



Submittal Review Response

Project Name: **Hilo WWTP Rehabilitation and Replacement Project Phase 1**
Submittal No.: **09310-001.0**
Date: **9/3/2025**

Client: County of Hawai'i Carollo Project No.: 203975
Contractor: Nan, Inc.
Submittal Name: Ceramic Tiling Product Data & Sample
Reviewed By: Michele E. Hollenbaugh

SUBMITTAL REVIEW

Review is for general compliance with contract documents. No responsibility is assumed by Carollo for correctness of quantities, dimensions, and details. No deviation or variation is approved unless specifically addressed in these review comments. Refer to Section 01330 for additional requirements. The Contractor shall assume full responsibility for coordination with all other trades and deviations from contract requirements.

Approved	<input type="checkbox"/> No Exceptions
	<input checked="" type="checkbox"/> Make Corrections Noted - See Comments
	<input type="checkbox"/> Make Corrections Noted - Confirm
Not Approved	<input type="checkbox"/> Correct and Resubmit
	<input type="checkbox"/> Rejected - See Remarks
Receipt Acknowledged	<input type="checkbox"/> Filed for Record
	<input type="checkbox"/> With Comments - Resubmit

Review Comments:

1. Provide grout samples in accordance with Section 09310.1.03.B.
2. The contractor shall provide extra materials in accordance with Section 09310.1.04.A.
3. Installation shall be in accordance with Section 09310.3.02.A.
4. Color Section shall be as follows:
 - a. Floor Tile: Urban Putty Speckle (1) D201
 - b. Base Tile: Almond 0135(1)
 - c. Wall Tile: Almond 0135(1)



CONTRACTOR SUBMITTAL TRANSMITTAL FORM REV. A

Owner: County of Hawaii
Contractor: Nan, Inc.
Project Name: Hilo WWTP Phase 1
Submittal Title: CERAMIC TILING
TO: County of Hawaii, DEM
From: Nan Inc.

Project No.: WW-4705R **Submittal Number:** 09310-001.0

Specification No. and Subject of Submittal / Equipment Supplier	
Spec: 09310	Paragraph: 1.03A, 1.03B.
Authored By: MAKA CONSTRUCTION LLC	Date Submitted: 06/23/2025

Submittal Certification	
Check Either (A) or (B): <p> <input checked="" type="checkbox"/> (A) We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings with no exceptions. </p> <p> <input type="checkbox"/> (B) We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings except for the deviations listed. </p>	
Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements.	
General Contractor's Reviewer's Signature: Printed Name and Title: Krishna Dubbudu, Project Engineer	
In the event, Contractor believes the Submittal response does or will cause a change to the requirements of the Contract, Contractor shall immediately give written notice stating that Contractor considers the response to be a Change Order.	
Firm:	Signature:
	Date Returned:

PM/CM Office Use	
Date Received GC to PM/CM: Date Received PM/CM to Reviewer: Date Received Reviewer to PM/CM: Date Sent PM/CM to GC:	

Nan, Inc

PROJECT: HILO WWTP REHABILITATION
AND REPLACEMENT PROJECT - PHASE 1

JOB NO. WW-4705R

THIS SUBMITTAL HAS BEEN CHECKED BY
THIS CONTRACTOR. IT IS CERTIFIED
CORRECT, COMPLETE, AND IN
COMPLIANCE WITH CONTRACT
DRAWINGS AND SPECIFICATIONS. ALL
AFFECTED CONTRACTORS AND
SUPPLIERS ARE AWARE OF, AND WILL
INTEGRATE THIS SUBMITTAL (UPON
APPROVAL) INTO THEIR OWN WORK.

DATE RECEIVED 6/23/2025
SPECIFICATION SECTION # 09310
SPECIFICATION Ceramic Tiling
PARAGRAPH See Cover sheet
DRAWING n/a
SUBCONTRACTOR Maka Construction
SUPPLIER N/a
MANUFACTURER N/a

CERTIFIED BY CQCM or Designee : 

SECTION 09310

CERAMIC TILING

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Thin set ceramic tile for walls and floors and associated materials.

1.02 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. A108.5 - Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
 - 2. A108.10 - Installation of Grout in Tilework.
 - 3. A118.4 - American National Standard Specifications for Latex-Portland Cement Mortar.
 - 4. A137.1 - American National Standard Specifications for Ceramic Tile.
 - B. ASTM International (ASTM):
 - 1. A1064 - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
 - C. Tile Council of Northern America (TCNA):
 - 1. TCNA Handbook for Ceramic Tile Installation.

1.03 SUBMITTALS

- A. Product data: Include manufacturer's standard colors.
 - B. Samples: Tile and grout on minimum 24-inch square waterproof boards showing range of Engineer's selected colors.

1.04 MAINTENANCE

- A. Extra materials: Minimum 2 percent of each type, size, and color tile installed, but not less than enough to cover 4 square foot area.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Ceramic tile: One of following or equal:

 1. American Olean Tile Co.
 2. DalTile Corp.
 3. United States Ceramic Tile Co.

- B. Setting materials and grout: One of the following or equal:
1. C-Cure.
 2. Custom Building Products.
 3. Laticrete International, Inc.
 4. Mapei.
 5. Upco Co.

2.02 CERAMIC TILE

- A. Floor tile: ANSI A137.1, 2 inch square by 1/4 inch thick, ceramic mosaic, unglazed, colors as selected by Engineer.
- B. Base tile: Coved, match floor tile, colors as selected by Engineer.
- C. Wall tile: ANSI A137.1, 4 inch square by 5/16-inch thick, glazed, colors as selected by Engineer.

2.03 RELATED MATERIALS

- A. Mortar: ANSI A118.4 latex-portland cement type.
- B. Grout: ANSI A118.4, latex portland cement, factory-prepared mixes, containing fungus and bacteria inhibiting agents, colors as selected by Engineer.
- C. Expansion joint sealant and backing: Polyurethane, specified in Section 07900 - Joint Sealants.
- D. Floor sealer:
 1. Manufacturers: One of the following or equal:
 - a. Hillyard, Seal 341.
 - b. Huntington, Terrazzo Seal.
 - c. Aqua Mix Inc., Penetrating Sealer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that wall surfaces to receive ceramic tile are free of coatings, oil, and wax.
- B. Verify that concrete or masonry surfaces are flat within 1/8-inch in 8 feet, sloped to drain when indicated on the Drawings, clean and well cured.
- C. Verify that subflooring is smooth and continuous and free of loose objects and projections, such as nail heads and rough edges of aggregate, before shower pans are installed.
- D. Verify that concrete has fine broom finish, and is free of curing compounds.

3.02 INSTALLATION

- A. Install in accordance with ANSI A108.5 and A108.10, TCNA Handbook, and manufacturer's instructions.
 - B. Carefully lay out and center tile on each wall or section of wall.
 - C. Rub cut tile edges smooth.
 - D. Make joints approximately 1/16-inch wide and accurately align.
 - E. Lay exposed edges with bullnose cap or edge units.
 - F. Lay external corners with bullnose corner units.
 - G. Lay vertical internal corners square.
 - H. Align wall, coved base, and wall joints.
 - I. Extend tile into recesses and under equipment and fixtures to form complete, uninterrupted covering.
 - J. Carefully grind and neatly fit tile around fixtures and fittings.
 - K. Terminate tile neatly at obstructions, edges, and corners, without disrupting pattern or joint alignment.
 - L. Sound tile after setting:
 1. Reset hollow sounding tile.
 - M. Remove and replace cracked, chipped, and broken tile.
 - N. Provide expansion and control joints over those in walls or as otherwise recommended in TCNA Handbook.
 - O. Allow tile to set for at least 48 hours before grouting.
 - P. Clean joints and grout full depth, without voids.
 - Q. Tool joints barely concave, nearly flat.
 - R. Remove surplus mortar and grout before hardening:
 1. Keep faces of tile clean.
 - S. Protect tile surfaces from rapid drying by keeping moist for 72 hours minimum after tile installation.

3.03 TOLERANCES

- A. Flatness of Tile Surface: Maximum variance of 1/8 inch from 10-foot straightedge.

3.04 CLEANING AND PROTECTION

- A. Thoroughly clean tile with nonacidic masonry cleaner.
 - B. After cleaning:
 - 1. Thoroughly wash tile surfaces with clear water.
 - 2. Protect floors with continuous cover of nonstaining, waterproof paper.
 - 3. Leave paper in place until final cleaning.
 - C. Where stains are not removable by reasonable washings, replace tile.
 - D. After completion of installation and just before final inspection, remove protective coverings, inspect floor surface and repair defects, then thoroughly clean, seal, and polish.

3.05 SEALING

- A. Apply 2 coats of floor sealer in accordance with manufacturer's instructions.

END OF SECTION

MAKA CONSTRUCTION LLC

May 19, 2025

Hilo WWTP Rehab & Replace PH 1

Submittal #09310-1: Tiling Product Data & SDS

Items Submitted: Product Data & SDS

Tile

Floor Tile - Daltile Keystones 2x2 (Color TBD)
Wall Tile - Daltile Color Wheel Classic 4x4 (Color TBD)

Waterproofing Membrane

Laticrete Hydroban

Thinset

Laticrete Tri-Lite

Grout

Laticrete Permacolor Select

Mortar Bed

Quikrete Mason Mix

Samples

Note – samples will be submitted separately

SDS for all applicable products listed above

1321 Hart Street Unit 209, Honolulu, HI 96817

Phone: 808-292-9404 • Fax: 888-841-7184 • Email: office@makaconst.com



MOSAIC

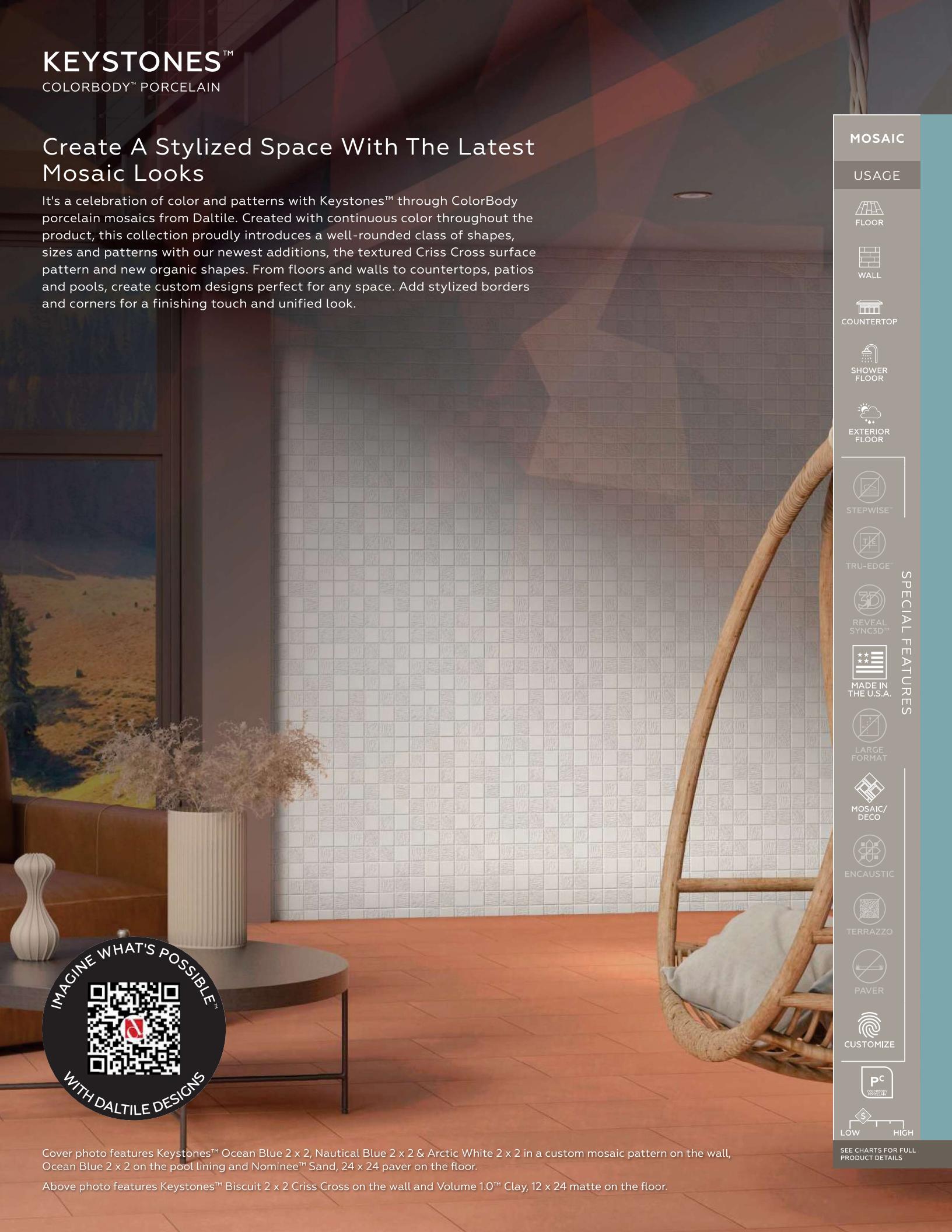
KEYSTONES™
COLORBODY™ PORCELAIN



daltile®
IMAGINE WHAT'S POSSIBLE™

Create A Stylized Space With The Latest Mosaic Looks

It's a celebration of color and patterns with Keystones™ through ColorBody porcelain mosaics from Daltile. Created with continuous color throughout the product, this collection proudly introduces a well-rounded class of shapes, sizes and patterns with our newest additions, the textured Criss Cross surface pattern and new organic shapes. From floors and walls to countertops, patios and pools, create custom designs perfect for any space. Add stylized borders and corners for a finishing touch and unified look.



MOSAIC

USAGE



COUNTERTOP



EXTERIOR FLOOR



ENCAUSTIC



CUSTOMIZE



SEE CHARTS FOR FULL PRODUCT DETAILS

Cover photo features Keystones™ Ocean Blue 2 x 2, Nautical Blue 2 x 2 & Arctic White 2 x 2 in a custom mosaic pattern on the wall, Ocean Blue 2 x 2 on the pool lining and Nominee™ Sand, 24 x 24 paver on the floor.

Above photo features Keystones™ Biscuit 2 x 2 Criss Cross on the wall and Volume 1.0™ Clay, 12 x 24 matte on the floor.

