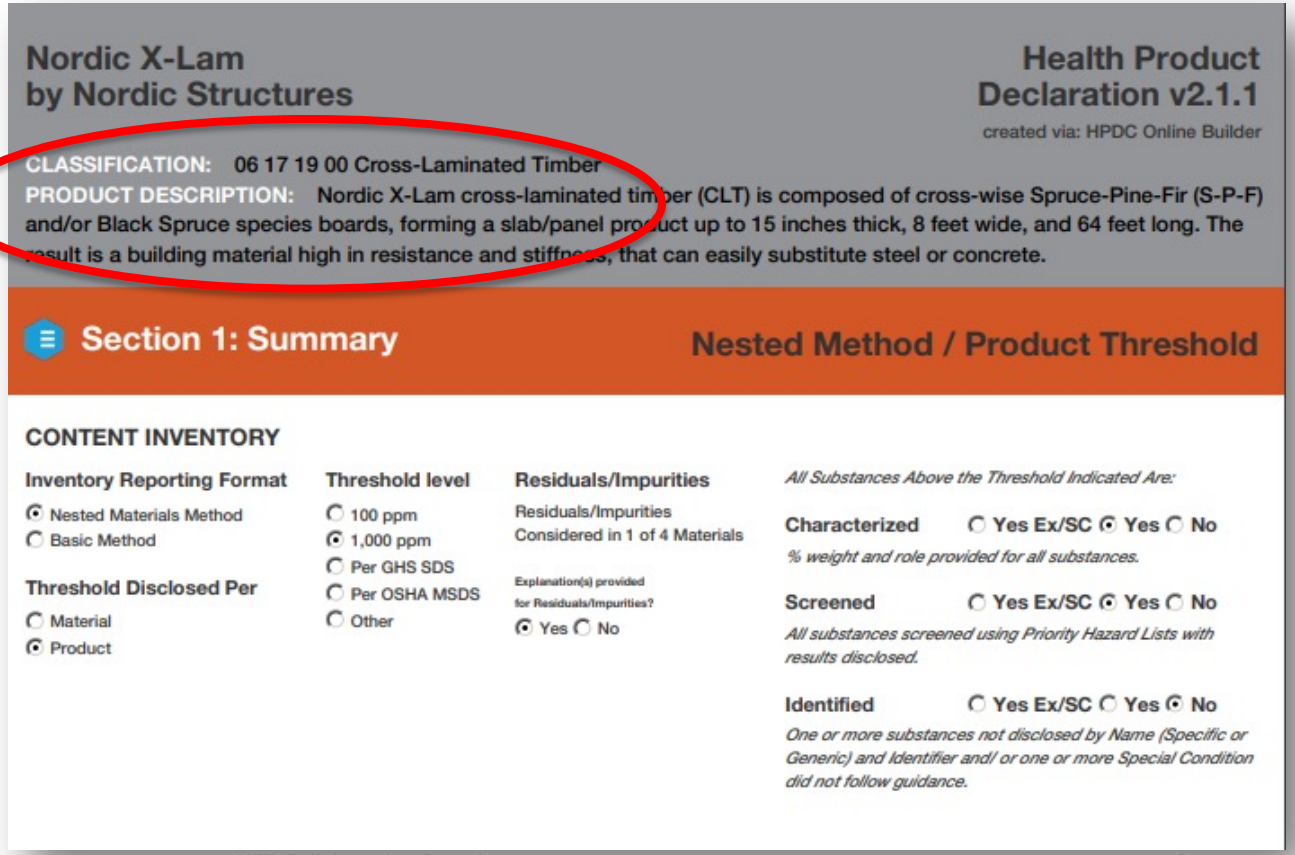
Characterized ( ) Yes Ex/SC (•) Yes ( ) No
% weight and role provided for all substances.

Screened ( ) Yes Ex/SC (•) Yes ( ) No
All substances screened using Priority Hazard Lists with results disclosed.

Identified ( ) Yes Ex/SC ( ) Yes (•) No
One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

Product description

CSI classification



Nordic X-Lam
by Nordic Structures

Health Product Declaration v2.1.1

created via: HPDC Online Builder

CLASSIFICATION: 06 17 19 00 Cross-Laminated Timber

PRODUCT DESCRIPTION: Nordic X-Lam cross-laminated timber (CLT) is composed of cross-wise Spruce-Pine-Fir (S-P-F) and/or Black Spruce species boards, forming a slab/panel product up to 15 inches thick, 8 feet wide, and 64 feet long. The result is a building material high in resistance and stiffness, that can easily substitute steel or concrete.

