Rockwool Slabs
by Fujairah Rockwool Factory

Health Product Declaration v2.3

created via: HPDC Online Builder

HPD UNIQUE IDENTIFIER: 74313717760
CLASSIFICATION: 07 21 00 Thermal Insulation
PRODUCT DESCRIPTION: FRF slabs are designed to meet industry-leading standards such as ASTM C-612, BS 3958 Part 5, and BS EN 13162. These high-quality slabs offer exceptional thermal and acoustic insulation for flat or slightly curved surfaces, even under varying temperature conditions. Comprising non-combustible resinbonded fibers, our slabs are both easy to cut, fit, and handle. They are the perfect choice for insulating a wide range of building types, including offices, homes, retail establishments, healthcare facilities, educational institutions, and commercial spaces. We offer versatile insulation solutions for internal and external walls, meeting thermal, acoustic, and fire safety needs. Our options cover rain screens, over-cladding, facades, masonry cavity walls, and wood/metal frame constructions. Additionally, our internal insulation enhances thermal performance, acts as fire barriers, and prevents noise transfer.

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
- ( ) Other

Residuals/Impurities Evaluation
- ( ) Completed
- (•) Not Completed

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

For all contents above the threshold, the manufacturer has:

Characterized (•) Yes ( ) No
Provided weight and role.

Screened (•) Yes ( ) No
Provided screening results using HPDC-approved methods.

Identified ( ) Yes (•) No
Provided name and CAS RN or other identifier.

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.

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

BRIQUETTE [LIME BM-2 | SKI | MAM | EYE **SILICON DIOXIDE** BM-1 | CAN | MAM **FERRIC OXIDE** BM-1 | CAN | MAM **ALUMINUM OXIDE** BM-2 | MAM **MAGNESIUM OXIDE** BM-3dg | CAN | MAM **TECHNICAL/OTHER NAMES THAT MATCH YOUR QUERY:** NoGS]
BASALT [SILICON DIOXIDE BM-1 | CAN | MAM **ALUMINUM OXIDE** BM-2 | MAM **MAGNESIUM OXIDE** BM-3dg | CAN | MAM **LIME** BM-2 | SKI | MAM | EYE **FERRIC OXIDE** BM-1 | CAN | MAM **TECHNICAL/OTHER NAMES THAT MATCH YOUR QUERY:** NoGS] **HARZBURGITE [MAGNESIUM OXIDE** BM-3dg | CAN | MAM **SILICON DIOXIDE** BM-1 | CAN | MAM **FERRIC OXIDE** BM-1 | CAN | MAM **TECHNICAL/OTHER NAMES THAT MATCH YOUR QUERY:** NoGS **LIME** BM-2 | SKI | MAM | EYE **ALUMINUM OXIDE** BM-2 | MAM] **BINDER [WATER** BM-4 **PHENOL-FORMALDEHYDE RESIN** LT-P1 **UREA** LT-UNK | EYE **SILICONES** NoGS]

Number of Greenscreen BM-4/BM3 contents ... 4

Contents highest-concern GreenScreen score(s) (BM-1, LT-1, LT-P1) ... BM-1, LT-P1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Antimicrobial Pesticides Reporting: This product does not contain substance(s) that are intentionally added above the [Product - 100 ppm] threshold to act as antimicrobials.

Fujairah Rockwool Factory worked with the HPDC Approved Preparer to confirm that all intentionally added ingredients, residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1000 ppm threshold.

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE *See Section 3 for additional listings.*

VOC emissions: CDPH Standard Method - Not tested
LCA: Environmental Product Declaration (EPD) by UL - Industry Generic
Management: ISO 14001:2015 - Environmental management systems
Management: ISO 9001:2015 Quality management systems

CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4.1 Option 1.

Third Party Verified?

- ○ Yes
- ◉ No

PREPARER: Self-Prepared
VERIFIER:
VERIFICATION #:

SCREENING DATE: 2025-03-28
PUBLISHED DATE: 2025-03-28
EXPIRY DATE: 2028-03-28

Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold*
- *Nested Material Inventory method with individual Material-level thresholds*

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.3, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-3-standard

BRIQUETTE **%: 52.0000 - 54.0000**

PRODUCT THRESHOLD: 100 ppm | RESIDUALS AND IMPURITIES EVALUATION COMPLETED: No | MATERIAL TYPE: Other: Recycled rockwool waste

RESIDUALS AND IMPURITIES NOTES: Fujairah Rockwool Factory worked with the HPDC Approved Preparer to confirm that all residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1,000 ppm threshold.