FINISHES: MATTE | CRISS CROSS

GROUP 1



GROUP 2



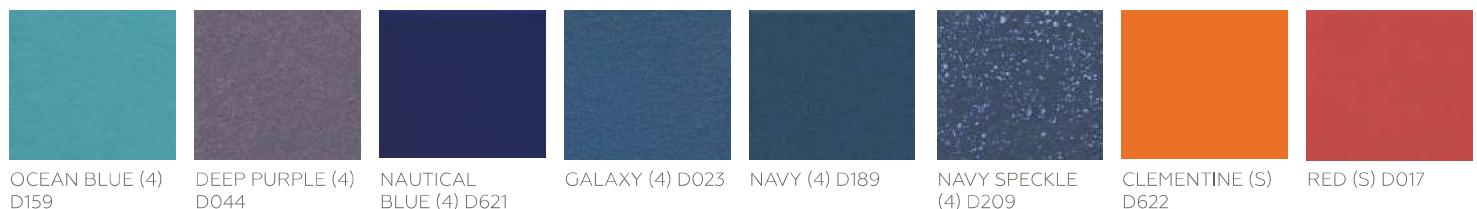
GROUP 3



GROUP 4



GROUP 5

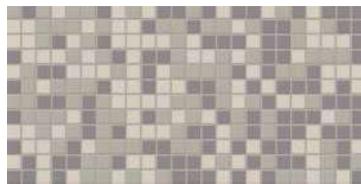


(1), (2), (3), (4) AND (S) INDICATE PRICE GROUPS. (1) BEING THE LEAST EXPENSIVE.

STOCKED BLENDS AND PATTERNS



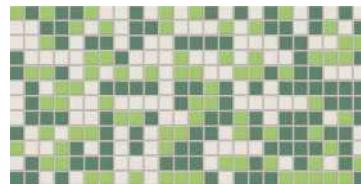
BEACH BLEND DK04 (1)
1x1 Mosaic
33% 33% Almond D335
33% Biscuit D317
34% Urban Putty D161



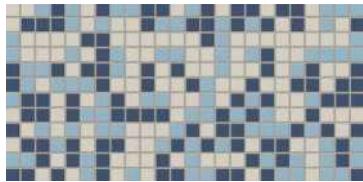
WHEAT BLEND DK21 (1)
1x1 Mosaic
33% Moonshine D117
33% Suede Gray D182
33% Desert Gray D014



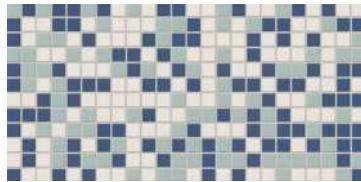
ALMOND BLEND DK22 (1)
1x1 Mosaic
33% Almond D335
33% Architectural Gray D109
33% Urban Putty D161



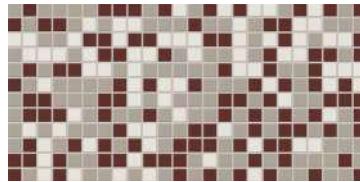
OLIVE BLEND DK23 (2)
1x1 Mosaic
40% Arctic White D617
40% Emerald D116
20% Lime Sherbet D619



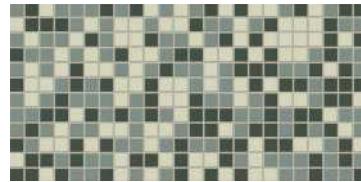
BERRY BLEND DK24 (2)
1x1 Mosaic
33% Moonshine D117
33% Waterfall D169
33% Navy D189



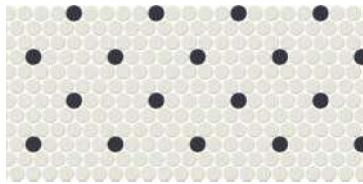
MACARON BLEND DK25 (2)
1x1 Mosaic
33% Galaxy D023
33% Arctic White D617
33% Spa D148



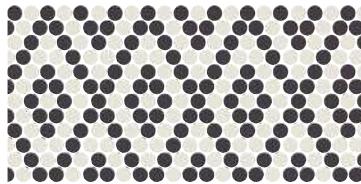
MAPLE BLEND DK26 (1)
1x1 Mosaic
40% Arctic White D617
40% Architectural Gray D109
20% Brownberry D118



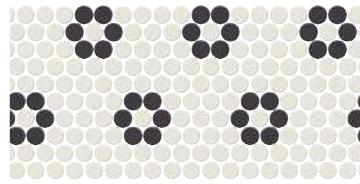
RYE BLEND DK27 (1)
1x1 Mosaic
33% Oak Moss D195
33% Mint D152
33% Cypress D452



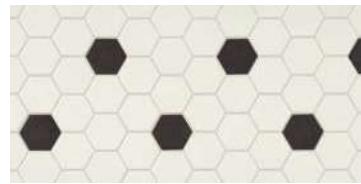
PENNY ROUND DK30
Retro Dot Mosaic
Arctic White D617 and Black D311



PENNY ROUND DK28
Diamond Mosaic
Arctic White D617 and Black D311



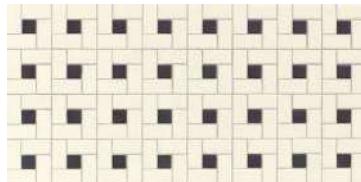
PENNY ROUND DK29
Rosette Mosaic
Arctic White D617 and Black D311



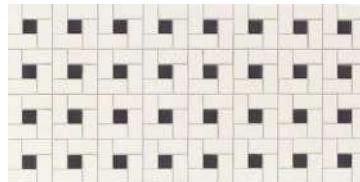
HEXAGON DK16
2" Hexagonal Mosaic
Arctic White D617 and Black D311



HEXAGON DK16
1" Hexagonal Mosaic
Arctic White D617 and Black D311



WINDMILL DK20
1x1 & 2 x 1 Mosaic
Biscuit D317 with Black D311



WINDMILL DK40
1x1 & 2 x 1 Mosaic
Arctic White D617 and Black D311



SLIP RESISTANT



WATERPROOF



STAINPROOF



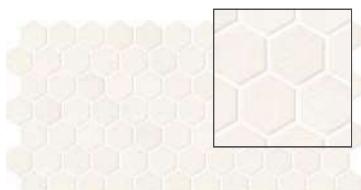
DENTPROOF

SCRATCH-RESISTANT[†]FIRE-RESISTANT[†]

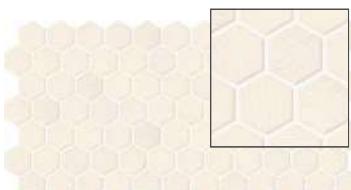
INDOOR/OUTDOOR

SIMPLICLEAN[™]

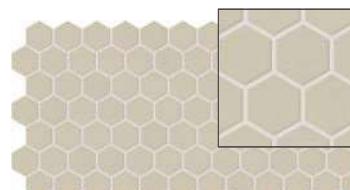
CRISS CROSS SURFACE



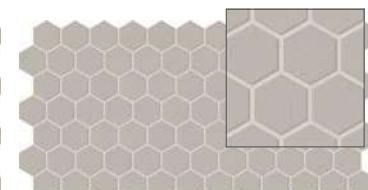
ARCTIC WHITE D617*
2" Hexagon Criss Cross Mosaic



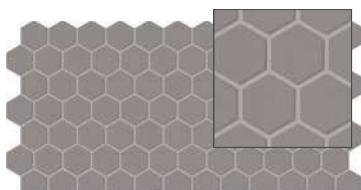
BISCUIT D317*
2" Hexagon Criss Cross Mosaic



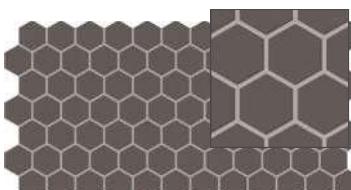
URBAN PUTTY D161*
2" Hexagon Criss Cross Mosaic



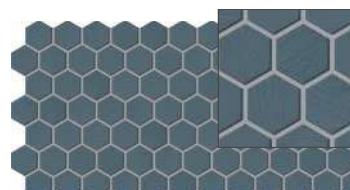
DESERT GREY D014*
2" Hexagon Criss Cross Mosaic



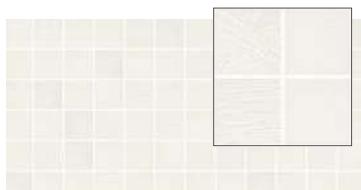
SUEDE GRAY D182*
2" Hexagon Criss Cross Mosaic



BLACK D311*
2" Hexagon Criss Cross Mosaic



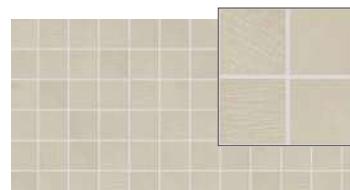
GALAXY D023*
2" Hexagon Criss Cross Mosaic



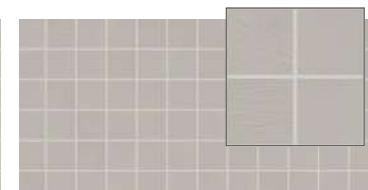
ARCTIC WHITE D617*
2 x 2 Criss Cross Mosaic



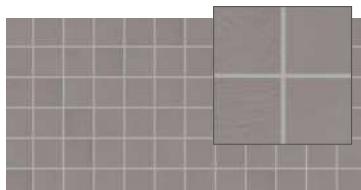
BISCUIT D317*
2 x 2 Criss Cross Mosaic



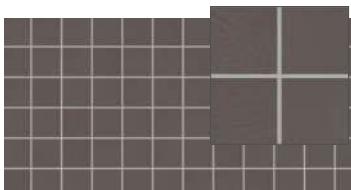
URBAN PUTTY D161*
2 x 2 Criss Cross Mosaic



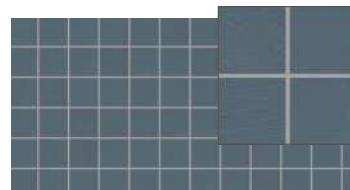
DESERT GREY D014*
2 x 2 Criss Cross Mosaic



SUEDE GRAY D182*
2 x 2 Criss Cross Mosaic

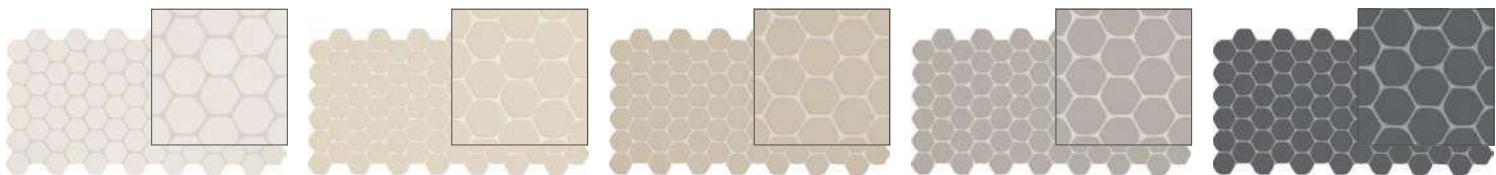


BLACK D311*
2 x 2 Criss Cross Mosaic

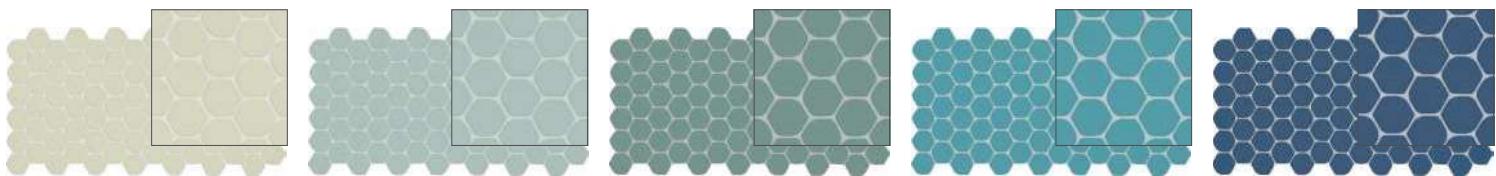


GALAXY D023*
2 x 2 Criss Cross Mosaic

ORGANIC 2" HEXAGON MOSAIC

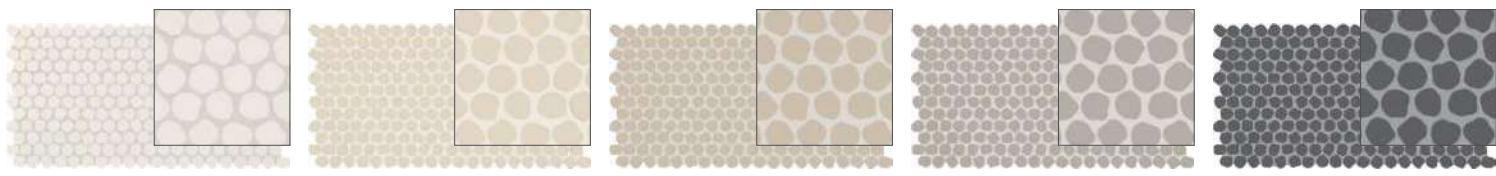


ARCTIC WHITE D617 (2) ALMOND D335 (2) URBAN PUTTY D161 (1) DESERT GRAY D014 (1) CASTLEROCK D618 (3)

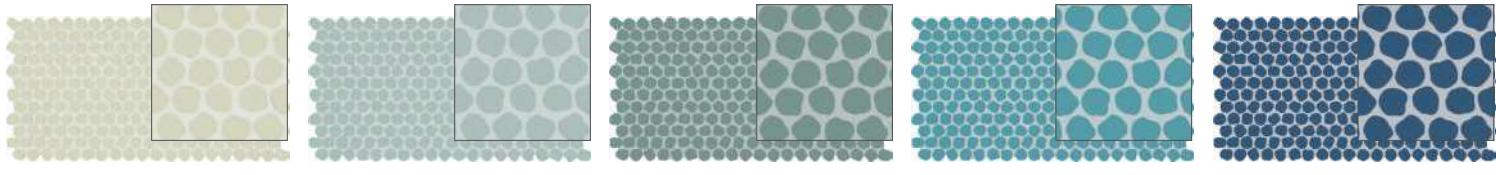


MINT ICE D152 (2) SPA D148 (1) AEGEAN D192 (3) OCEAN BLUE D159 (4) GALAXY D023 (4)

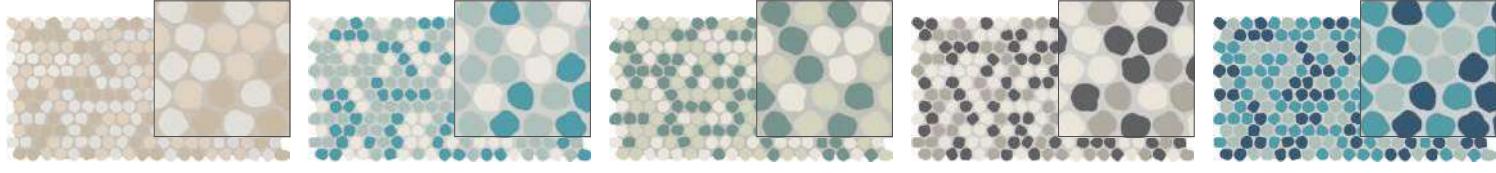
ORGANIC 1" PENNY MOSAIC



ARCTIC WHITE D617 (2) ALMOND D335 (2) URBAN PUTTY D161 (1) DESERT GRAY D014 (1) CASTLEROCK D618 (3)



MINT ICE D152 (2) SPA D148 (1) AEGEAN D192 (3) OCEAN BLUE D159 (4) GALAXY D023 (4)

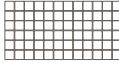
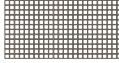