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format
- (•) Nested Materials Method
- ( ) Basic Method

Threshold Disclosed Per
- ( ) Material
- (•) Product

Threshold level
- ( ) 100 ppm
- (•) 1,000 ppm
- ( ) Per GHS SDS
- ( ) Per OSHA MSDS
- ( ) Other

Residuals/Impurities

Residuals/Impurities Considered in 1 of 4 Materials

Explanation(s) provided for Residuals/Impurities?
- (•) Yes ( ) No

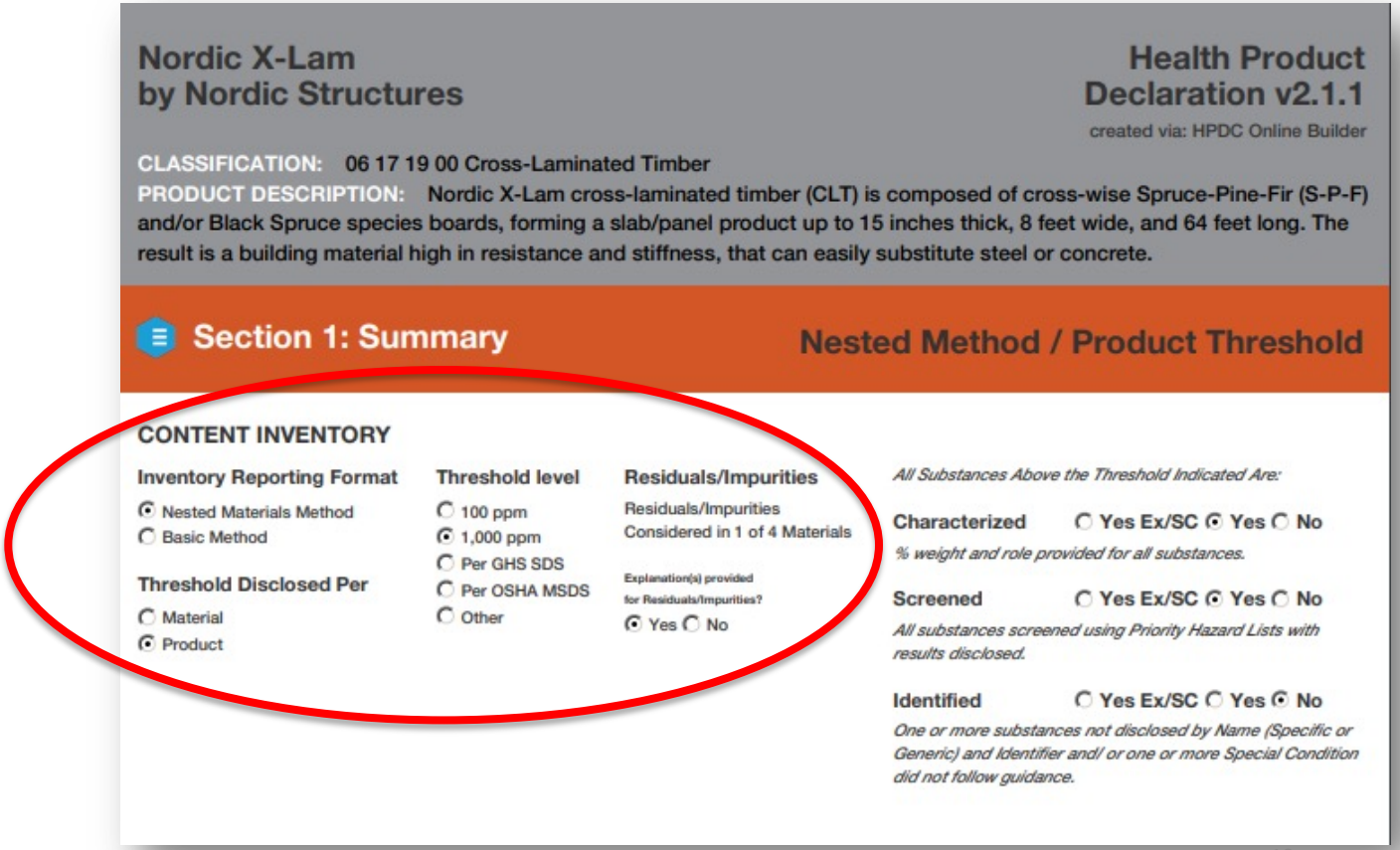
All Substances Above the Threshold Indicated Are:

Characterized ( ) Yes Ex/SC (•) Yes ( ) No
% weight and role provided for all substances.