OTHER MATERIAL NOTES: NA

LIME ID: **1305-78-8**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:31:58**

%: **48.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Flux**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1C
EYE	GHS - New Zealand	Serious eye damage category 1
EYE	GHS - Japan	H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1]
SKI	GHS - Japan	H315 - Causes skin irritation [Skin corrosion / irritation - Category 2]
EYE	GHS - Australia	H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Calcium oxide (CaO) plays a significant role in the manufacturing of Rockwool insulation products. When used in briquettes, calcium oxide acts as a fluxing agent during the melting process. This means it helps to lower the melting point of the raw materials, allowing them to blend more easily and form a homogenous molten mixture.
Additionally, calcium oxide contributes to the chemical composition of the final Rockwool product, enhancing its thermal stability and mechanical strength. This makes the insulation more effective at resisting high temperatures and providing durable, long-lasting performance

SILICON DIOXIDE

ID: **7631-86-9**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:31:59**

%: **26.8000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Silicon dioxide (SiO2) plays a crucial role in the briquettes used for manufacturing rockwool insulation products. Silicon dioxide is essential for the production of rockwool insulation, contributing to its formation, thermal stability, fire resistance, chemical inertness, and potential for use as a pozzolanic material.

FERRIC OXIDE

ID: **1309-37-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:31:59**

%: **8.5000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Binder**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Iron oxide plays a crucial role in the manufacturing of Rockwool insulation products. During the production process, iron oxide is used as a binder in the briquettes. These briquettes are mixed with other raw materials and then melted at high temperatures to form a molten mixture. The iron oxide helps to bind the materials together, ensuring that the final product has the desired strength and durability. Additionally, iron oxide contributes to the thermal stability of the insulation material, making it more effective at insulating against heat and sound. This is particularly important for Rockwool products, which are designed to provide high-performance insulation in various applications.

ALUMINUM OXIDE ID: **1344-28-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:00**

%: **6.7000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: The presence of aluminium oxide in rockwool briquettes can contribute to the final product's thermal stability, fire resistance, and potentially mechanical properties.

MAGNESIUM OXIDE

ID: **1309-48-4**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:01**

%: **5.5000** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Magnesium oxide (MgO) plays an important role in the manufacturing of Rockwool insulation products when used in briquettes. Here are some key functions:
Thermal Stability: MgO has a high melting point and excellent thermal stability, which helps maintain the integrity of the insulation material at high temperatures.
Refractory Properties: MgO is used in refractory materials due to its ability to withstand extreme temperatures without deforming or melting. This property is crucial for Rockwool products that need to perform well in high-temperature environments.
Anti-Corrosion: MgO provides resistance to slag and other corrosive substances, ensuring the durability and longevity of the insulation material.
Thermal Conductivity: While MgO is an electrical insulator, it has good thermal conductivity, which helps in efficiently transferring heat and reducing thermal stress within the material.
These properties make magnesium oxide an essential component in producing high-quality Rockwool insulation products.

TECHNICAL/OTHER NAMES THAT MATCH YOUR QUERY:

ID: **Not registered**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:31:59**

%: **3.8500** GreenScreen: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: The substance denoted here is Loss on Ignition (LOI).
Loss on ignition (LOI) in briquettes refers to the amount of weight loss that occurs when the briquette is heated to a high temperature, causing any volatile substances to burn off. In the manufacturing of Rockwool insulation products, LOI is an important parameter because it indicates the presence of organic materials or moisture in the briquettes.
A low LOI value is desirable as it means fewer impurities and higher purity of the raw materials, which contributes to the quality and performance of the final Rockwool product. High LOI values can negatively affect the thermal stability and mechanical strength of the insulation material.

BASALT %: **38.0000 - 40.0000**

PRODUCT THRESHOLD: 100 ppm | RESIDUALS AND IMPURITIES EVALUATION COMPLETED: No | MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: Fujairah Rockwool Factory worked with the HPDC Approved Preparer to confirm that all residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1,000 ppm threshold.