SAND BLEND DK32 (1)	DEEP SEA BLEND DK33 (2)	SPRING BLEND DK34 (2)	WHITE ROCK BLEND DK35 (1)	NAVAL BLEND DK36 (2)
33% ALMOND D335	33% ARCTIC WHITE D617	33% AEGEAN D192	33% ARCTIC WHITE D617	33% GALAXY D023
33% ARCTIC WHITE D617	33% SPA D148	33% MINT ICE D152	33% DESERT GRAY D014	33% SPA D148
33% URBAN PUTTY D161	33% OCEAN BLUE D159	33% ARCTIC WHITE D617	33% CASTLEROCK D618	33% OCEAN BLUE D159

KEYSTONES™

COLORBODY™ PORCELAIN

SIZES

	ColorBody Porcelain Dot-Mount Mosaics	Thickness	Sq. Ft./Carton	Pieces/Carton
	2 x 2 Mosaic (2" x 2" Piece) (12" x 24" Sheet) (30.48 cm x 60.96 cm Sheet)	1/4"	24.00	12
	1 x 1 Mosaic (1" x 1" Piece) (12" x 24" Sheet) (30.48 cm x 60.96 cm Sheet)	1/4"	24.00	12
	2" Hexagon Mosaic (2" x 2" Piece) (12" x 24" Sheet) (30.48 cm x 60.96 cm Sheet)	1/4"	24.24	12
	Organic 2" Hexagon Mosaic (2" x 2" Piece) (12" x 24" Sheet) (30.48 cm x 60.96 cm Sheet)	1/4"	24.24	12
	1" Hexagon Mosaic (1" x 1" Piece) (12" x 22-5/8" Sheet) (30.48 cm x 58.10 cm Sheet)	1/4"	21.00	12
	2 x 1 / 1 x 1 Windmill Mosaic (2" x 1" & 1" x 1" Piece) (12" x 24" Sheet) (30.48 cm x 60.96 cm Sheet)	1/4"	24.00	12
	Penny Round Solid Colors (1" x 1" Piece) (10" x 22" Sheet) (25.40 cm x 55.88 cm Sheet)	1/4"	21.12	12
	Penny Round Retro Dot (1" x 1" Piece) (10" x 22" Sheet) (25.40 cm x 55.88 cm Sheet)	1/4"	18.12	12
	Penny Round Rosette (1" x 1" Piece) (10" x 22" Sheet) (25.40 cm x 55.88 cm Sheet)	1/4"	17.40	12
	Penny Round Diamond (1" x 1" Piece) (10" x 22" Sheet) (25.40 cm x 55.88 cm Sheet)	1/4"	17.40	12
	Organic 1" Penny Mosaic (1" x 1" Piece) (12" x 22" Sheet) (30.48 cm x 55.88 cm Sheet)	1/4"	21.00	12

1" x 1" and 2" x 2" mosaics are available in every color and can be ordered in standard or custom patterns and blends. All colors in 1" x 1" and 2" x 2" size can also be ordered with ClearFace mounting system (which is recommended for use in pool tanks and submerged applications). All other sizes are available in select colors (see color groups section for details) and can be made to order in standard or custom patterns and blends.

Please see the "Pattern and Border Guide" (available on-line) for templates; and for order assistance please contact your local Daltile Sales Representative.

To view Keystones complete product information visit our website at daltile.com

APPLICATIONS

	Target DCOF wet	Suitable
Dry & Level – Interior Floor	N/A	✓
Wet & Level – Interior Floor	≥ 0.42	✓
Shower Floors - Standard Center Drain (Residential or Commercial)	≥ 0.42	✓
Shower Floors - Linear Drain	≥ 0.55	✓*
Exterior Floor Applications, including Patios, Pool Decking & Other Wet Areas with Minimal Footwear	≥ 0.55	✓*
Ramps & Inclines	≥ 0.65	
Walls/Backsplashes	N/A	✓
Countertops	N/A	✓
Pool Linings	N/A	✓
Pool Tank/Submerged	N/A	✓**

A DCOF value of ≥ 0.42 is the standard for tiles specified for level interior spaces expected to be walked upon when wet, as stated in ANSI A137.1-A326.3. For more information about DCOF and the DCOF AcuTest™, visit daltile.com/DCOF.

APPLICATION NOTES:

Suitable for exterior applications (provided it is noted as suitable in the applications chart above) in freezing and non-freezing climates, when proper installation methods are followed.

* Keystones mosaics have recurrent grout joints and reflect a DCOF of ≥ 0.55 wet making them suitable for these applications.

** Keystones mosaics with ClearFace™ mounting system recommended for pool tanks and submerged applications.

INSTALLATION

Grout Joint Recommendation	Shade Variation
1/8" Approximately*	

Solid colors have medium shade variation, mottled and speckled colors have medium, and blends have random.

* Organic Hex and Penny Mosaic grout joints are intended to vary due to the unique mosaic shape.

PERFORMANCE CHARACTERISTICS

	ASTM#	Result
Water Absorption	C373	< 0.5%
Breaking Strength	C648	> 300 lbs
Scratch Hardness	MOHS	N/A
Chemical Resistance	C650	Resistant

For additional information on test results, visit us at: daltile.com/information/TestResults.

DURABILITY

Floor Surface Wear Resistance

1 Residential Bathrooms	3 All Residential / Light Commercial
2 All Residential Areas	④ All Residential / Commercial



All or select items within this series meet the requirements for these qualifications. For more information, visit daltile.com.

LRV & MUNSELL

COLOR #	LRV Illuminate-OBS: F02-02 (CWF)	MUNSELL
D037 Pepper White	65.8	4.7Y 8.3/0.7
D335 Almond	61.8	2.0Y 8.1/1.4
D618 Castle Rock	10.9	8.4PB 3.8/0.4
D311 Black	6.5	0.3P 3.0/0.2
D144 Artisan Brown	15.8	9.5YR 4.5/1.9
D147 Buffstone Range	35.7	2.4Y 6.4/1.1
D161 Urban Putty	39.9	1.5Y 6.7/1.8
D014 Desert Gray	40.2	2.9Y 6.8/0.6
D023 Galaxy	9.3	4.6PB 3.7/4.9
D044 Deep Purple	13.6	5.6P 4.3/1.9
D050 Mottled Medium Brown	26.6	0.3Y 5.7/2.2
D090 Pumpkin Spice	28.1	6.1YR 5.7/5.6
D109 Architectural Gray	31.6	3.3Y 6.1/1.3
D116 Emerald	18.1	2.1G 4.9/2.9
D117 Moonshine	57.0	2.9Y 7.9/0.7
D118 Brown Berry	9.4	10.0R 3.5/2.7
D132 Uptown Taupe	31.0	8.7YR 6.1/1.4
D138 Golden Granite	70.6	1.9Y 8.6/1.0
D142 Luminary Gold	51.1	1.0Y 7.4/4.7
D148 Spa	46.0	7.3G 7.2/1.2
D152 Mint Ice	57.2	6.5GY 7.9/1.3
D159 Ocean Blue	25.8	2.4B 5.8/4.5
D160 Cornsilk	64.2	2.6Y 8.2/4.1
D166 Elemental Tan	24.2	9.4YR 5.4/2.1
D169 Waterfall	37.2	9.4B 6.7/2.9
D175 Elemental Tan Speckle	33.2	9.6YR 6.2/2.5
D181 Mustard	42.0	9.2YR 6.8/6.7
D182 Suede Gray	24.1	9.8RP 5.5/1.2
D189 Navy	7.2	2.4PB 3.3/2.2
D192 Aegean	23.3	1.2BG 5.5/2.4
D195 Oak Moss	8.2	9.0GY 3.4/1.3
D197 Aqua Glow	35.3	8.7BG 6.6/3.4
D200 Desert Gray Speckle	41.7	3.7Y 6.9/0.6
D201 Urban Putty Spk	44.7	1.7Y 7.1/1.8
D202 Uptown Taupe Speckle	26.9	9.1YR 5.7/1.2

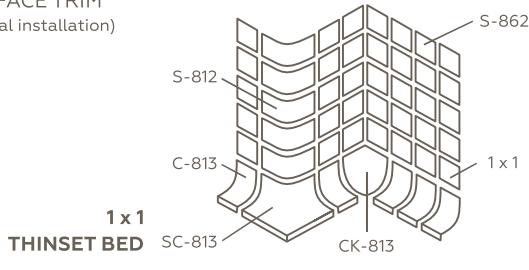
COLOR #	LRV Illuminate-OBS: F02-02 (CWF)	MUNSELL
D204 Artisan Brown Speckle	16.4	0.5Y 4.6/1.5
D208 Suede Gray Speckle	23.7	1.7Y 5.4/0.2
D209 Navy Speckle	9.9	5.1PB 3.8/4.0
D317 Biscuit	69.9	3.5Y 8.6/0.9
D325 Marble	57.1	0.5Y 7.9/1.3
D372 Sea Speck	14.1	3.2B 4.5/3.0
D452 Cypress	25.5	2.4GY 5.6/1.6
D617 Arctic White	75.0	0.4GY 8.8/0.4
D619 Lime Sherbert	44.5	5.6GY 7.1/5.0
D620 Sunshine	66.3	7.1Y 8.2/7.2
D621 Nautical Blue	8.5	5.2PB 3.7/6.9
D017 Red	13.3	5.6R 4.2/8.8
D622 Clementine	36.7	2.2YR 6.3/9.9

TRIM INSTALLATION

Trim is available in single linear foot lengths, or it can be ordered with cap and/or cove face-mounted on the sheet with flat tile. Trim members with modular 1 x 1 and 2 x 2 flat tile.

SURFACE TRIM

(typical installation)



THINSET BED

GROUP 1

Color Name	Keystones Unglazed 1x1 & 2x2	2 x 2 and 2" Hexagon Criss Cross	Keystones Organic 2" Hex & 1" Penny	Penny Rounds	Keystones 1" Hex	Keystones 2" Hex	Trim
D317 Biscuit	STK	STK	NA	STK	STK	MTO	STK
D147 Buffstone Range	STK	N/A	NA	N/A	MTO	N/A	STK
D014 Desert Gray	STK	STK	STK	STK	MTO	STK	STK
D200 Desert Gray Speckle	STK	N/A	NA	N/A	N/A	STK	STK
D166 Elemental Tan	STK	N/A	NA	N/A	N/A	N/A	STK
D175 Elemental Tan Speckle	STK	N/A	NA	N/A	N/A	N/A	STK
D050 Mottled Medium Brown	STK	N/A	NA	STK	N/A	N/A	STK
D037 Pepper White	STK	N/A	NA	N/A	MTO	N/A	*
D148 Spa	STK	STK	STK	STK	N/A	N/A	*
D161 Urban Putty	STK	N/A	STK	N/A	N/A	STK	STK
D201 Urban Putty Speckle	STK	N/A	NA	STK	MTO	STK	*
D117 Moonshine	STK	N/A	NA	N/A	MTO	STK	*

GROUP 2

Color Name	Keystones Unglazed 1x1 & 2x2	2 x 2 and 2" Hexagon Criss Cross	Keystones Organic 2" Hex & 1" Penny	Penny Rounds	Keystones 1" Hex	Keystones 2" Hex	Trim
D335 Almond	STK	N/A	STK	STK	MTO	MTO	STK
D109 Architectural Gray	STK	N/A	NA	STK	N/A	STK	*
D617 Arctic White	STK	STK	STK	STK	STK	STK	STK
D144 Artisan Brown	STK	N/A	NA	N/A	N/A	MTO	*
D204 Artisan Brown Speckle	STK	N/A	NA	N/A	N/A	MTO	*
D160 Cornsilk	MTO	N/A	NA	N/A	MTO	N/A	+
D452 Cypress	MTO	N/A	NA	N/A	MTO	MTO	+
D138 Golden Granite	STK	N/A	NA	N/A	MTO	N/A	*
D142 Luminary Gold	MTO	N/A	NA	N/A	N/A	MTO	+
D325 Marble	STK	N/A	NA	N/A	N/A	N/A	STK
D152 Mint Ice	MTO	N/A	STK	N/A	N/A	MTO	+
D182 Suede Gray	STK	STK	NA	STK	MTO	MTO	STK
D208 Suede Gray Speckle	STK	N/A	NA	N/A	N/A	MTO	STK
D132 Uptown Taupe	STK	N/A	NA	N/A	MTO	N/A	*
D202 Uptown Taupe Speckle	STK	N/A	NA	N/A	N/A	MTO	STK
D169 Waterfall	STK	MTO	NA	MTO	MTO	N/A	*

GROUP 3

Color Name	Keystones Unglazed 1x1 & 2x2	2 x 2 and 2" Hexagon Criss Cross	Keystones Organic 2" Hex & 1" Penny	Penny Rounds	Keystones 1" Hex	Keystones 2" Hex	Trim
D192 Aegean	MTO	N/A	STK	N/A	N/A	N/A	+
D197 Aqua Glow	MTO	N/A	NA	N/A	N/A	N/A	+
D311 Black	STK	STK	NA	STK	STK	MTO	*
D618 Castlerock	STK	N/A	STK	N/A	N/A	MTO	*
D195 Oak Moss	MTO	N/A	NA	N/A	N/A	N/A	+
D372 Sea Spec	MTO	N/A	NA	N/A	N/A	N/A	+
D118 Brownberry	STK	N/A	NA	N/A	MTO	N/A	+
D116 Emerald	STK	N/A	NA	N/A	MTO	N/A	+

* Trim Stocked in S886, SC886, C833 and SC813. Made-to-Order in C701, SCR-L833, CK813, MB5B and MB5A. No other trim available.

+ Trim Made-to-order in S886, SC886, C833, SC813, C701, SCR-L833, CK813, MB5B and MB5A. No other trim available. STK Trim stocked in S862, S886, SC886, C813, C833, CB813, CK813, S832, SC813, MB-4C, MB-5, MB-5A, MB-5B and made to order in SC862, S816, SC816, SCR-L833, S812 and C701

STK = stocked, N/A = Not available, MTO = Made-to-Order. Made to Order items require 6 - 8 week lead time.

All colors (except D017 Red and D622 Clementine) available with 7 1/2 % abrasive content on a made to order basis in 1x1 and 2x2.

All colors available on a made to order basis in 1x1 and 2x2 with ClearFace™ mounting system.

GROUP 4

Color Name	Keystones Unglazed 1x1 & 2x2	2 x 2 and 2" Hexagon Criss Cross	Keystones Organic 2" Hex & 1" Penny	Penny Rounds	Keystones 1" Hex	Keystones 2" Hex	Trim**
D044 Deep Purple	MTO	N/A	NA	N/A	MTO	N/A	MTO
D023 Galaxy	STK	STK	STK	N/A	MTO	MTO	STK
D619 Lime Sherbet	STK	N/A	NA	N/A	N/A	N/A	STK
D181 Mustard	STK	N/A	NA	N/A	MTO	N/A	STK
D621 Nautical Blue	STK	N/A	NA	N/A	N/A	N/A	STK
D189 Navy	STK	N/A	NA	N/A	N/A	N/A	STK
D209 Navy Speckle	STK	N/A	NA	N/A	N/A	N/A	STK
D159 Ocean Blue	MTO	N/A	STK	N/A	N/A	N/A	MTO
D090 Pumpkin Spice	MTO	N/A	NA	N/A	MTO	N/A	MTO
D620 Sunshine	STK	N/A	NA	N/A	N/A	N/A	MTO

GROUP S

Color Name	Keystones Unglazed 1x1 & 2x2	2 x 2 and 2" Hexagon Criss Cross	Penny Rounds	Keystones 1" Hex	Keystones 2" Hex	Trim
D017 Red #	MTO	N/A	N/A	N/A	N/A	N/A
D622 Clementine #	MTO	N/A	N/A	N/A	N/A	N/A

* Available in 1x1 and 2x2 only (no trim) on a made to order basis.