Screened ( ) Yes Ex/SC (•) Yes ( ) No
All substances screened using Priority Hazard Lists with results disclosed.

Identified ( ) Yes Ex/SC ( ) Yes (•) No
One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

Inventory options



Nordic X-Lam
by Nordic Structures

Health Product Declaration v2.1.1
created via: HPDC Online Builder

CLASSIFICATION: 06 17 19 00 Cross-Laminated Timber
PRODUCT DESCRIPTION: Nordic X-Lam cross-laminated timber (CLT) is composed of cross-wise Spruce-Pine-Fir (S-P-F) and/or Black Spruce species boards, forming a slab/panel product up to 15 inches thick, 8 feet wide, and 64 feet long. The result is a building material high in resistance and stiffness, that can easily substitute steel or concrete.

Section 1: Summary

Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format
- (•) Nested Materials Method
- ( ) Basic Method

Threshold Disclosed Per
- ( ) Material
- (•) Product

Threshold level
- ( ) 100 ppm
- (•) 1,000 ppm
- ( ) Per GHS SDS
- ( ) Per OSHA MSDS
- ( ) Other

Residuals/Impurities
Residuals/Impurities Considered in 1 of 4 Materials

Explanation(s) provided for Residuals/Impurities?
- (•) Yes ( ) No

All Substances Above the Threshold Indicated Are:

Characterized ( ) Yes Ex/SC (•) Yes ( ) No
% weight and role provided for all substances.

Screened ( ) Yes Ex/SC (•) Yes ( ) No
All substances screened using Priority Hazard Lists with results disclosed.

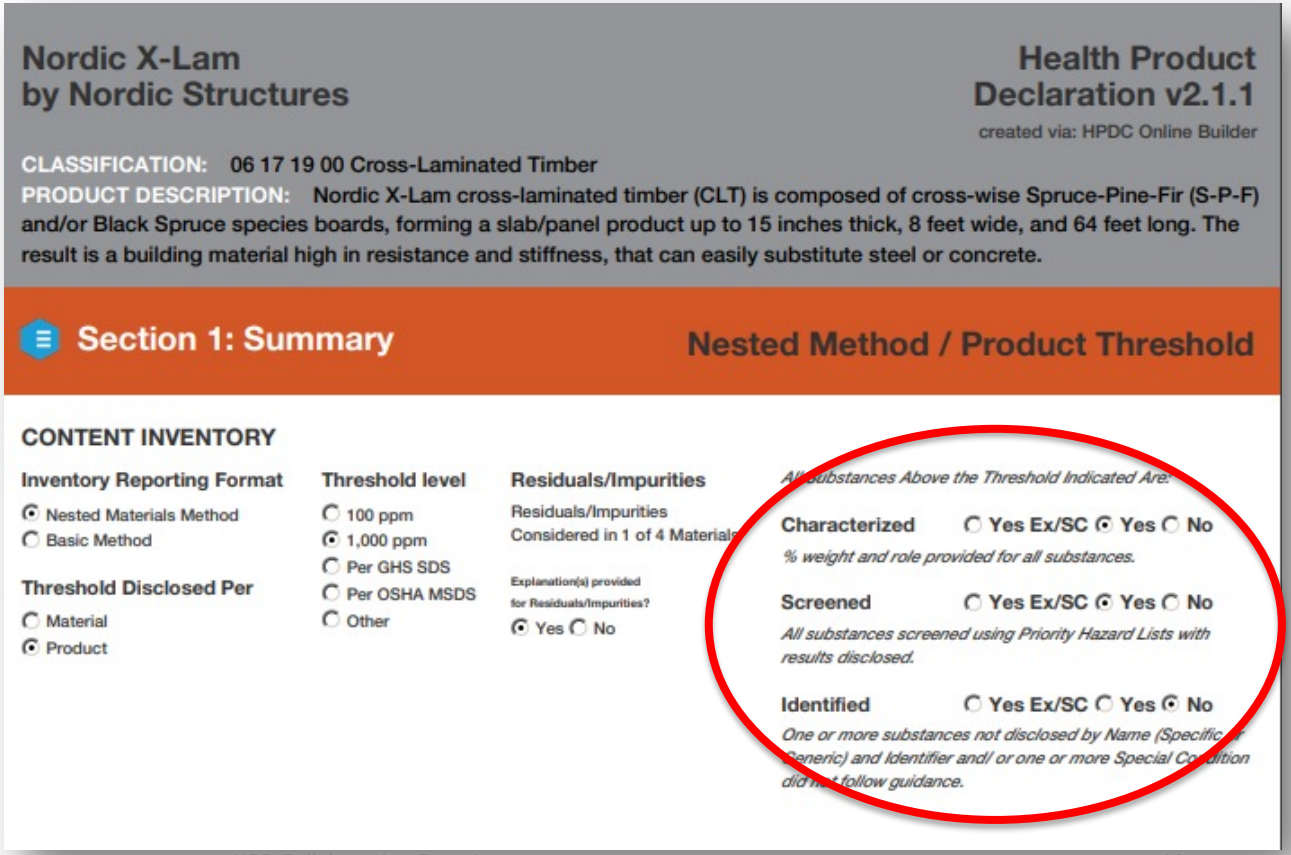
Identified ( ) Yes Ex/SC ( ) Yes (•) No
One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