OTHER MATERIAL NOTES: No Substances at or above the reporting threshold.

SILICON DIOXIDE

ID: **7631-86-9**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:00**

%: **35.0000 - 55.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Silicon dioxide (SiO2) is a major component of basalt rock, the primary raw material used in the production of rockwool insulation. In the manufacturing process, basalt rock is melted at high temperatures and then spun into fine fibers. These fibers are then bonded together to form the final insulation product.

ALUMINUM OXIDE

ID: **1344-28-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:01**

%: **10.0000 - 25.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: The presence of aluminium oxide in basalt rock contributes to the overall thermal and acoustic insulation properties of rockwool. It helps to create a dense, fibrous structure that effectively traps air, reducing heat transfer and sound transmission.

MAGNESIUM OXIDE

ID: **1309-48-4**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:03**

%: **2.0000 - 15.0000** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Magnesium oxide (MgO) is a key component of basalt, the primary raw material used in the production of rockwool insulation. Here's how it plays a role:
Fiber Formation: MgO, along with other oxides like silica (SiO2) and calcium oxide (CaO), contributes to the formation of the molten matrix from which rockwool fibers are spun. These fibers interlock to create the insulation material.
Melting Point: MgO influences the melting point of the basalt. While a high melting point is generally desirable for insulation, MgO helps to adjust it to a range suitable for fiber production.
Chemical Stability: MgO contributes to the chemical stability of the rockwool fibers, making them resistant to degradation and ensuring long-term performance of the insulation.

LIME

ID: **1305-78-8**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:04**

%: **3.0000 - 15.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1C
EYE	GHS - New Zealand	Serious eye damage category 1
EYE	GHS - Japan	H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1]
SKI	GHS - Japan	H315 - Causes skin irritation [Skin corrosion / irritation - Category 2]
EYE	GHS - Australia	H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Calcium oxide is a vital component in basalt used for rockwool insulation. It facilitates the melting and fiberization processes, while also contributing to the chemical stability and overall performance of the final product.

FERRIC OXIDE ID: **1309-37-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:02**

%: **6.0000 - 15.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Iron oxide is a naturally occurring mineral that is found in basalt rock. It is responsible for the dark color of basalt and also plays a role in the properties of rockwool insulation products.
Fire resistance: Iron oxide is a non-combustible material, which means that it does not burn. This makes rockwool insulation a fire-resistant material, which is important for safety in buildings.
Water resistance: Iron oxide is also water-resistant, which helps to protect rockwool insulation from moisture damage.
Durability: Iron oxide is a strong and durable material, which helps to make rockwool insulation long-lasting.
In addition to these benefits, iron oxide is also a relatively inexpensive material.
This makes rockwool insulation a cost-effective choice for insulation.

TECHNICAL/OTHER NAMES THAT MATCH YOUR QUERY: ID: **Not registered**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:03**

%: **4.0000 - 5.0000** GreenScreen: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: The substance denoted here is Loss of Ignition.
Loss on ignition (LOI) is a measure of the amount of volatile substances (moisture, organic matter, etc.) present in a material. In the context of basalt used for rockwool insulation, LOI is relevant for a few reasons:
Quality Control: LOI helps assess the consistency and purity of the basalt feedstock. A consistent LOI indicates a more uniform raw material, which is crucial for producing rockwool with consistent properties.
Manufacturing Process: During rockwool production, basalt is melted at high temperatures. A high LOI could lead to excessive emissions during this process due to the combustion of volatile substances. Monitoring LOI helps control these emissions and optimize the melting process.
Product Properties: While rockwool itself is highly heat-resistant, the presence of excessive volatile substances in the original basalt could potentially affect the long-term stability or performance of the final rockwool product, especially in high-temperature applications.
Environmental Impact: Lower LOI generally means fewer emissions during manufacturing, which is better for the environment.

HARZBURGITE **%: 10.0000 - 12.0000**

PRODUCT THRESHOLD: 100 ppm | RESIDUALS AND IMPURITIES EVALUATION COMPLETED: No | MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: Fujairah Rockwool Factory worked with the HPDC Approved Preparer to confirm that all residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1,000 ppm threshold.

OTHER MATERIAL NOTES: All substances in this material are below the reportable threshold.