* Trim Stocked in S886, SC886, C833 and SC813. Made-to-Order in C701, SCR-L833, CK813, MB5B and MB5A. No other trim available.

+ Trim Made-to-order in S886, SC886, C833, SC813, C701, SCR-L833, CK813, MB5B and MB5A. No other trim available.

STK Trim stocked in S862, S886, SC886, C813, C833, CB813, CK813, S832, SC813, MB-4C, MB-5, MB-5A, MB-5B and made to order in SC862, SB816, SC816, SCR-L833, S812 and C701

** Group 4 trim offered in S886, SC886 and C701. No other trim offered.

STK = stocked, N/A = Not available, MTO = Made-to-Order. Made to Order items require 6 - 8 week lead time.

All colors available on a made to order basis in 1x1 and 2x2 with ClearFace™ mounting system

NOTES

Since there are variations in all fired ceramic and natural products, tile and trim supplied for your particular installation may not match samples. Final confirmation should be made from actual tiles and trim prior to installation. Manufactured in accordance with ANSI A137.1 standards.

Not for use on ramps. Water, oil, grease, improper drainage and certain footwear can create slippery conditions. Floor applications expected to be exposed to these conditions require extra caution in product selection.

For additional information refer to "Factors to Consider" at: daltile.com/Factors.

Random visuals enhance the natural beauty of this product. To achieve optimal results, all tile should be selected from multiple cartons and shading and graphic arrangement planned prior to installation.

Special care should be taken when grouting with dark pigmented colors. A grout release is recommended to prevent finely powdered pigments from lodging in the pores of the surface. Use of a latex modified thin-set is recommended for installation.

CLEARFACE™ MOUNTING SYSTEM

- Keystones™ ClearFace™ is a mounting system intended primarily for use in swimming pools and submerged applications. ClearFace™ mounted tile is a premium product to existing paper-face offerings and supplements dot-mounted mosaics.
- Additionally, ClearFace™ allows the contractor to see chips as they are being installed, allowing for realignment when wet should a chip need adjustment. ClearFace's premium feature includes complete tile-back-to-substrate mortar transfer.
- All Keystones 1" and 2" colors are available on a standard made-to-order basis using the ClearFace™ mounting system.
- Complete tile-to-substrate mortar transfer
- Premium alternative for swimming pool installations
- Provides 100% contact between the tile and setting materials, providing additional bond strength
- Allows for visual inspection and better alignment during installation
- Comes with extended 25-year pro-rated limited warranty

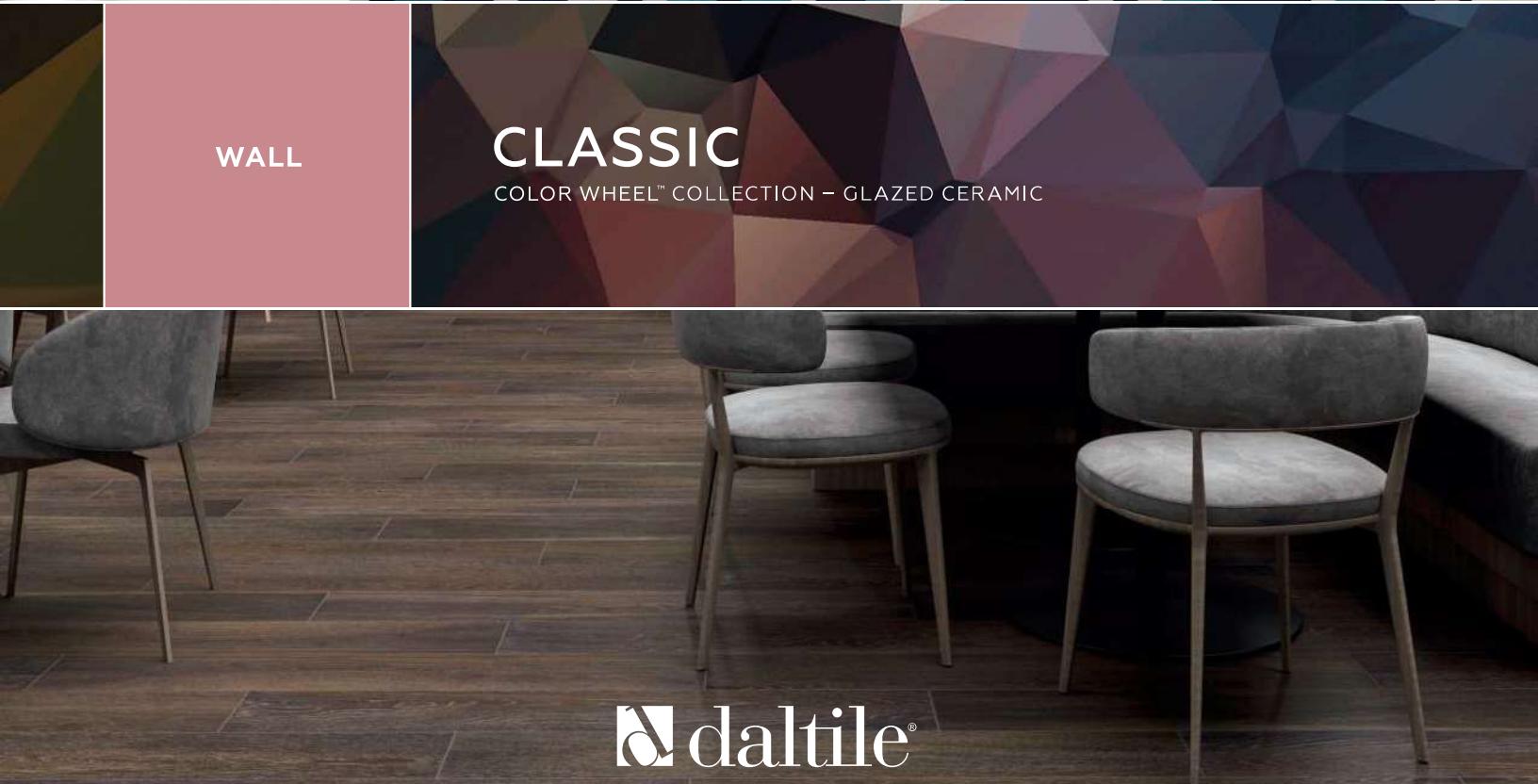




WALL

CLASSIC

COLOR WHEEL™ COLLECTION – GLAZED CERAMIC



 **daltile®**
IMAGINE WHAT'S POSSIBLE™

CLASSIC

COLOR WHEEL™ COLLECTION – GLAZED CERAMIC

A Spectacular Spectrum

The element of color is visually represented in Color Wheel™. This vibrant collection offers a wide spectrum of colorful selections from bright and pigmented hues to neutral and earthy tones. A favorite of artists and designers, Color Wheel provides the perfect palette to inspire the imagination.

- COLOR SCHEME
 - Eighteen rich semi-gloss colorful accents
 - Plus, twelve coordinating neutral tones in semi-gloss and matte finishes
- ARTISTIC INSPIRATIONS
 - Stylish shapes in classic size options
 - With endless design opportunities, this collection is a perfect fit for residential and commercial applications



Cover photo features Color Wheel™ Classic Ocean Blue, Galaxy, & Desert Grey 6 x 6 on the wall with Emerson Wood™ Brazilian Walnut 8 x 48 on the floor.

Above photo features Color Wheel™ Classic Artic White & Navy on the walls.

WALL
USAGE
FLOOR
WALL
COUNTERTOP
SHOWER FLOOR
EXTERIOR FLOOR
STEPWISE*
TRU-EDGE*
MADE IN THE U.S.A.
LARGE FORMAT
MOSAIC/ DECO
ENCAUSTIC
TERRAZZO
PAVER
CUSTOMIZE
FLEXFIT™
CG COATED CERAMIC
LOW HIGH

SEE CHARTS FOR FULL PRODUCT DETAILS

SIZES:

6 x 6 Wall Tile 4 x 4 Wall Tile 3 x 6 Wall Tile 3 x 6 Bevel Wall Tile

FINISHES: MATTE | SEMI-GLOSS

SEMI-GLOSS



MATTE



ACCENT*



* Accent available in Semi-Gloss finish only. † Subject to crazing; black grout not recommended.
(1), (2) and (3) indicate price groups. (1) being the least expensive.



STAINPROOF



DENTPROOF



SCRATCH-RESISTANT[®]
*Applicable to products with Matte and Textured Finishes



FIRE-RESISTANT[®]
*Not Applicable to Mesh-Mounted Mosaics



SIMPLICLEAN[™]

CLASSIC

COLOR WHEEL™ COLLECTION – GLAZED CERAMIC

TRIM

Trim		Thickness	Pieces/Carton
S1/212J / 1/2 x 12 Jolly	(1/2" x 11-15/16") (1.29 cm x 30.36 cm)	1/4" 7.23 mm	12
A106 / 1 x 6 Quarter Round	(1" x 6") (2.43 cm x 15.16 cm)	5/16" 7.90 mm	152
AC106 / 1 x 6 Quarter Round Corner	(1" x 6") (2.43 cm x 15.16 cm)	5/16" 7.90 mm	120
SURFACE BULLNOSE			
S4269 / 2 x 6 Bullnose	(2" x 6") (5.15 cm x 15.31 cm)	5/16" 7.90 mm	100
SN4269 / 2 x 2 Bullnose Corner	(2" x 2") (5.15 cm x 5.15 cm)	5/16" 7.90 mm	25
S4669 / 6 x 6 Bullnose	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	50
SCRL4669 / 6 x 6 Bullnose Corner	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	50
S4449 / 4 x 4 Bullnose	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	100
SCRL4449 / 4 x 4 Bullnose Corner	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	100
S4369MOD / 3 x 6 Bullnose (on 6" side)	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
S4639MOD / 3 x 6 Bullnose (on 3" side)	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
SCR4369M / 3 x 6 Bullnose Corner Right	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
SCL4369M / 3 x 6 Bullnose Corner Left	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	100
RADIUS BULLNOSE			
A4200 / 2 x 6 Bullnose	(2" x 6") (5.28 cm x 15.20 cm)	5/16" 7.90 mm	100
AN4200 / 2 x 2 Bullnose Corner	(2" x 2") (5.28 cm x 5.28 cm)	5/16" 7.90 mm	20
FLAT TOP COVE BASE ▲			
A3601 / 6 x 6 Cove Base	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	44
SCR3601 / 6 x 6 Cove Corner Right	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	20
SCL3601 / 6 x 6 Cove Corner Left	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	20
A3401 / 4 x 4 Cove Base	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	84
SCR3401 / 4 x 4 Cove Corner Right	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	30
SCL3401 / 4 x 4 Cove Corner Left	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	30
A3361MOD / 3 x 6 Cove Base	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	36
SCR3361M / 3 x 6 Cove Base Corner Right	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	36
SCL3361M / 3 x 6 Cove Base Corner Left	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	36
SANITARY COVE BASE *			
S3619T / 6 x 6 Cove Base	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	40
SCR3619T / 6 x 6 Cove Base Corner Right	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	20

TRIM (CON'T)

		Thickness	Pieces/Carton
	SCL3619T / 6 x 6 Cove Base Corner Left	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm 20
	S3419T / 4 x 6 Cove Base	(4-1/4" x 6") (10.90 cm x 15.31 cm)	5/16" 7.90 mm 60
	SCR3419T / 4 x 6 Cove Base Corner Right	(4-1/4" x 6") (10.90 cm x 15.29 cm)	5/16" 7.90 mm 20
	SCL3419T / 4 x 6 Cove Base Corner Left	(4-1/4" x 6") (10.90 cm x 15.31 cm)	5/16" 7.90 mm 20
SANITARY COVE BASE - Slim Foot Design +			
	S3619TN / 6 x 6 Cove Base	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm 40
	SC3619TN / 1 x 6 Cove Base Corner	(1" x 6") (2.43 cm x 15.16 cm)	5/16" 7.90 mm 60

* Available in Group 1 & 2 Colors. Group 3 Colors are Made-to-Order.

+ Available in Group 1 Colors. Group 2 & 3 Colors are Made-to-Order.

TRIM USAGE

Wall Tile	6 x 6	4 x 4	3 x 6	3 x 6 Bevel
Jolly	S1/212J	S1/212J	S1/212J	S1/212J
Quarter Round	A106	A106	A106	A106
Quarter Round Corner	AC106	AC106	AC106	AC106
SURFACE BULLNOSE				
Bullnose	S4669	S4449	S4369MOD & S4639MOD	
Corner	SCRL4669	SCRL4449	SCR4369M & SCL4369M	
Bullnose	S4269	S4269	S4269	
Corner	SN4269	SN4269	SN4269	SN4269
RADIUS BULLNOSE				
Bullnose	A4200	A4200	A4200	
Corner	AN4200	AN4200	AN4200	
FLAT TOP COVE BASE				
Cove Base	A3601	A3401	A3361MOD	A3361MOD
Cove Base Corner	SCR3601 & SCL3601	SCR3401 & SCL3401	SCR3361M & SCL3361M	SCR3361M & SCL3361M

Best Match

SIZES

			Thickness	Sq. Ft./Carton	Pieces/Carton
	6 x 6 Wall Tile	(6" x 6") (15.31 cm x 15.31 cm)	5/16" 7.90 mm	12.50	50
	4 x 4 Wall Tile	(4-1/4" x 4-1/4") (10.90 cm x 10.90 cm)	5/16" 7.90 mm	12.50	100
	3 x 6 Wall Tile	(3" x 6") (7.65 cm x 15.31 cm)	5/16" 7.90 mm	12.50	100
	3 x 6 [†] Bevel Wall Tile	(3" x 6") (7.65 cm x 15.31 cm)	3/8" 9.40 mm	10.40	80

[†] Bevel is available in Group 1 colors only.

APPLICATIONS

	Target DCOF wet	Suitable
Dry & Level – Interior Floor	N/A	
Wet & Level – Interior Floor	≥ 0.42	
Shower Floors (Residential or Light Commercial)	≥ 0.42	
Exterior Floor Applications (including pool decking & other wet areas with minimal footwear)	≥ 0.60	
Ramps & Inclines	≥ 0.65	
Walls/Backsplashes	N/A	✓
Countertops	N/A	✓*
Pool Linings	N/A	✓

A DCOF value of ≥0.42 is the standard for tiles specified for level interior spaces expected to be walked upon when wet, as stated in ANSI A137.1-A326.3. For more information about DCOF and the DCOF AcuTest™, visit daltile.com/DCOF.