How transparent is it?

Characterized Yes/No

Screened Yes/No

Identified Yes/No



Nordic X-Lam
by Nordic Structures

Health Product Declaration v2.1.1

created via: HPDC Online Builder

CLASSIFICATION: 06 17 19 00 Cross-Laminated Timber

PRODUCT DESCRIPTION: Nordic X-Lam cross-laminated timber (CLT) is composed of cross-wise Spruce-Pine-Fir (S-P-F) and/or Black Spruce species boards, forming a slab/panel product up to 15 inches thick, 8 feet wide, and 64 feet long. The result is a building material high in resistance and stiffness, that can easily substitute steel or concrete.

Section 1: Summary — **Nested Method / Product Threshold**

CONTENT INVENTORY

Inventory Reporting Format
- (•) Nested Materials Method
- ( ) Basic Method

Threshold Disclosed Per
- ( ) Material
- (•) Product

Threshold level
- ( ) 100 ppm
- (•) 1,000 ppm
- ( ) Per GHS SDS
- ( ) Per OSHA MSDS
- ( ) Other

Residuals/Impurities

Residuals/Impurities Considered in 1 of 4 Materials

Explanation(s) provided for Residuals/Impurities?
- (•) Yes ( ) No

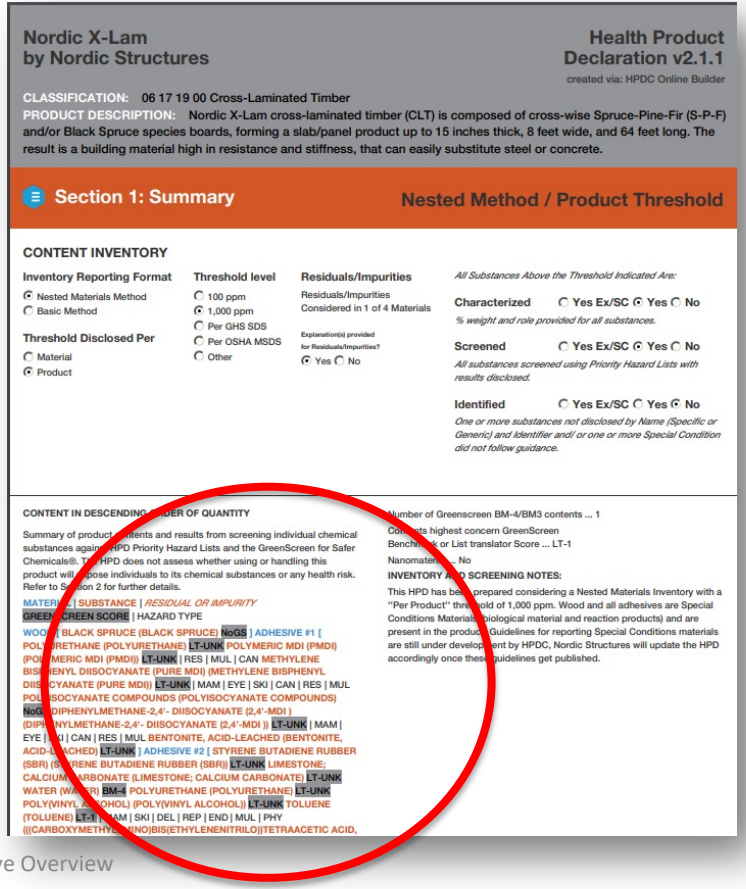
All substances Above the Threshold Indicated Are:

Characterized ( ) Yes Ex/SC (•) Yes ( ) No
% weight and role provided for all substances.

Screened ( ) Yes Ex/SC (•) Yes ( ) No
All substances screened using Priority Hazard Lists with results disclosed.

Identified ( ) Yes Ex/SC ( ) Yes (•) No
One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

What's in it, and what are the hazards?



Nordic X-Lam
by Nordic Structures

Health Product Declaration v2.1.1
created via: HPDC Online Builder

CLASSIFICATION: 06 17 19 00 Cross-Laminated Timber
PRODUCT DESCRIPTION: Nordic X-Lam cross-laminated timber (CLT) is composed of cross-wise Spruce-Pine-Fir (S-P-F) and/or Black Spruce species boards, forming a slab/panel product up to 15 inches thick, 8 feet wide, and 64 feet long. The result is a building material high in resistance and stiffness, that can easily substitute steel or concrete.

Section 1: Summary — Nested Method / Product Threshold

CONTENT INVENTORY

Inventory Reporting Format
- (•) Nested Materials Method
- ( ) Basic Method

Threshold Disclosed Per
- ( ) Material
- (•) Product

Threshold level
- ( ) 100 ppm
- (•) 1,000 ppm
- ( ) Per GHS SDS
- ( ) Per OSHA MSDS
- ( ) Other

Residuals/Impurities
Residuals/Impurities Considered in 1 of 4 Materials
Explanation(s) provided for Residuals/Impurities? (•) Yes ( ) No

All Substances Above the Threshold Indicated Are:

Characterized ( ) Yes Ex/SC (•) Yes ( ) No
% weight and role provided for all substances.

Screened ( ) Yes Ex/SC (•) Yes ( ) No
All substances screened using Priority Hazard Lists with results disclosed.

Identified ( ) Yes Ex/SC ( ) Yes (•) No
One or more substances not disclosed by Name (Specific or Generic) and Identifier and/ or one or more Special Condition did not follow guidance.