MAGNESIUM OXIDE ID: **1309-48-4**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:05**

%: **35.0000** GreenScreen: **BM-3dg** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 4 - Non-genotoxic carcinogen with low risk under MAK/BAT levels
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Magnesium oxide (MgO) is an important mineral component of harzburgite, an ultramafic rock. It has a high melting point and is often used as a refractory material.
In the manufacturing of rockwool insulation products, magnesium oxide is added to the melt of other minerals to improve the properties of the final product.
Here are some of the key roles that magnesium oxide plays in the manufacturing of rockwool insulation products:
Improves thermal stability: Magnesium oxide is a refractory material, meaning it can withstand high temperatures without melting or decomposing. This makes it an ideal additive for rockwool insulation products, which are often used in high-temperature applications.
Reduces shrinkage: Magnesium oxide can help to reduce the shrinkage of rockwool insulation products during manufacturing. This is important because it helps to ensure that the products maintain their shape and dimensions over time.
Improves water resistance: Magnesium oxide can also help to improve the water resistance of rockwool insulation products. This is important because it helps to prevent the products from absorbing moisture, which can reduce their thermal performance.
Improves fire resistance: Magnesium oxide is a fire-retardant material. This means that it can help to slow down the spread of fire. This is an important safety benefit for rockwool insulation products, which are often used in buildings.
Reduces cost: Magnesium oxide is a relatively inexpensive mineral. This can help to reduce the overall cost of manufacturing rockwool insulation products.

SILICON DIOXIDE

ID: **7631-86-9**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:04**

%: **35.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	GHS - Japan	H350 - May cause cancer [Carcinogenicity - Category 1A]
CAN	GHS - Australia	H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B]
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Australia	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Silicon dioxide (SiO2) is a key component of harzburgite, a type of rock commonly used in the manufacturing of rockwool insulation products. Here's how it contributes:
Fiber Formation: When harzburgite is melted at high temperatures, the SiO2 content allows it to be drawn into thin, flexible fibers. These fibers are the building blocks of rockwool insulation.
Thermal Stability: SiO2 contributes to the high-temperature resistance of rockwool. This is crucial for insulation products as they need to withstand varying temperature conditions without degrading.
Chemical Inertness: SiO2 is relatively unreactive, making rockwool insulation durable and resistant to chemical breakdown. This ensures the insulation's longevity and performance over time.
Structural Integrity: The SiO2 network within the rockwool fibers provides structural support, maintaining the insulation's shape and preventing it from sagging or compressing.

FERRIC OXIDE

ID: **1309-37-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:06**

%: **8.0000 - 15.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
CAN	MAK	Carcinogen Group 3B - Evidence of carcinogenic effects but not sufficient for classification
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Iron oxide in harzburgite plays a key role in the manufacturing of rockwool insulation products. Here's how:
Melting Point Reduction: Iron oxide acts as a fluxing agent, lowering the melting point of the harzburgite rock. This makes it easier to melt the rock and spin it into fibers.
Fiber Formation: Iron oxide influences the viscosity and surface tension of the molten rock, which are crucial for the fiber spinning process. It helps create long, thin fibers with good strength and flexibility.
Durability: Iron oxide contributes to the chemical durability of the rockwool fibers, making them resistant to weathering and degradation over time.
Additional Benefits:
Color: Iron oxide imparts a characteristic reddish-brown color to rockwool insulation.
Cost-effectiveness: Harzburgite, containing iron oxide, is a relatively abundant and inexpensive raw material for rockwool production.

TECHNICAL/OTHER NAMES THAT MATCH YOUR QUERY:

ID: **Not registered**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:02**

%: **10.0000 - 15.0000** GreenScreen: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Tensile strength additive**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: The substance denoted here is Loss of Ignition.
In the manufacturing of rockwool insulation products, harzburgite is used as a raw material. The LOI of harzburgite is important because it indicates the amount of volatile components present in the rock. These volatile components can include water, carbon dioxide, and other gases. During the manufacturing process, the harzburgite is melted at high temperatures to form a molten material. The molten material is then spun into fibers, which are used to make rockwool insulation products.
The LOI of harzburgite can affect the properties of the final rockwool insulation product. For example, a high LOI may indicate that the harzburgite contains a significant amount of water. This water can be released during the melting process, which can affect the viscosity of the molten material and the properties of the fibers. Additionally, the volatile components in the harzburgite can react with other components in the melt, which can also affect the properties of the final product.