APPLICATION NOTES:

Suitable for exterior applications in non-freezing climates, when proper installation methods are followed.

* Matte finishes only. No Bevel Tile. Darker colors may show scratches.

INSTALLATION

Grout Joint Recommendation	Shade Variation
Wall: 1/16"	Low (V1)

PERFORMANCE CHARACTERISTICS

	ASTM#	Result
Water Absorption	C373	< 20.0%
Breaking Strength	C648	120-230 lbs
Scratch Hardness	MOHS	4.0-6.0
Chemical Resistance	C650	Resistant
Abrasion Resistance	C1027	N/A

For additional information on test results, visit us at:
daltile.com/information/TestResults.

NOTES

Since there are variations in all fired ceramic and natural products, tile and trim supplied for your particular installation may not match samples. Final confirmation should be made from actual tiles and trim prior to installation. Manufactured in accordance with ANSI A137.1 standards.

For additional information refer to "Factors to Consider" at: daltile.com/Factors.

LRV & MUNSELL

Color #	LRV Illuminate-OBS: F02-02 (CWF)	Munsell
SEMI-GLOSS		
0100	83.9	2.6Y 9.2/0.5
0190	83.9	7.0Y 9.2/0.2
K175	75.9	5.2Y 8.8/0.9
0135	68.0	2.9Y 8.4/1.2
0161	48.0	1.7Y 7.3/1.5
0166	26.8	1.1Y 5.7/1.6
0144	14.5	5.9YR 4.3/1.3
0109	3.79	6.0Y 6.6/1.0
X114	43.7	1.4GY 7.0/0.3
0182	22.6	1.9B 5.3/0.1
0180	11.4	1.3B 3.9/0.4
K111	5.0	10.0B 2.6/0.1
MATTE		
0790	83.4	4.9Y 9.2/0.2
K775	75.9	5.2Y 8.8/0.9
X735	70.9	3.5Y 8.6/1.2
0761	48.1	2.5Y 7.3/1.5
0766	26.8	0.2Y 5.7/1.7
0744	13.9	7.6YR 4.3/1.3
0709	36.9	5.6Y 6.5/1.0
X714	43.9	3.6GY 7.0/0.4
0782	22.3	9.8G 5.3/0.1
0780	11.1	0.6B 3.9/0.4
K711	5.8	3.3PB 2.8/0.1
ACCENT		
K189	5.9	5.0PB 2.9/1.2
1012	48.1	9.7YR 7.2/6.9
1049	18.0	1.9B 5.0/4.5
1097	26.4	10.1R 5.6/10.2
0115	11.7	3.3G 4.1/4.9
1174	9.1	5.8PB 3.6/5.6
1178	6.8	5.9RP 3.1/2.0
SH17	14.0	5.1R 4.4/11.1
0141	24.7	3.0GY 5.5/2.1
0148	48.3	3.7BG 7.4/1.3
0160	73.3	3.3Y 8.7/3.3
0169	40.4	9.7B 6.9/2.6
1469	9.3	4.5PB 3.6/2.7
DH50	70.6	4.7Y 8.4/8.8
DM14	4.7	9.9PB 2.5/4.4
1098	50.9	2.6OY 7.4/5.2
1194	19.0	0.3PB 5.2/6.7
1467	16.6	7.0P 4.6/2.2

POST-CONSUMER
RECYCLED MATERIALS

PRE-CONSUMER
RECYCLED MATERIALS

MADE IN THE U.S.A.

All or select items within this series meet the requirements for these qualifications. For more information, visit daltile.com.



HYDRO BAN®

DS-663-0225

Globally Proven
Construction Solutions



1. PRODUCT NAME

HYDRO BAN®

2. MANUFACTURER

LATICRETE International, Inc.
1 LATICRETE Park North
Bethany, CT 06524-3423 USA

Telephone: +1.203.393.0010, ext. 1235

Toll Free: 1.800.243.4788, ext. 1235

Fax: +1.203.393.1684

Website: laticrete.com

3. PRODUCT DESCRIPTION

HYDRO BAN is a thin, load bearing waterproofing/crack isolation membrane that DOES NOT require the use of fabric in the field, coves or corners. HYDRO BAN is a single component self-curing liquid rubber polymer that forms a flexible, seamless waterproofing membrane. HYDRO BAN bonds directly to a wide variety of substrates.

Equipped with Microban Anti-Microbial Product Protection.

Uses

- Interior and exterior
- Swimming pools, fountains and water features
- Shower pans, stalls and tub surrounds
- Industrial, commercial and residential bathrooms and laundries
- Spas and hot tubs
- Kitchens and food processing areas
- Terraces and balconies over unoccupied spaces

- Countertops and facades
- Steam rooms (when used in conjunction with a vapor barrier)

Advantages

- Allow for flood testing in 2 hours at 70°F (21°C) or higher (Refer to cautions section for more information on curing)
- Does not require the use of fabric (For gaps 1/8" (3 mm) or less see DS 663.5 for complete instructions)
- Thin; only 0.020–0.030" (0.5–0.8 mm) thick when cured
- Bonds directly to metal PVC and ABS plumbing fixtures only
- Anti-fracture protection of up to 1/8" (3 mm) over shrinkage and other non-structural cracks
- "Extra Heavy Service" rating per TCNA performance levels (RE: ASTM C627 Robinson Floor Test)
- Changes in color from a light sage to an olive green when cured
- Equipped with anti-microbial technology to protect the treated article.
- Rapid drying for a faster time to tile
- Exceeds ANSI A118.10 and A118.12 (ASTM D4068)
- IAPMO PS106 approved
- Install tile brick and stone directly onto membrane
- Lighter color for ease of inspection
- Non-flammable

Suitable Substrates

- Cement Backer Board
- Cement Mortar Bed
- Cement Plaster
- Cement Terrazzo
- Concrete
- Concrete and Brick Masonry
- Poured Gypsum Underlayment
- Self-Leveling and Patching Compounds
- Exterior Glue Plywood (Interior Only)
- Ceramic Tile and Stone
- Ceramic Tile and Stone
- Clay Tile
- Vinyl Flooring
- Gypsum Plaster (Interior use only, non-wet areas)
- Gypsum Wallboard (Interior use only, non-wet areas)

Packaging

Commercial Unit: 5 gal (18.9 L) pail liquid (36 commercial units/pallet)

Mini Unit: 4 x 1 gal (3.8 L) pails of liquid packed in a carton (30 cartons/pallet)

Approximate Coverage

Commercial Unit: 250 ft² (23.2 m²)

Mini Unit: 50 ft² (4.6 m²)

Limitations

- DO NOT bond to OSB, particle board, interior glue plywood, luan, Masonite® or hardwood surfaces.
- Adhesives/mastics, mortars and grouts for ceramic tile, pavers, brick and stone are not replacements for waterproofing membranes. When a waterproofing membrane is required, use HYDRO BAN®.
- Do not use as a primary roofing membrane over occupied space. For more information in installation of tile over wood decks, or, over occupied or finished spaces please refer to TDS 157 "Exterior Installation of Tile and Stone Over Occupied Space."
- Do not use over dynamic expansion joints, structural cracks or cracks with vertical differential movement (See HYDRO BAN Installation Instructions, DS 663.5 for complete instructions).
- The installation of Waterproofing Membranes in submerged applications must be installed in a manner that creates a continuous "waterproof pan effect" without voids or interruptions. Therefore, applying waterproofing membranes in limited areas (e.g. solely at the waterline) in submerged applications is not recommended.
- Do not use over cracks >1/8" (3 mm) in width.
- Do not use as a vapor barrier (especially in steam rooms).
- Do not expose unprotected membrane to sun or weather for more than 30 days.
- Do not expose to negative hydrostatic pressure, excessive vapor transmission, rubber solvents or ketones.
- Must be covered with ceramic tile, stone, brick, dry pack thick bed mortar beds (non-submerged applications), terrazzo or other traffic-bearing finish. Use protection board for temporary cover.
- Obtain approval by local building code authority before using product in shower pan applications.
- Follow all applicable building codes having jurisdiction.
- Do not install directly over single layer wood floors, plywood tubs/showers/fountains or similar constructs.
- Not for use beneath cement or other plaster finishes. Consult with plaster manufacturer for their recommendations when waterproofing membrane is required under plaster finishes.
- Not for use under self-leveling underlayment or decorative wear surfaces.

- Surfaces must be structurally sound, stable and rigid enough to support ceramic/stone tile, thin brick and similar finishes.
- Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed L/360 for thin bed ceramic tile/brick installations or L/480 for thin bed stone installations and L/600 for all exterior veneer applications where L=span length.
- For all Vinyl Flooring installations it requires a skim coat of 254 first.

Cautions

- Consult SDS for safety information.
- Allow membrane to cure fully (typically 24 hours at 50°F – 69°F (10°C – 21°C) and 70% RH and 2 hours at 70°F (21°C) or higher and 50% RH before flood testing); flood test prior to applying tile or stone.
- Maximum amount of moisture in the concrete substrate should not exceed 5 lbs/1,000 ft² (283 µg/s m²)/24 hrs per ASTM F-1869 or 85% relative humidity per ASTM F-2170 as measured with moisture probes.
- During cold weather, protect finished work from traffic until fully cured.
- For white and light-colored marbles, use a white Latex Portland Cement Thin Set Mortar.
- For green and moisture sensitive marble, agglomerates and resin backed tile and stone use LATAPOXY® 300 Adhesive (refer to DS 633.0).
- Wet coat thickness is 0.015 to 0.022" (0.4 to 0.6 mm) per coat. Use a wet film thickness gauge to check thickness.
- Allow wet mortars to cure for 72 hours at 70°F (21°C) prior to installing HYDRO BAN. Allow HYDRO BAN a minimum 2 hours cure at 70°F (21°C) prior to flood testing in these conditions.
- Protect from exposure to traffic or water until fully cured.
- HYDRO BAN will go from a light sage green to a darker olive green when fully cured. The second coat should not be applied until the first coat is fully cured. All flood test times should be after the second coat is fully cured with no light sage areas showing.
- After second coat is applied at 70°F (21°C) and 50% RH. The time to tile will vary depending on substrate, temperature and relative humidity.
- Sanding or screening may be needed when installing over mortar beds or self-leveling underlayment to remove laitance, loose material, etc.

4. TECHNICAL DATA

VOC/LEED Product Information

This product has been certified for Low Chemical Emissions (ULCOM/GG UL2818) under the UL GREENGUARD Certification Program. For Chemical Emissions. For Building Materials, Finishes and Furnishings (UL 2818 Standard) by UL Environment.

Approvals

- ICC Evaluation Service report ESR-2417

- IAPMO/Uniform Plumbing Code File No.3524
- Los Angeles Board of Building and Safety Commissioners File Number: M-070162
- City of Philadelphia Plumbing Adviser board Case Number:4624
- City of Tampa Construction Services Division
- Commonwealth of Massachusetts Board of State Examiners of Plumbers and Gasfitters
- Miami-Dade NOA

Applicable Standard

- ANSI A118.10 and A118.12

Physical Properties

Physical Property	Test Method	HYDRO BAN®
7-day Hydrostatic Test	ANSI A118.10	Pass
7-day Breaking Strength	ANSI A118.10	265–300 psi (1.8–2.1 MPa)
7-day Water Immersion	ANSI A118.10	95–120 psi (0.7–0.8 MPa)
7-day Shear Bond	ANSI A118.10	200–275 psi (1.4–1.9 MPa)
28-day Shear Strength	ANSI A118.10	214–343 psi (1.5–2.3 MPa)
System Crack Resistance Test	ANSI A118.12.5.4	Pass (High)
Water Vapor Transmission	ASTM E 96–00E1 Procedure B	0.515 grains/h • ft ² (0.3602 g/h • m ²)
Water Vapor Permeance	ASTM E 96–00E1 Procedure B	1.247 perms 71.21 (ng/Pa • s • m ²)
System Performance	ANSI A118.10; ASTM C627; TCA Rating	cycles 1–14 "Extra Heavy"
Potability of Water Applicable to Waterproofing Systems	NBR 12170:2009 (Technical Norm from Brazil)	Pass
Tensile Strength for Elongation		250%
Thickness (Dried)		20–30 mils (0.5–0.8 mm)

Substrate	Time to Tile (min.)****
Concrete	50
Cement Board	30
Fiber Cement Underlayment	15

Working Properties

Working Properties

HYDRO BAN® can be applied using a paint brush, roller or trowel. All areas must have two coats to ensure waterproofing capabilities. When using a paint roller, substrate will not show through HYDRO BAN if coated with 0.020 – 0.030" (0.5 – 0.8 mm) of dried membrane. Color changes from a light sage to olive green **when fully cured**.

Factory sealed containers of this product are guaranteed to be of first quality for two (2) years if stored at temperatures >32°F (0°C) and 110°F (43°C)

Specifications subject to change without notification. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions.

5. INSTALLATION

• Working Properties

HYDRO BAN® can be applied using a paint brush, roller or trowel. All areas must have two coats to ensure waterproofing capabilities. When using a paint roller, substrate will not show through HYDRO BAN if coated with 0.020 – 0.030" (0.5 – 0.8 mm) of dried membrane. Color changes from a light sage to olive green **when fully cured**.

Refer to DS 663.5 for complete installation instructions prior to using product

Surface Preparation

Surface temperature must be 45 – 90°F (10 – 32°C) during application and for 24 hours after installation. All substrates must be structurally sound, clean and free of dirt, oil, grease, paint, laitance, efflorescence, concrete sealers or curing compounds. Make rough or uneven concrete smooth to a wood float or better finish with a underlayment. Do not level with asphalt based products. Maximum deviation in plane must not exceed 1/4" in 10 ft (6 mm in 3 m) with no more than 1/16" in 1 ft (1.5 mm in 0.3 m) variation between high spots. Dampen hot, dry surfaces and sweep off excess water—installation may be made on a damp surface. See DS 663.5 for information on installation over concrete.

1. Surfaces must be structurally sound, stable and rigid enough to support ceramic/stone tile, thin brick and similar finishes. Installer must

verify that deflection under all live, dead and impact loads of interior plywood floors does not exceed industry standards of L/360 for ceramic tile and brick or L/480 for stone installations and L/600 for all exterior veneer applications where L=span length.

2. Minimum construction for interior plywood floors. **SUBFLOOR:** 5/8" (15 mm) thick exterior glue plywood, either plain with all sheet edges blocked or tongue and groove, over bridged joints spaced 16" (400 mm) o.c. maximum; fasten plywood 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. along intermediate supports with 8d ring-shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) between sheet ends and 1/4" (6 mm) between sheets edges; all sheet ends must be supported by a framing member; glue sheets to joints with construction adhesive.

UNDERLayment: 5/8" (15 mm) thick exterior glue plywood fastened 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. in the panel field (both directions) with 8d ring-shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) to 1/4" (6 mm) between sheets and 1/4" (6 mm) between sheet edges and any abutting surfaces; offset underlayment joints from joints in subfloor and stagger joints between sheet ends; glue underlayment to subfloor with construction adhesive. Refer to Technical Data Sheet 152 "Bonding Ceramic Tile, Stone or Brick Over Wood Floors" for complete details.