CONTENT IN DESCENDING ORDER OF QUANTITY

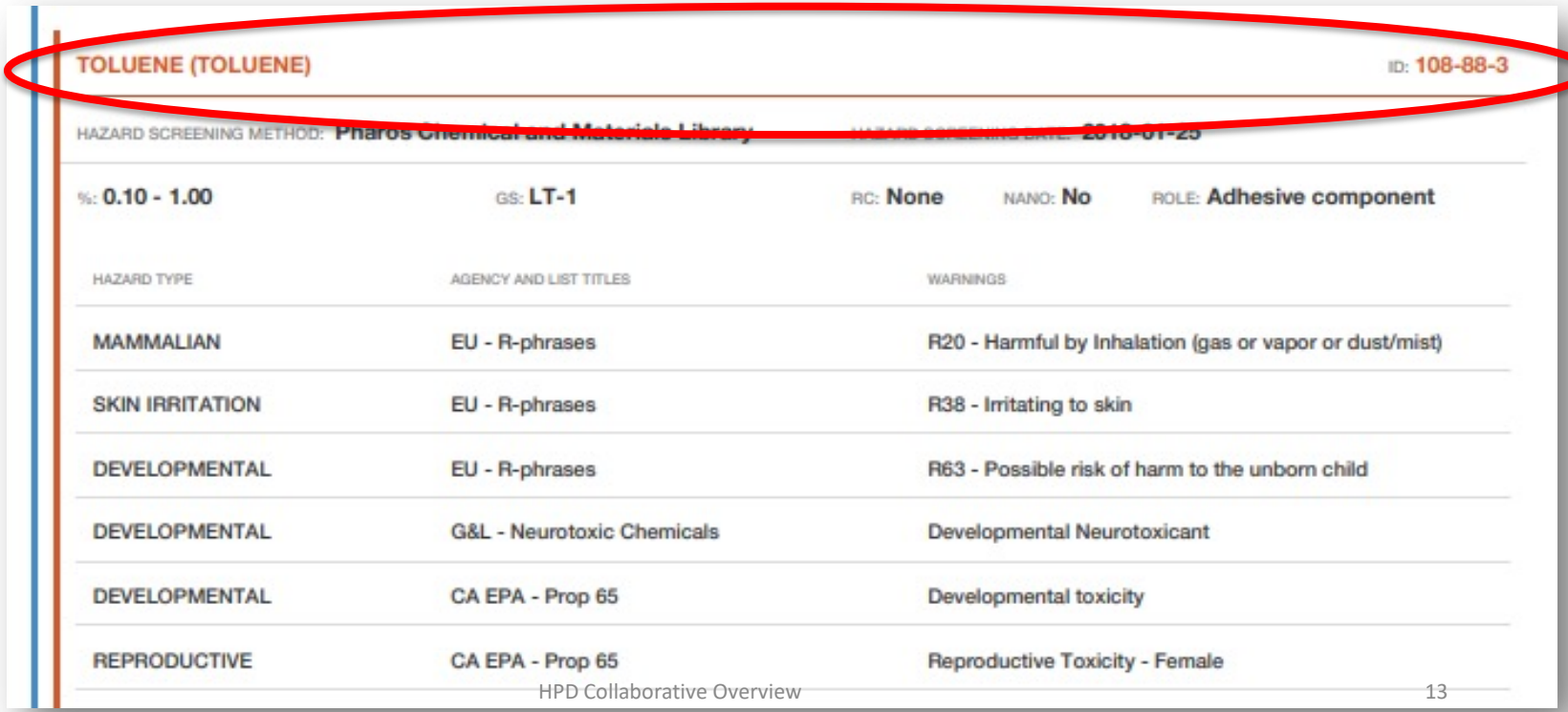
Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | *RESIDUAL OR IMPURITY*
GREENSCREEN SCORE | HAZARD TYPE

WOOD [BLACK SPRUCE (BLACK SPRUCE) NoGS] ADHESIVE #1 [POLYURETHANE (POLYURETHANE) LT-UNK POLYMERIC MDI (PMDI) (POLYMERIC MDI (PMDI)) LT-UNK | RES | MUL | CAN METHYLENE BISPHENYL DIISOCYANATE (PURE MDI) (METHYLENE BISPHENYL DIISOCYANATE (PURE MDI)) LT-UNK | MAM | EYE | SKI | CAN | RES | MUL POLYISOCYANATE COMPOUNDS (POLYISOCYANATE COMPOUNDS) NoGS DIPHENYLMETHANE-2,4'- DIISOCYANATE (2,4'-MDI) (DIPHENYLMETHANE-2,4'- DIISOCYANATE (2,4'-MDI)) LT-UNK | MAM | EYE | SKI | CAN | RES | MUL BENTONITE, ACID-LEACHED (BENTONITE, ACID-LEACHED) LT-UNK] ADHESIVE #2 [STYRENE BUTADIENE RUBBER (SBR) (STYRENE BUTADIENE RUBBER (SBR)) LT-UNK LIMESTONE; CALCIUM CARBONATE (LIMESTONE; CALCIUM CARBONATE) LT-UNK WATER (WATER) BM-4 POLYURETHANE (POLYURETHANE) LT-UNK POLY(VINYL ALCOHOL) (POLY(VINYL ALCOHOL)) LT-UNK TOLUENE (TOLUENE) LT-1 | MAM | SKI | DEL | REP | END | MUL | PHY [[(CARBOXYMETHYL)IMINO]BIS(ETHYLENENITRILO)]TETRAACETIC ACID,

Number of Greenscreen BM-4/BM3 contents ... 1
Contents highest concern GreenScreen Benchmark or List translator Score ... LT-1
Nanomaterial ... No
INVENTORY AND SCREENING NOTES:
This HPD has been prepared considering a Nested Materials Inventory with a "Per Product" threshold of 1,000 ppm. Wood and all adhesives are Special Conditions Materials (biological material and reaction products) and are present in the product. Guidelines for reporting Special Conditions materials are still under development by HPDC, Nordic Structures will update the HPD accordingly once these guidelines get published.