LIME ID: **1305-78-8**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:03**

%: **1.0000 - 2.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
SKI	GHS - Australia	H315 - Causes skin irritation [Skin corrosion/irritation - Category 2]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]
MAM	GHS - Japan	H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1]
SKI	GHS - New Zealand	Skin corrosion category 1C
EYE	GHS - New Zealand	Serious eye damage category 1
EYE	GHS - Japan	H318 - Causes serious eye damage [Serious eye damage / eye irritation - Category 1]
SKI	GHS - Japan	H315 - Causes skin irritation [Skin corrosion / irritation - Category 2]
EYE	GHS - Australia	H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Calcium oxide (CaO), also known as quicklime, plays a crucial role in the production of rockwool insulation, even when the starting material is harzburgite. Here's how:
Fluxing Agent: Harzburgite, a type of ultramafic rock, has a high melting point. Calcium oxide acts as a fluxing agent, lowering the melting point of the rock mixture. This makes it easier to melt the raw materials and spin them into fibers.
Fiber Formation: Calcium oxide helps in the formation of strong and durable fibers during the spinning process. It influences the viscosity and surface tension of the molten rock, allowing it to be drawn into thin, uniform fibers.
Chemical Composition: Calcium oxide is a key component of the final rockwool product. It contributes to the overall chemical composition, which affects the thermal and acoustic insulation properties of the material.

ALUMINUM OXIDE ID: **1344-28-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:04**

%: **0.1000 - 1.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
MAM	GHS - Japan	H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3]
MAM	GHS - Japan	H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1]

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Biological and Environmentally Released Materials
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.0 Product Standard Restricted Substances List (RSL) - Effective July 1, 2022 Children's Products
RESTRICTED LIST	Cradle to Cradle Products Innovation Institute (C2CPII)	C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2024 Children's Toy Products

SUBSTANCE NOTES: Role of aluminum oxide in rockwool production:
Fiber formation: Aluminum oxide acts as a fluxing agent during the melting process of rockwool production. It helps to lower the melting temperature of the raw materials, making it easier to form the molten material into fibers.
Fiber properties: The presence of aluminum oxide influences the properties of the rockwool fibers, such as their strength, durability, and thermal stability. It can enhance the fiber's resistance to high temperatures and improve its overall performance as insulation.
Chemical stability: Aluminum oxide contributes to the chemical stability of the rockwool product, making it resistant to degradation from moisture, chemicals, or other environmental factors.

BINDER

%: **2.5000 - 3.5000**

PRODUCT THRESHOLD: 100 ppm | RESIDUALS AND IMPURITIES EVALUATION COMPLETED: No | MATERIAL TYPE: Other: Binder

RESIDUALS AND IMPURITIES NOTES: Fujairah Rockwool Factory worked with the HPDC Approved Preparer to confirm that all residuals and impurities were considered under the preparation of this HPD. This was accomplished by obtaining full formulation disclosure, including residuals and impurities, down to the 1,000 ppm threshold.

OTHER MATERIAL NOTES: All substances in this material are below the reportable threshold.

WATER

ID: **7732-18-5**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** | HAZARD SCREENING DATE: **2025-03-28 12:32:06**

%: **85.9000** | GreenScreen: **BM-4** | RC: **None** | NANO: **No** | SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
EXEMPT	European Union / European Commission (EU EC)	EU - REACH Exemptions Exempted from REACH Annex IV listing due to intrinsic safety

SUBSTANCE NOTES: Water plays a critical role in the binder used during the manufacturing of Rockwool insulation products:
Solvent: Water acts as a solvent for the binder components, helping to dissolve and disperse them evenly throughout the mixture.
Catalyst: It facilitates the curing process by promoting the chemical reactions needed for the binder to set and harden, ensuring the mineral fibers are firmly bound together.
Application: Water helps to control the viscosity of the binder, making it easier to apply evenly onto the mineral fibers during the production process.
Heat Transfer: During the curing process, water assists in transferring heat, which aids in the even distribution of temperature and ensures consistent curing throughout the material.
These functions of water are essential for creating a high-quality Rockwool insulation product with strong mechanical properties and durability.