Bonding to TCNA Compliant Poured Gypsum

Underlayment Poured gypsum-based underlays must meet TCNA requirements for compressive strength and the performance requirements of ASTM C627 for the anticipated service level designated by the design professional. Poured gypsum underlayment thickness and application varies, consult the manufacturer for specific recommendations. The underlayment must be dry and properly cured following the manufacturer's recommendations to achieve a permanent installation. Surfaces to be covered must be clean, structurally sound and meet the maximum allowable deflection standard of L/360 for ceramic tile and L/480 for stone under total anticipated load. Expansion joints must be installed in accordance with ANSI/TCNA guidelines. Prime all surfaces to receive HYDRO BAN with properly applied manufacturer's sealer or with a primer coat of HYDRO BAN, consisting of 1 part HYDRO BAN, diluted with 4 parts clean, cool tap water. In a clean pail, mix at low speed to obtain a homogeneous solution. The primer can be brushed, rolled or sprayed to achieve an even coat. Apply the primer coat to

the floor at a rate of 250 to 300 ft²/gallon (6.1 to 7.5 M²/L) of diluted HYDRO BAN. Allow the primer coat to dry completely (approximately 24 hrs., depending on substrate and air temperature and humidity). When dry apply two full coats of HYDRO BAN® to the primed area following the guidelines in this data sheet and DS 663.5 HYDRO BAN Installation Instructions.

Pre-Treat Cracks & Joints

Fill all substrate cracks, cold joints, and control joints to a smooth finish using a Latex Fortified Thin-Set. Alternatively, a liberal coat[^] of HYDRO BAN applied with a paint brush or trowel may be used to fill in non-structural joints and cracks. Apply a liberal coat[^] of HYDRO BAN approximately 8" (200 mm) wide over substrate cracks, cold joints, and control joints using a paint brush or roller (heavy napped roller cover). 6" (150 mm) Waterproofing/Anti-Fracture Fabric can be used to pretreat cracks, joints, curves, corners, drains and penetrations with HYDRO BAN.

Pre-Treat Coves and Floor/Wall Transitions

Fill all substrate coves and floor/wall transitions to a smooth finish and changes in plane using a latex fortified thin-set mortar. Alternatively, a liberal coat[^] of HYDRO BAN applied with a paint brush or trowel may be used to fill in cove joints and floor/wall transitions <1/8" (3 mm). Apply a liberal coat[^] of HYDRO BAN approximately 8" (200 mm) wide over substrate coves and floor/wall transitions using a paint brush or roller (heavy napped roller cover).

Pre-Treat Drains

Drains must be of the bonding flange or clamping ring type, with weepers and as per ASME A112.6.3. Apply a liberal coat[^] of HYDRO BAN Waterproofing Membrane liquid around and over the bonding flange or the bottom half of drain clamping ring. Cover with a second coat[^] of HYDRO BAN. When dry, apply a LATASIL™ bead where the HYDRO BAN meets the drain throat. Install top half of drain clamping ring.

Pre-Treat Penetrations

Allow for a minimum 1/8" (3 mm) space between drains, pipes, lights or other penetrations and surrounding ceramic tile, stone or brick. Pack any gaps around pipes, lights or other penetrations with a Latex fortified thin-set mortar. Apply a liberal coat[^] of HYDRO BAN liquid around penetration opening. Cover with a second coat[^] of HYDRO BAN. Bring HYDRO BAN up to level of tile or stone. When dry, seal flashing with LATASIL.

Crack Isolation (Partial Coverage) Crack suppression must be applied a minimum of 3

times the width of the tile or stone being installed. The tile installed over the crack cannot be in contact with the concrete.

Follow TCNA Method F125 for the treatment of hairline cracks, shrinkage cracks, and saw cut or control joints: Apply a liberal coat[^] of HYDRO BAN to a minimum of three (3) times the width of the tile using a paint roller or paint brush and allow to dry. After the first coat has dried to the touch, install a second liberal coat[^] of HYDRO BAN over the first coat.

As an alternative; Apply a liberal coat[^] of HYDRO BAN liquid, 3 times the width of the tile over the crack using a paint roller or paint brush and immediately apply the 6" (150mm) wide Waterproofing/Anti-Fracture Fabric into the wet liquid over the crack. Press firmly with brush or roller to allow complete "bleed through" of liquid. Immediately apply another liberal coat[^] of HYDRO BAN liquid over the fabric and allow to dry. When the first treatment has dried, apply a liberal coat[^] of HYDRO BAN to over the first wide coat, using a paint roller or paint brush, and allow to dry. Treat closest joint to the crack, saw cut, or cold joint in the tile or stone installation with LATASIL.

[^] Wet coat thickness is 15 – 22 mils (0.4 – 0.6 mm) consumption per coat is -0.01/gal/ft² (-0.4m²/L); coverage per coat is – 100 ft²/gal (-2.5m²/L). Use wet film gauge to check thickness.

Main Application

Allow any pre-treated areas to dry to the touch. Apply a liberal coat[^] of HYDRO BAN with brush or roller over substrate including pre-treated areas. Apply another liberal coat[^] of HYDRO BAN over the first coat of HYDRO BAN. Let topcoat dry to the touch, approximately 1–2 hours at 70°F (21°C) and 50% RH. When last coat has dried to the touch, inspect final surface for pinholes, voids, thin spots or other defects. HYDRO BAN will dry to an olive green color when it's dry to touch. Use additional HYDRO BAN to seal defects.

Movement Joints

See HYDRO BAN Installation Instructions DS 663.5.

Note: Apply a liberal coat[^] of HYDRO BAN, approximately 8" (200 mm) wide over the areas. Then embed and loop the 6" (150 mm) wide Waterproofing/Anti-Fracture Fabric and allow to bleed through. Then top coat with a second coat[^] of HYDRO BAN.

Protection

Provide protection for newly installed membrane, even if covered with a thin bed ceramic tile, stone or brick installation, against exposure to rain or other water for a minimum of 2 hours at 70°F (21°C) and 50% RH.

Flood Testing

Allow membrane to cure fully before flood testing, typically 2 hours after final cure at 70°F (21°C) and 50% RH. Cold and/or wet conditions will require a longer curing time. For temperatures 50 – 69°F (10 – 21°C) allow 24 hours after final cure prior to flood testing.

Installing Finishes

Once HYDRO BAN has dried to the touch, ceramic tile, stone or brick may be installed by the thin bed method with a Latex Thin-Set Mortar. Allow HYDRO BAN to cure 2 hours at 70°F (21°C) and 50% RH before covering with, thick bed mortar, epoxy adhesives, terrazzo or moisture sensitive resilient or wood flooring. Do not use solvent-based adhesives directly on HYDRO BAN.

Drains & Penetrations

Use LATASIL and foam backer rod to seal space between drain or penetration and finish. Do not use a grout or joint filler mortar.

Control Joints

Ceramic tile, stone and brick installations must include sealant-filled joints over any control joints in the substrate. However, the sealant-filled joints can be offset horizontally by as much as one tile width from the substrate control joint location to coincide with the grout joint pattern.

Movement Joints

Ceramic tile, stone and thin brick installations must include expansion at coves, corners, other changes in substrate plane and over any expansion joints in the substrate. Expansion joints in ceramic tile, stone or brickwork are also required at perimeters, at restraining surfaces, at penetrations and at the intervals described in the Tile Council of North America, Inc. (TCNA) Handbook Installation Method EJ171. Use LATASIL and backer rod.

Spray Application of HYDRO BAN®

Follow all installation and surface preparation requirements outlined in this document and DS 663.5 and TDS 410.

The sprayer being used for the application of HYDRO BAN® should be capable of producing a maximum of 3300 psi (22.8 MPa) with a flow

rate of 0.95 to 1.6 GPM (3.6 to 6.0 LPM) using a 0.521 or a 0.631 reversible tip. Keep the unit filled with HYDRO BAN to ensure continuous application of liquid. The hose length should not exceed 100' (30 m) in length and 3/8" (9 mm) in diameter.

Apply a continuous HYDRO BAN film with an overlapping spray[^]. The wet film has a sage green appearance and dries to a darker olive green color. When the first coat has dried to a uniform olive green color, approximately 45 to 90 minutes at 70°F (21°C), visually inspect the coating for any voids or pinholes. Fill any defects with additional material and apply the second coat[^] at right angles to the first. The wet film thickness should be checked periodically using a wet film gauge. Each wet coat should be 0.015 – 0.022 inches (0.4 – 0.6 mm) thick. The combined dried coating should be 0.020 – 0.030 inches (0.5 – 0.8 mm) thick.

Check application thickness with a wet film gauge periodically as the HYDRO BAN is being dispensed to ensure that the appropriate thickness and coverage is achieved. Bounce back and overspray will consume more product. To achieve the required film thickness, the coating must be free from pinholes and air bubbles. Do not back roll the spray applied coating. Allow the HYDRO BAN to cure in accord with the instructions in this document, DS 663.5 and TDS 410 prior to the installation of the tile or stone finish.

It is important to note that areas not scheduled to receive the HYDRO BAN should be taped off and protected from any potential overspray. Expansion and movement joints should be honored and treated as outlined in this document, DS 663.5 and TDS 410.

[^] Wet coat thickness is 15 – 22 mils (0.4 – 0.6 mm) consumption per coat is -0.01/gal/ft² (-0.4m²/L); coverage per coat is – 100 ft²/gal (-2.5m²/L). Use wet film gauge to check thickness.

For Distributor Information, Call:

Toll Free: 1.800.243.4788

Telephone: +1.203.393.0010

For on-line distributor information, visit LATICRETE at laticrete.com

Cost

Contact a LATICRETE Distributor in your area.

7. WARRANTY

See 10. FILING SYSTEM:

- 25 Year System Warranty (US) (English)
- 10 Year System Warranty (US) (English)
- 1 Year Product Warranty (US) (English)
- LATICRETE Lifetime System Warranty (US) (English)

8. MAINTENANCE

Non-finish LATICRETE and LATAPOXY installation materials require no maintenance but installation performance and durability may depend on properly maintaining products supplied by other manufacturers.

9. TECHNICAL SERVICES

Technical Assistance

Information is available by calling the LATICRETE Technical Service Hotline:

Toll Free: 1.800.243.4788, ext. 1235

Telephone: +1.203.393.0010, ext. 1235

Fax: +1.203.393.1948

Technical and Safety Literature

To acquire technical and safety literature, please visit our website at laticrete.com.

10. FILING SYSTEM

Additional product information is available on our website at laticrete.com. The following is a list of related documents:

- DS 230.13: LATICRETE Product Warranty
- DS 230.05: LATICRETE 5 Year System Warranty (United States and Canada)
- DS 230.15: LATICRETE 15 Year System Warranty for Steel or Wood Framed Exterior Facades (United States and Canada)
- DS 025.0: LATICRETE 25 Year System Warranty (United States and Canada)
- DS 230.99: LATICRETE Lifetime System Warranty (United States and Canada)
- DS 633.0: LATAPOXY 300 Adhesive
- DS 663.5: HYDRO BAN Installation Instructions
- DS 6200.1: LATASIL™
- TDS 152: "Bonding Ceramic Tile, Stone or Brick Over Wood Floors"
- TDS 410: Spraying HYDRO BAN

6. AVAILABILITY AND COST

Availability

LATICRETE materials are available worldwide.

LATICRETE International, Inc.

One LATICRETE Park North, Bethany, CT 06524-3423 USA • 1.800.243.4788 • +1.203.393.0010 • www.laticrete.com

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- TDS 157: “Exterior Installation of Tile and Stone Over Occupied Space.”



TRI-LITE®

DS-320-0125

Globally Proven
Construction Solutions



1. PRODUCT NAME

TRI-LITE®

2. MANUFACTURER

LATICRETE International, Inc.
1 LATICRETE Park North
Bethany, CT 06524-3423 USA

Telephone: +1.203.393.0010, ext. 1235

Toll Free: 1.800.243.4788, ext. 1235

Fax: +1.203.393.1684

Website: laticrete.com

3. PRODUCT DESCRIPTION

A lightweight, high performance tri-purpose mortar designed for large and heavy tile, thin-bed and wall installations.

Uses

- For floor and wall installations of interior and exterior ceramic tile, porcelain tile and stone
- Large and Heavy Tile mortar used as a bonding mortar from a minimum of 3/32" (2.4mm) up to 3/4" (19mm) thickness
- Ideal for most types of thin-set applications

Advantages

- Lightweight formula. A 30 lb (13.6 kg) bag provides the same coverage as a 50 lb (22.7 kg) bag of traditional mortar.
- Incredible non-sag performance
- including large and heavy tile
- Excellent Large Heavy Tile performance
- 3/4" (19 mm) thick without shrinkage

- Exceeds ISO 13007 - C2TES1P1 classification
- Bonds to many suitable substrates
- Smooth, creamy, easy-to trowel consistency
- Unique color options are now available in all LATICRETE® grout colors when mixed with PERMACOLOR® Select Color Kits*
- creamy
- easy-to trowel consistency
- Exceeds ANSI A118.15 HET, A118.4 and A118.11

Suitable Substrates

- Brick Masonry
- Cement Backer Board
- Cement Plaster
- Cement Terrazzo
- Concrete
- Concrete Masonry
- Non-Water Soluble Cut-Back Adhesive
- Non-Water Soluble Cut-Back Adhesive
- Vinyl Or Other Resilient Tile
- Gypsum Wallboard
- Exterior Glue Plywood (Interior Only)
- Plastic Laminate
- Ceramic Tile and Stone
- Ceramic Tile and Stone

Packaging

- 30LB (13.6KG) BAG

Approximate Coverage

30 lb (13.6 kg) bag

Trowel Size	ft ²	m ²
1/4" x 1/4" (6 mm x 6 mm) notched trowel	80 - 95	7.4 - 8.8
1/4" x 3/8" (6 mm x 9 mm) notched trowel	60 - 70	5.6 - 6.5
1/2" x 1/2" (12 mm x 12 mm) notched trowel	40 - 47	3.7 - 4.4

Shelf Life

Factory sealed containers of this product are guaranteed to be of first quality for two (2) years if stored off the ground in a dry area. *** High humidity will reduce the shelf life of bagged product.

Limitations

- Not for use directly over OSB, interior glue plywood, particle board, luan, Masonite® or hardwood floors.

- For veneer installations using this product, consult local building code requirements regarding limitations and installation system specifications.
- Adhesives/mastics, mortars and grouts for ceramic tile, pavers, brick and stone are not replacements for waterproofing membranes. When a waterproofing membrane is required, use a LATICRETE® waterproofing membrane (see Section 10 FILING SYSTEM).
- Not for use in submerged applications. For these applications, use 254 Platinum.
- Not a remedy to level or flatten substrates. Use a suitable LATICRETE underlayment for this purpose.