Chemical name and CAS RN



TOLUENE (TOLUENE) ID: 108-88-3

HAZARD SCREENING METHOD: Pharos Chemical and Materials Library

%: 0.10 - 1.00 GS: LT-1 RC: None NANO: No ROLE: Adhesive component

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MAMMALIAN	EU - R-phrases	R20 - Harmful by Inhalation (gas or vapor or dust/mist)
SKIN IRRITATION	EU - R-phrases	R38 - Irritating to skin
DEVELOPMENTAL	EU - R-phrases	R63 - Possible risk of harm to the unborn child
DEVELOPMENTAL	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant
DEVELOPMENTAL	CA EPA - Prop 65	Developmental toxicity
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Female

GreenScreen® score

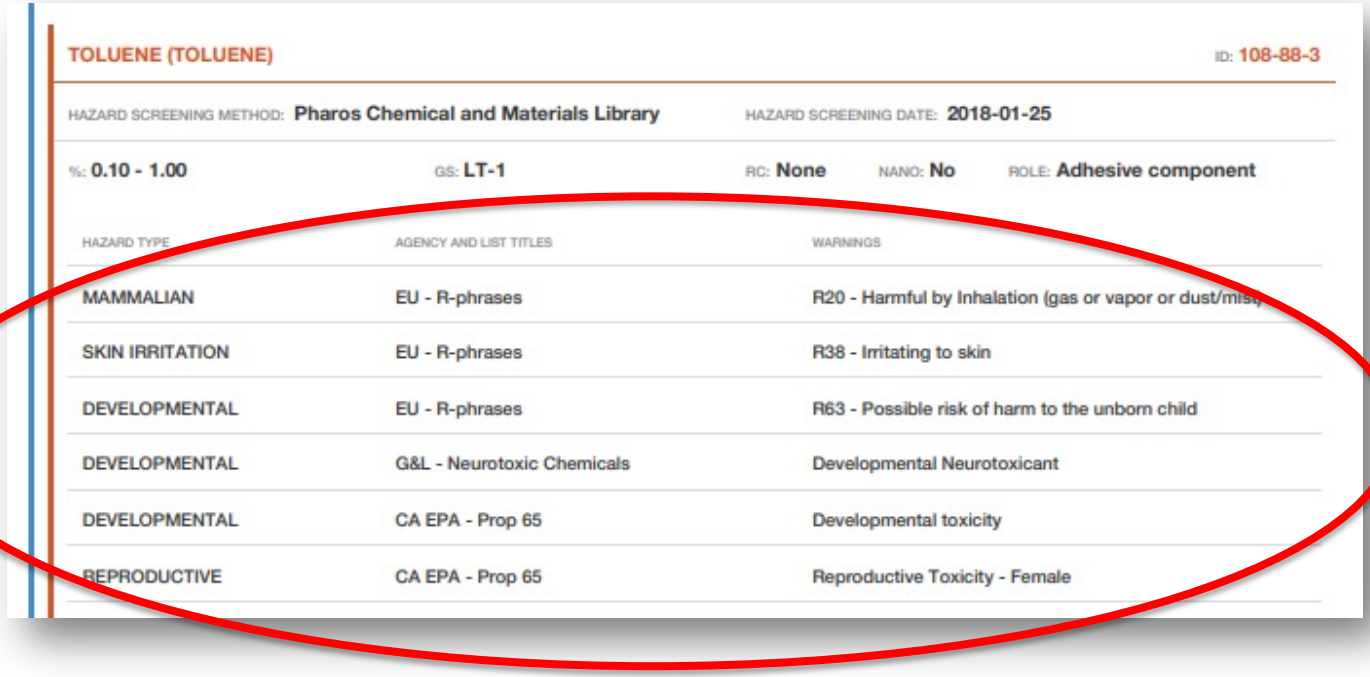
TOLUENE (TOLUENE) ID: 108-88-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-01-25**