PHENOL-FORMALDEHYDE RESIN

ID: **9003-35-4**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** | HAZARD SCREENING DATE: **2025-03-28 12:32:06**

%: **11.9000** | GreenScreen: **LT-P1** | RC: **None** | NANO: **No** | SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals - Effective February 1, 2025 Red List substances to avoid in Living Building Challenge V4.0 projects

SUBSTANCE NOTES: Phenol formaldehyde resin is preferred due to its strong bonding capabilities and resistance to heat and chemicals, making it an ideal choice for high-performance insulation materials.

UREA

ID: **57-13-6**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:05**

%: **2.0400** GreenScreen: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Curing agent**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
EYE	GHS - New Zealand	Eye irritation category 2

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
RESTRICTED LIST	Green Science Policy Institute (GSPI)	GSPI - Six Classes Precautionary List Antimicrobials

SUBSTANCE NOTES: Urea is often used in binders for Rockwool insulation products, typically in combination with phenolic resins to create a urea-modified phenolic resin. Here are some key roles it plays:
Curing Agent: Urea acts as a curing agent, helping the phenolic resin to set and harden more effectively at lower temperatures.
Reducing Free Formaldehyde: It helps to reduce the amount of free formaldehyde in the resin, which is beneficial for both the manufacturing process and the final product's safety.
Enhancing Binder Properties: Urea improves the mechanical properties of the binder, such as tensile strength and flexibility, ensuring the insulation material maintains its integrity.
Lowering Emissions: By incorporating urea, the binder can lower volatile organic compound (VOC) emissions, making the manufacturing process more environmentally friendly.

SILICONES

ID: **63148-53-8**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-03-28 12:32:06**

%: **0.1500** GreenScreen: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Structure component**

HAZARD TYPE	LIST NAME AND SOURCE	WARNINGS
None found		No warnings found on HPD Priority Hazard Lists

ADDITIONAL LISTINGS	LIST NAME AND SOURCE	NOTIFICATION
None found		No listings found on Additional Hazard Lists

SUBSTANCE NOTES: Emulsion oil, typically a silicone emulsion, plays several important roles in the manufacturing of Rockwool insulation products:
Binding Fibers: It helps to bind the mineral fibers together, ensuring the final product has the desired structure and integrity.
Preventing Sticking: The emulsion oil prevents the fibers from sticking to the production equipment, such as rollers and conveyors, ensuring a smooth manufacturing process.
Water-Repellent Properties: It provides water-repellent properties to the Rockwool, which is beneficial for both the production process and the final product's performance.
Reducing Dust: The emulsion oil helps to reduce dust during the cutting and handling of the Rockwool, improving the working environment and the quality of the final product.
These properties make emulsion oil an essential component in the production of high-quality Rockwool insulation materials.

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS — **CDPH Standard Method - Not tested**

CERTIFYING PARTY: Self-declared
APPLICABLE FACILITIES: Fujairah, UAE
CERTIFICATE URL:

ISSUE DATE: 2025-02-08 00:00:00
EXPIRY DATE:

CERTIFIER OR LAB: None

CERTIFICATION AND COMPLIANCE NOTES:

LCA — **Environmental Product Declaration (EPD) by UL - Industry Generic**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: Fujairah, UAE
CERTIFICATE URL: https://climateintell.com/

ISSUE DATE: 2024-01-30 00:00:00
EXPIRY DATE:

CERTIFIER OR LAB: International Climate Intelligence System

CERTIFICATION AND COMPLIANCE NOTES:

MANAGEMENT — **ISO 14001:2015 - Environmental management systems**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: Fujairah, UAE
CERTIFICATE URL:

ISSUE DATE: 2022-12-19 00:00:00
EXPIRY DATE: 2025-10-13 00:00:00

CERTIFIER OR LAB: Alcumus ISOQAR

CERTIFICATION AND COMPLIANCE NOTES: Scope of Registration - Manufacturing of Rockwool (Mineral Fiber) Insulation Materials.