Cautions

- Consult SDS for more safety information.
- Some marbles and other stones have low flexural strength and might not be suitable for installation over wood floors.
- Use LATAPOXY® 300 Adhesive for installing green marble or water sensitive stone and agglomerates, and resin backed tiles and stones.
- During cold weather, protect finished work from traffic until fully cured.
- Contains portland cement and silica sand. Causes severe skin burns and serious eye damage. Wear protective gloves/protective clothing/eye protection/face protection. In case of contact, flush thoroughly with water.
- DO NOT take internally. Silica sand may cause cancer, respiratory irritation or serious lung problems. Do not breathe dust. Wear a respirator in dusty areas.
- For white and light-colored stones, use TRI-LITE™ (white).
- Keep out of reach of children.

4. TECHNICAL DATA

Applicable Standard

- This product currently has a Product Specific (Type III) Environmental Product Declaration (EPD). The PCR review, life cycle assessment and declaration were independently verified by UL Environment in accordance with ISO 14025, ISO 14040 and ISO 14044.

Physical Properties

ANSI A118.15

Test	ANSI A118.15 Specification	Results
Porcelain Tile Shear Strength ANSI A118.15 7.2.2: 24 hrs (0.6 MPa)	100 psi (1.5-1.7 MPa)	220-250 psi
Porcelain Tile Shear Strength ANSI A118.15 7.2.3: 7 days (2.0 MPa)	300 psi (3.2-3.4 MPa)	460-500 psi
Porcelain Tile Shear Strength ANSI A118.15 7.2.4: 7d Water Immersion (1.3 MPa)	200 psi (1.9-2.1 MPa)	270-300 psi
Porcelain Tile Shear Strength ANSI A118.15 7.2.5: 28 days (2.7 MPa)	400 psi (2.9-3.2 MPa)	420-470 psi
Quarry Tile Shear Strength ANSI A118.15 7.3.2: 28 days (1.0 MPa)	150 psi (2.2-2.3 MPa)	320-340 psi
Wall Tile Shear Strength ANSI A118.15 7.1.2: 7 days (3.1 MPa)	450 psi (3.3-3.4 MPa)	480-500 psi
Wall Tile Shear Strength ANSI A118.15 7.1.3: 7d Water Immersion (1.7 MPa)	250 psi (1.9-2.1 MPa)	270-300 psi
Sag	<0.50 mm	0 mm
Open Time: 20 minutes at 28 days ANSI A118.15 5.3 (0.5 MPa)	75 psi (1 – 1.2 MPa)	140-180 psi
Open Time: 30 minutes at 28 days ANSI A118.15 5.3 (0.5 MPa)	75 psi (0.5-0.6 MPa)	75-85 psi

Working Properties

Pot Life 70°F (21°C)	4 hours
Time To Traffic	24 hours

Specifications subject to change without notification. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions.

5. INSTALLATION

Surface Preparation

All surfaces should be between 40°F (4°C) and 90°F (32°C) and structurally sound, clean and free of all dirt, oil, grease, paint, concrete sealers or curing compounds. Rough or uneven concrete surfaces should be made smooth with a LATICRETE® latex fortified underlayment or leveling mortar to provide a proper finish. Dry, dusty concrete slabs or masonry should be dampened and excess water swept off. Installation may be made on a damp surface. New concrete slabs shall be damp cured and 28 days old before application. All slabs must be plumb and true to within 1/4" (6 mm) in 10 ft (3 m). Expansion joints shall be provided through the tile work from all construction or expansion joints in the substrate.

Follow ANSI specification A108.01-3.7 "Requirements For Movement Joints: Preparations by Other Trades" or TCNA detail EJ-171 "Movement Joints—Vertical & Horizontal". Do not cover expansion joints with mortar. Surfaces must be structurally sound, stable and rigid enough to support ceramic/stone tile, thin brick and similar finishes. Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed L/360 for think bed stone installations where L=span length (except where local building codes specify more stringent deflection requirements). Minimum construction for interior plywood floors.

SUBFLOOR: 5/8" (15 mm) thick exterior glue plywood, either plain with all sheet edges blocked or tongue and groove, over bridged joints spaced 16" (400 mm) o.c. maximum; fasten plywood 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. along intermediate supports with 8d ring-shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) between sheet ends and 1/4" (6 mm) between sheet edges at the perimeter; all sheet ends must be supported by a framing member; glue sheets to joints with construction adhesive.

UNDERLAYMENT: 5/8" (15 mm) thick exterior glue plywood fastened 6" (150 mm) o.c. along sheet ends and 8" (200 mm) o.c. in the panel field (both directions) with 8d ring shank, coated or hot dip galvanized nails (or screws); allow 1/8" (3 mm) to 1/4" (6 mm) between sheets and 1/4" (6 mm) between sheet edges and any abutting surfaces; offset underlayment joints from joints in subfloor and stagger joints between sheet ends; glue underlayment to subfloor with construction adhesive. Refer to Technical Data Sheet 152 "Bonding Ceramic Tile, Stone or Brick Over Wood Floors".

Mixing: Place clean potable water into a clean pail. For a 30 lb (13.6 kg) bag **For Walls and Large and Heavy Tile** (Medium Bed) Applications Place 4.6-4.8 qts (4.4-4.5 L) of clean water in a pail and slowly add the entire bag of TRI-LITE. (To mix smaller quantities use 4 parts powder to 1 part water.) Mix with slow speed mixer for one minute. DO NOT temper with water. Allow to slake for 5 minutes, remix and use.

For Thin Bed Applications Place 5.0-5.2 qts (4.8-4.9 L) of clean water in a pail and slowly add the entire bag of TRI-LITE. (To mix smaller quantities use 3.7 parts powder to 1 part water.) Mix with slow speed mixer for one minute or until a creamy smooth consistency is reached. Allow to slake for 5 minutes, remix and use.

Mixing with PERMACOLOR® Select Color Kits (TRI-LITE™ White only) Requires two (2) PERMACOLOR® Select Color Kits. (Each Color Kit contains two (2) individual color packets, use all four (4) color packets). Place water in a clean mixing container. Remove color packets from the cardboard container as well as the protective plastic sleeve. The internal bag is a water dispersible packet – when using the 30 lbs. (13.6kg) bag of TRI-LITE™, drop all color packs directly in to water in clean mixing container. Mix with a drill mixer until pigment is dispersed evenly in container and the dispersible packet is no longer visible. Add TRI-LITE and mix as directed above. Please note that additional water

may be necessary when using PERMACOLOR Select color Kits.

Application: Walls: Key materials into substrate thoroughly. Comb on additional mortar with the notched side, use 1/4" x 3/8" (6 mm x 9 mm) notched trowel. Back butter all tile and stone 8" x 8" (200 mm x 200 mm) or larger to provide full bedding of the veneer. Note: Use proper sized notched trowel to ensure full bedding of the tile. Spread only enough mortar that can be covered with tile within 15–20 minutes at 70°F (21°C). Place tile and beat in with rubber mallet to embed. Adjust as necessary. Check mortar for complete coverage by periodically removing a tile and inspecting the transfer onto the back of the tile. The size and weight of the veneer will vary. Conduct a small test area for non-sag performance. Due to job site conditions and differences in finish material types; ledger boards, shims, wedges or spacers may be required to maintain finish levels and heights.

Large and Heavy Tile: Key the mortar to the substrate with the flat side of the trowel. Press firmly to work into the surface. Comb on additional mortar with the notched side. Use 1/2" x 1/2" (12 mm x 12 mm) or 3/4" (18 mm) half loop trowel. Note: Use the proper sized notched trowel to ensure full bedding of the tile. Spread as much mortar as can be covered with tile in 15–20 minutes. Back butter large tiles 8" x 8" (200 mm x 200 mm) to provide full bedding and firm support. Place tile into wet sticky mortar and beat in using a beating block and rubber mallet to embed tile and adjust until level. Check mortar for complete coverage by periodically removing a tile and inspecting bedding mortar transfer onto back of tile. If mortar is skinned over (not sticky), remove and replace with fresh mortar.

Grouting: Grout installation after a minimum of 24 hours curing time at 70°F (21°C). Grout with SPECTRALOCK® PRO Premium Grout†, SPECTRALOCK PRO Grout†, PERMACOLOR®^ and PERMACOLOR Select. Cleaning Clean tools with water.

6. AVAILABILITY AND COST

Availability

LATICRETE materials are available worldwide.

For Distributor Information, Call:

Toll Free: 1.800.243.4788

Telephone: +1.203.393.0010

For on-line distributor information, visit LATICRETE at laticrete.com

Cost

Contact a LATICRETE Distributor in your area.

7. WARRANTY

See 10. FILING SYSTEM:

- 25 Year System Warranty (US) (English)
- 1 Year Product Warranty (US) (English)

8. MAINTENANCE

LATICRETE and LATAPOXY grouts require routine cleaning with a neutral pH soap and water. All other LATICRETE and LATAPOXY materials require no maintenance but installation performance and durability may depend on properly maintaining products supplied by other manufacturers.

9. TECHNICAL SERVICES

Technical Assistance

Information is available by calling the LATICRETE Technical Service Hotline:

Toll Free: 1.800.243.4788, ext. 1235

Telephone: +1.203.393.0010, ext. 1235

Fax: +1.203.393.1948

Technical and Safety Literature

To acquire technical and safety literature, please visit our website at laticrete.com.

10. FILING SYSTEM

Additional product information is available on our website at laticrete.com. The following is a list of related documents:

- DS 230.13: LATICRETE Product Warranty
- DS 230.0: LATICRETE 25 Year System Warranty
(United States and Canada)

United States Invention Patent No.: 6,881,768 (and other Patents)

LATICRETE International, Inc.

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Globally Proven
Construction Solutions

Permacolor® Select

PERMACOLOR Select is an advanced high-performance cement grout that offers the industry's first dispensable dry pigment solution. PERMACOLOR Select is designed for virtually all types of residential and commercial installations and offers optimum performance on the most demanding exterior or interior applications. Easy to mix, grout and clean, PERMACOLOR Select is fast setting and is suitable for joints 1.5mm – 12mm wide on floors or walls.



ADVANTAGES	USES
<ul style="list-style-type: none"> ▪ Exceeds ANSI A118.7 ▪ Does not require sealing – Equipped with STONETECH® Sealer Technology ▪ Vibrant consistent color – minimizes efflorescence ▪ Fiber-reinforced – crack & shrink resistant ▪ Fast setting – ready for foot traffic in as little as 3 hours ▪ GREENGUARD® certified – low VOC ▪ Equipped with Anti-Microbial protection ▪ LATICRETE® Lifetime Warranty available ▪ PERMACOLOR Color Kit – Available in all 40 colors (10 x carton) plus top competitor colors! 	<ul style="list-style-type: none"> ▪ Used for installation of all types of ceramic tile, and natural stones ▪ For interior and exterior applications.
MANUFACTURER	STANDARDS
<p>LATICRETE Middle East LLC. P.O. Box. 86028, Ras Al Khaimah United Arab Emirates Telephone: + 971 7 244 6396 Fax: + 971 7 244 5915 internet: www.laticrete.me</p> <p><i>Permaoclor Color Kit: made in USA</i></p>	<p>Applicable Standards</p> <ul style="list-style-type: none"> ▪ ANSI A118.6, A118.7, ISO 13007 <p>VOC/LEED Product Information This product has been certified for Low Chemical Emissions (ULCOM/GG UL2818) under the UL GREENGUARD Certification Program for Chemical Emissions for Building Materials, Finishes and Furnishings (UL 2818 Standard) by UL Environment.</p>  

Packaging,

Base: 11.3 Kg,
Pallet: 100 bags per pallet

Color Kit: 2x100 g packs

Shelf Life

Factory sealed containers of this product are guaranteed to be of first quality for the time period listed below if stored off the ground in a dry area.

- 11.3 kg bags – one (1) year
- 220 g color kit – five (5) years

Limitations

- Adhesives/mastics, mortars and grouts for ceramic tile, pavers, brick and stone are not replacements for waterproofing membranes. When a waterproofing membrane is required, use a LATICRETE Waterproofing Membrane (see Section 10 FILING SYSTEM).
- Use LATAPOXY® 2000 Industrial Epoxy Grout when chemical resistance is required.
- DO NOT use acid to clean colored grout joints.
- Job site conditions will affect the final color of colored grouts. Try a small test area to determine your results before grouting the entire installation.
- Certain types of tile are more absorbent than others and will trap color pigment during grouting. Prior to grouting, test for absorption of color pigment. Porous tiles will need to be sealed prior to grouting.
- Selecting other grouting materials: LATICRETE has grouting materials designed for every use. For installations that require high strength and chemical resistance choose LATAPOXY® 2000 Industrial Epoxy Grout. This product is ideal for installations where a stain resistant colorfast grout is desired.

Note: Surfaces must be structurally sound, stable and rigid enough to support ceramic/stone tile, thin brick and similar finishes. Substrate deflection under all live, dead and impact loads, including concentrated loads, must not exceed L/360 for thin bed ceramic tile/brick installations or L/480 for thin bed stone installations where L=span length.

Cautions

Consult MSDS for more safety information.

- During cold weather, protect finished work from traffic until fully cured.

- Contains portland cement and silica sand. May irritate eyes and skin. Avoid contact with eyes or prolonged contact with skin. In case of contact, flush thoroughly with water.
- Do not take internally. Silica sand may cause cancer or serious lung problems. Avoid breathing dust. Wear a respirator in dusty areas.
- Grout may scratch soft glazed or polished surfaces. Conduct a test area to verify results.
- In submerged applications or steam rooms allow PERMACOLOR® Select[®] to cure for 14 days at 21°C (70°F) prior to filling with water or exposing to steam. See TDS 192 and TDS 172 for more information on these applications.
- Keep out of reach of children.

TECHNICAL DATA

This product has a cradle-to-gate (with options) Product-Specific (Type III) Environmental Product Declaration. The PCR review, life cycle assessment and declaration were independently verified by UL Environment in accordance with ISO 14025, ISO 14040 and ISO 14044.

Physical Properties

Tensile Strength (28 Days)	510 psi (3.5 MPa)
Compressive Strength (28 Days)	3500 psi (24.1 MPa)
Flexural Strength (28 Days)	1250 psi (8.62 MPa)
Linear Shrinkage (7 Days)	0.1 %
Water Absorption (28 Days)	2.8%

Working Properties

Pot Life	45–60 min at 70°F (21°C)
Final Set	3 – 4 hrs
Heavy Foot Traffic	6 hrs

Specifications subject to change without notification. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation methods and site conditions.

INSTALLATION

Surface Preparation

Before starting to grout, remove spacers and debris in grout joints and remove dust and dirt using a wet sponge. Do not leave water standing in joints. Note: when grouting in hot weather refer to TDS 176 Hot Weather Tiling and Grouting. Substrate temperature must be between 4°C (40°F) and 32°C (90°F). Apply grout release or sealer if necessary. Refer to TDS 400 Grout Guide for more information on grouting.

Mixing

Use approximately 1.9 L – 2.1 L of clean potable water for 2 PERMACOLOR Select Color Packs and 11.3 kg of PERMACOLOR Select Grout Base.