%: **0.10 - 1.00** GS: **LT-1** RC: **None** NANO: **No** ROLE: **Adhesive component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MAMMALIAN	EU - R-phrases	R20 - Harmful by Inhalation (gas or vapor or dust/mist)
SKIN IRRITATION	EU - R-phrases	R38 - Irritating to skin
DEVELOPMENTAL	EU - R-phrases	R63 - Possible risk of harm to the unborn child
DEVELOPMENTAL	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant
DEVELOPMENTAL	CA EPA - Prop 65	Developmental toxicity
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Female

Hazard warnings based on authoritative hazard lists from around the world



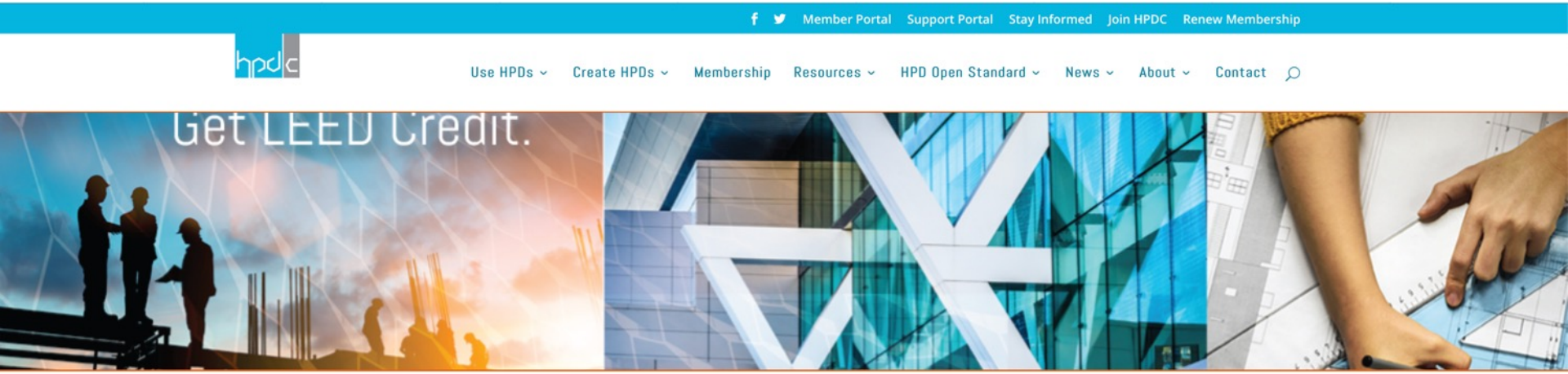
TOLUENE (TOLUENE) ID: 108-88-3

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2018-01-25**

%: **0.10 - 1.00** GS: **LT-1** RC: **None** NANO: **No** ROLE: **Adhesive component**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
MAMMALIAN	EU - R-phrases	R20 - Harmful by Inhalation (gas or vapor or dust/mist)
SKIN IRRITATION	EU - R-phrases	R38 - Irritating to skin
DEVELOPMENTAL	EU - R-phrases	R63 - Possible risk of harm to the unborn child
DEVELOPMENTAL	G&L - Neurotoxic Chemicals	Developmental Neurotoxicant
DEVELOPMENTAL	CA EPA - Prop 65	Developmental toxicity
REPRODUCTIVE	CA EPA - Prop 65	Reproductive Toxicity - Female

Find all Published HPDs - HPD Public Repository



Published HPDs - Available in a growing number of product libraries and project team tools

Product Libraries, Data Management and Interpretive Tools

Certifications

Data Management, Screening, Assessment Methods and Tools

PARSONS HEALTHY MATERIALS LAB
GREEN BADGER
buildingclean.org
ORIGIN
mindful MATERIALS
Sustainable Minds Transparency Catalog
BIMsmith
HomeFree
ecomedes
LIVING BUILDING CHALLENGE
level
Declare.
LEED
Google
Enterprise green communities
CERTIFIED cradle to cradle
Healthy Flooring criteria
INTERNATIONAL WELL BUILDING INSTITUTE
GREEN SCREEN FOR SAFER CHEMICALS
toxnot PBC
GLOBAL GREEN TAG INTERNATIONAL
green product certification trust brands
Pharos
Makersite

Building Design and Construction Project Teams

Product Manufacturers and Suppliers

Note: Not an information technology network diagram. Logos and programs shown represent illustrative examples, not an exhaustive list. Registered Marks are the property of their owners.