MANAGEMENT — **ISO 9001:2015 Quality management systems**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: Fujairah, UAE
CERTIFICATE URL:

ISSUE DATE: 2024-09-20 00:00:00
EXPIRY DATE: 2027-12-09 00:00:00

CERTIFIER OR LAB: Alcumus ISOQAR

CERTIFICATION AND COMPLIANCE NOTES: Scope of Registration - Manufacturing of Rockwool (Mineral Fiber) Insulation Materials

FORMALDEHYDE CONTENT — **UNE-EN 717-2 - Formaldehyde Class E1**

CERTIFYING PARTY: Third Party
APPLICABLE FACILITIES: Fujairah, UAE
CERTIFICATE URL:

ISSUE DATE: 2014-02-12 00:00:00
EXPIRY DATE:

CERTIFIER OR LAB: Wimpey Laboratories

CERTIFICATION AND COMPLIANCE NOTES: Formaldehyde Content is <0.01 ppm for all rockwool insulation products.

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

Fujairah Rockwool Factory is a subsidiary of Fujairah Building Industries PSC. Established in 1982, Fujairah Rockwool became the first manufacturer of Rockwool insulation in the GCC region, and the only one in the UAE. With humble beginnings from a 5000-metric-ton factory, Fujairah Rockwool has continuously grown and expanded its operations to become one of the largest manufacturers of insulation products in the Middle East. Today FRF caters to a large customer base spread all over the Middle East, Far East and other parts of the world. We are an established entity, and are proud of our reputation as a reliable solution provider, in terms of providing quality insulation and delivering substantial energy savings to a variety of building operators and owners. Our years of expertise and experience make us the leading and largest rock mineral wool insulation producers in GCC countries, and the unanimous choice for providing rock wool insulation across the globe. We produce Rockwool by mixing coke and limestone into a melting basalt rock

mixture, and converting it into fibers. Being a purely volcanic material, millions of years old basalt rock is our raw material of choice. Rockwool exhibits exceptional resistance to high temperatures with extraordinary acoustic properties, and is classified as an inorganic material. To produce hairline fibers, our state-of-the-art factory capitalizes on cutting-edge technology to melt basalt at 1400 degree centigrade and make the flowing lava spin at high speed using multi spun disc system. These fibers are sprayed with a heat setting resin to bind them together.

FRF slabs are designed to meet industry-leading standards such as ASTM C-612, BS 3958 Part 5, and BS EN 13162. These high-quality slabs offer exceptional thermal and acoustic insulation for flat or slightly curved surfaces, even under varying temperature conditions. Comprising non-combustible resinbonded fibers, our slabs are both easy to cut, fit, and handle. They are the perfect choice for insulating a wide range of building types, including offices, homes, retail establishments, healthcare facilities, educational institutions, and commercial spaces. We offer versatile insulation solutions for internal and external walls, meeting thermal, acoustic, and fire safety needs. Our options cover rain screens, over-cladding, facades, masonry cavity walls, and wood/metal frame constructions. Additionally, our internal insulation enhances thermal performance, acts as fire barriers, and prevents noise transfer.

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: **Fujairah Rockwool Factory**
ADDRESS: **Al Hayl Industrial Area**
Opp. Fujairah Freezone
Fujairah, Fujairah 383
COUNTRY: **United Arab Emirates**

WEBSITE: **www.frf.ae**
CONTACT NAME: **Derick Stanley**
TITLE: **QC Manager**
PHONE: **+ 971 9 2056 900**
EMAIL: **derick.stanley@fujfbi.ae**

The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.

KEY

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation
GLO Global warming
LAN Land toxicity
MAM Mammalian/systemic/organ toxicity
MUL Multiple
NEU Neurotoxicity
NF Not found on Priority Hazard Lists
OZO Ozone depletion
PBT Persistent, bioaccumulative, and toxic
PHY Physical hazard (flammable or reactive)
REP Reproductive
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
UNK Unknown

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspecified (due to insufficient data)
LT-P1 List Translator Possible 1 (Possible Benchmark-1)
LT-1 List Translator 1 (Likely Benchmark-1)
LT-UNK List Translator Benchmark Unknown
NoGS No GreenScreen.

GreenScreen Benchmark scores sometimes also carry subscripts, which provide more context for how the score was determined. These are DG (data gap), TP (transformation product), and CoHC (chemical of high concern). For more information, see 2.2.2.4 GreenScreen® for Safer Chemicals, www.greenscreenchemicals.org, and Best Practices for Hazard Screening on the HPDC website (hpd-collaborative.org).

Recycled Types

PreC Pre-consumer recycled content
PostC Post-consumer recycled content
UNK Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms:

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and

for compliance with the HPD standard noted.