Do not use with 1776 Grout Enhancer or any other latex additive. Place water in a clean mixing container. Remove Color Packs from the cardboard container as well as the protective plastic sleeve.

The internal bag is a water-dispersible pack – when using the 11.3 kg bag of PERMACOLOR Select, drop both color packs directly to water in clean mixing container.

Mix with a drill mixer until pigment is dispersed evenly in container and the dispersible pack is no longer visible. Add PERMACOLOR Select Base. Mix with a slow speed drill mixer (300 rpm) for 1 minute. Wait for 5 minutes and remix with drill for 1 minute.

Application

Clean tile surface with a damp sponge. Spread with a sharp, firm rubber grout float or wall float for narrow wall joints. To remove excess grout, hold the float at a 90° angle and pull it at a 45° angle diagonally across the joints to avoid pulling out the material.

Note: If the grout begins to stiffen during installation, remix with drill mixer for 10–15 seconds. DO NOT ADD MORE WATER.

Cleaning

For first cleaning wait approximately 35 – 40 minutes at 21°C (70°F). Wider joints or cooler temperatures may extend wait time. Begin initial cleaning by lightly wiping down entire area to be cleaned with a damp sponge. Wash with a damp sponge (not wet). Work diagonally to the joints. Allow to dry 3 hours at 21°C (70°F). For second cleaning use a damp sponge or dry cloth to remove remaining grout haze.

Note: Use caution when polishing soft glazed tile or polished stone. If grout is to be sealed, LATICRETE generally recommends waiting a minimum of a 72 hours at 21°C (70°F) prior to sealing PERMACOLOR Select, with a STONETECH® sealer.

AVAILABILITY AND COST

Availability

LATICRETE® materials are available worldwide.

For distributor information, please contact us by email at: enquiry@laticrete.me or, visit www.laticrete.me

Cost

Contact a LATICRETE® closer distributor to obtain complete information and cost.

WARRANTY

The supplier warrants that the product will not deteriorate under normal conditions and use. The warranty validity of one (1) year.

Please contact LATICRETE® technical support to know more about the extended system warranty:

MAINTENANCE

LATICRETE and LATAPOXY grouts require routine cleaning with a neutral pH soap and water. All other LATICRETE and LATAPOXY materials require no maintenance but installation performance and durability may depend on properly maintaining products supplied by other manufacturers.

Routine maintenance can be done with detergents and a sponge or mop. For tough or difficult to remove soil, use STONETECH® KLENZALL™ Cleaner (or a bleaching cleaner) on a nylon scrubbing pad or a long handled stiff bristle brush can be used. Please note: Prior to using any cleaning material on a tile, stone, etc. installation, test a discrete area or scrap piece of tile to ensure desired results. For additional information, please refer to the LATICRETE® Grout Guide or contact our technical support.

TECHNICAL SERVICES

Technical assistance

For information contact us by email at: enquiry@laticrete.me

Technical and safety literature

To obtain technical and safety literature, please visit our website at: www.laticrete.me

Warning: The information and the instructions in the data sheet, although based on knowledge gained through years of applications, are indicative. LATICRETE® unable to directly control the installation conditions and modalities of application of products, do not assume any liability arising from their implementation. Those who want to use the LATICRETE® products must conduct adequate tests to determine the site specifications. Results shown are typical but reflect test procedures used. Actual field performance will depend on installation method and site conditions.

[^]United States Invention Patent No.: 6784229 (and other Patents)



MASON MIX

PRODUCT No. 1136-00, -80, -94, -55

PRODUCT DESCRIPTION

QUIKRETE® Mason Mix is a contractor grade mortar mix designed for laying brick, concrete masonry units and stone.

PRODUCT USE

QUIKRETE® Mason Mix is a contractor grade mortar mix designed for laying brick, concrete masonry units and stone. QUIKRETE® Mason Mix is a pre-blended, sanded product. The standard formulation meets ASTM C270 and C1714 as Type S mortar. Other types are available by special request.

SIZES

QUIKRETE® Mason Mix is available in the following bag sizes:

- 60 lb (27.2 kg)
- 80 lb (36.2 kg)
- 94 lb (42.6 kg)
- 25 kg (55 lb)

YIELD

Each 80 lb (36.2 kg) bag of QUIKRETE® Mason Mix will lay up to 37 standard bricks or 13 standard (8 in by 8 in by 16 in [200 mm by 200 mm by 405 mm]) blocks.

TECHNICAL DATA

APPLICABLE STANDARDS

- ASTM C270 Standard Specification for Mortar for Unit Masonry
- ASTM C1714 Standard Specification for Preblended Dry Mortar Mix for Unit Masonry

PHYSICAL/CHEMICAL

QUIKRETE® Mason Mix meets or exceeds the property requirements of ASTM C270 and ASTM C1714 for the type selected. Refer to Appendix XI of ASTM C270 for guidance in selecting the proper mortar type. See Table 1 for more information.

INSTALLATION

SURFACE PREPARATION

Surfaces to receive QUIKRETE® Mason Mix should be clean and free of dirt, loose debris, grease, oil, etc., for the best possible bond.

Mixing

WEAR IMPERVIOUS GLOVES, such as nitrile when handling product.

QUIKRETE® Mason Mix can be hand mixed or can be machine mixed in a paddle-type mortar mixer. A minimum of 5 minutes of mixing is required. Add approximately 5 quarts (4.7 L) of clean water into the mixing container for each 80 lb (36.2 kg) bag; for each 60 lb (27.2 kg) bag add 3-3/4 quarts (3.5 L). Slowly pour the contents of the bag(s) into the mixing water. Mix until a firm, workable consistency is achieved. The ideal mortar consistency

DIVISION 4

04 05 13 Masonry Mortaring



has been achieved when a 1/2 in (13 mm) thickness of mortar will not fall off your trowel when held in a near vertical position. If more water is needed, add small amounts at a time and continue to mix until the desired consistency is achieved. The maximum water content is expected to be below 7 quarts (6.6 L) for each 80 lb (36.2 kg) bag and 5-1/4 quarts (5 L) for each 60 lb (27.2 kg) bag.

QUIKRETE® Mason Mix is available in gray; additional colors may be available by special order.

Application

WEAR IMPERVIOUS GLOVES, such as nitrile when handling product.

Apply a full bed of mortar onto the base, approximately 1/2 in to 3/4 in (13 mm to 19 mm) thick. Push downward into the mortar bed and sideways against the previously laid block with a slight twisting motion. Tool the mortar joints when they become thumbprint hard. This will make the mortar joint watertight and provide a smooth appearance.

TABLE 1 TYPICAL PHYSICAL PROPERTIES

Hydraulic Cement-Lime Mortars or Mortar Cement Mortars			
Type	Minimum Compressive Strength, PSI (MPa)	Water Retention Minimum, %	Air Content Maximum, %
M	2500 (17.2)	75	12
S	1800 (12.4)	75	12
N	750 (5.1)	75	14 ¹
Masonry Cement Mortars			
Type	Minimum Compressive Strength, PSI (MPa)	Water Retention Minimum, %	Air Content Maximum, %
M	2500 (17.2)	75	18
S	1800 (12.4)	75	18
N	750 (5.1)	75	20 ²

¹When structural reinforcement is included, the maximum air content shall be 12%

²When structural reinforcement is included, the maximum air content shall be 18%

Curing

Curing of masonry mortars is required only if conditions are very hot, dry, or windy. In such cases, a gentle mist of water applied to the surface will prevent premature drying and improve the strength of the mortar.

PRECAUTIONS

- Variations in mix water, amount, mix time, curing conditions, and finishing will cause color variations

WARRANTY

NOTICE: Obtain the applicable **LIMITED WARRANTY** at www.quikrete.com/product-warranty or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured by or under the authority of The Quikrete Companies, LLC. © 2020 Quikrete International, Inc.



May contain Recycled
and/or Reclaimed Materials
www.daltile.com/leed

SAFETY DATA SHEET CERAMIC TILE

Tile Series: **Keystone**

1. PRODUCT IDENTIFICATION

Common Name:	Ceramic Tile (For purposes of this SDS, the term "ceramic" encompasses all types of tile products manufactured/sourced by Dal-Tile Corporation.)
Synonyms:	Ceramic Tile and Wares
Manufacturer Name:	Dal-Tile Corporation
Address:	Headquarters Office 7834 C.F. Hawn Freeway, Dallas, TX 75217
Emergency Assistance:	Environmental, Health and Safety Department Richard Ray - (214) 309-4295 1-800-933-TILE; (214) 398-1411 (24-hour number)
Recommended Use:	Building Material - Tile products manufactured/sourced by Dal-Tile Corporation are environmentally preferable building materials when compared to other floor/wall coverings. As defined by guidelines issued by the Environmental Protection Agency, the American Society for Testing & Materials, and the Federal Trade Commission, Tile is one of the most environmentally friendly building materials you can buy today. Should you desire additional information, please direct your inquiry to the address above.

This document has been prepared in accordance with the Occupational Safety and Health Administration (OSHA) Hazard Communication standard, 29 Code of Federal Regulations (CFR) 1910.1200(g), Safety Data Sheets.

2. HAZARDS IDENTIFICATION

Tile products are mixtures of predominantly clays, silica sand, and other natural occurring minerals that have been mixed with water and fired in a high temperature kiln. The finished, fired tiles are odorless, stable, non-flammable, and pose no immediate hazard to health. Respiratory, hand and eye protection may be needed to prevent excess exposure to airborne particulates if dust is produced by cutting tiles during installation or if dust is produced by any other operations, including demolition/removal projects.

Emergency Overview: Danger! Lung injury and Cancer Hazard
GHS Classification (Global Harmonized Standard Classification):

- Carcinogenicity Category 1A (H350)
- Specific target organ toxicity, single exposure; Respiratory tract irritation - Category 3 (H335)
- Specific target organ toxicity, repeated exposure - Category 1A (H372)

GHS Label, Hazards and Precautionary Statements

GHS Pictogram:

Crystalline Silica:  Category 3 (Respiratory tract irritation) (H335)

 Categories 1A(Carcinogenicity)(H372)

Label Signal Word: Danger

Hazard Statements:

- (H350) May cause CANCER (inhalation)
- (H335) May cause respiratory irritation
- (H372) Causes damage to organs (lung/respiratory) through prolonged or repeated exposure (inhalation)

2. HAZARDS IDENTIFICATION (CONT)

Precautionary Statements:

- Do not handle until all safety precautions have been read and understood. (P202)
- Do not breathe dust/spray. (P260 + P261)
- Wash skin thoroughly after handling. (P264)
- Do not eat, drink or smoke when using this product. (P270)
- Wear protective gloves, protective clothing, eye protection, face protection. (P280)

Potential Health Effects:

Inhalation: Do not breathe dust. See "Health Hazards" in Section 11 for more details.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Tile products are mixtures of predominately Clays, Silica Sand and other naturally-occurring minerals, that have been mixed with water and fired in a high temperature kiln.

Tiles are manufactured in various shapes, sizes, and colors.

These products do not contain asbestos.

Under normal conditions these products do not release hazardous materials after installation and are not considered hazardous waste should disposal be necessary.

Composition	CAS# / EINECS#	Estimated % by Wt.	EU Class
Crystalline silica as quartz	CAS: 14808-60-7 EINECS: 238-878-4	0-30	(67/548/EEC) Xn R48/20
Clays	CAS: 1332-58-7 EINECS: 265-064-6	20-55	(67/548/EEC) Xi R36/37/38
Nepheline syenite	CAS: 37244-96-5 EINECS: N/A	0-50	(67/548/EEC) Xi R36/37/38
Talc	CAS: 14807-96-6 EINECS: 238-877-9	0-40	(67/548/EEC) Xi R36/37/38
Feldspar	CAS: 68476-25-5 EINECS: 270-666-7	0-15	(67/548/EEC) Xi R36/37/38
Biotite	CAS: 12001-26-2 EINECS: 215-479-3	0-5	(67/548/EEC) Xi R36/37/38

4. FIRST AID MEASURES

- Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes if dust gets in eyes. Get medical attention if irritation persists.
- Skin: Wash thoroughly after working with tiles.
- Inhalation: Remove to fresh air if exposed to large amounts of tile dust. Administer artificial respiration if breathing has stopped. Keep victim at rest. Call for prompt medical attention.
- Ingestion: Not applicable for intact tiles.

Have emergency eyewash station available in area where tiles are cut.

5. FIRE-FIGHTING MEASURES AND INFORMATION

- Flash Point (Method Used): Not applicable
- Autoignition Temperature: Not applicable
- Flammable Limits (% by Volume in Air): LEL - not applicable
UEL - not applicable
- Fire Extinguishing Media: None required Non-flammable
- Special Fire Fighting Procedures: None required
- Fire and Explosion Hazards: None

6. ACCIDENTAL RELEASE MEASURES

Avoid creating excessive dust. Clean up dust with a vacuum system with a High-efficiency particulate (HEPA) air filter vacuum or damp sweeping. See Section 8 of this SDS concerning PPE information for clean-up.

7. HANDLING AND STORAGE

When cutting, grinding or removing, use equipment with integral dust collection and/or use local exhaust ventilation. Use wet cutting methods to reduce generation of dust. Use respiratory protection in the absence of effective engineering controls.

Do not store near acids. If tiles contact some acids, damage/discoloration to the surface may occur.

Shelf life is unlimited.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Table

Composition	OSHA PEL	NIOSH IDLH	ACGIH TLV*	Units
Crystalline silica as quartz -respirable fraction	10 %SiO ₂ +2	0.05	0.025	mg/m ³
-total dust	30 %SiO ₂ +2	N.E.	N.E.	mg/m ³
Clays -respirable fraction	5	N.E.	2	mg/m ³
-total dust**	15	N.E.	10	mg/m ³
Nepheline syenite -respirable fraction**	5	N.E.	N.E.	mg/m ³
-total dust**	15	N.E.	N.E.	mg/m ³
Talc -respirable fraction	2	2	2	mg/m ³
-total dust**	15	10	10	mg/m ³
Feldspar -respirable fraction	N.E.	N.E.	N.E.	mg/m ³
-total dust**	15	N.E.	N.E.	mg/m ³
Biotite -respirable fraction**	5	15	3	mg/m ³
-total dust**	15	N.E.	N.E.	mg/m ³

* 2006 Edition, respirable fraction to be determined as per Appendix D of ACGIH TLV.

** Covered as particles not otherwise regulated per OSHA and particles not otherwise classified per ACGIH.

N.D. - Not determined

N.E. - Not established

8.2 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Use adequate ventilation to keep exposure to dust below recommended exposure levels. Avoid inhalation of dust. The highest probability of silica exposure occurs during installation using dry cutting methods or during removal of installed tile. Wet cutting methods are recommended.

Respiratory Protection: Use of a properly fitted NIOSH/MSHA approved particulate respirator is recommended when cutting tiles for installation or during the removal of installed tile.

Eye Protection: Use dust-proof goggles or safety glasses with side shields. Contact lenses may absorb irritants. Do not wear contact lenses in work areas.

Skin Protection: Cotton or leather work gloves should be worn when cutting this product to minimize skin exposure to dust and/or cuts. Wash hands prior to eating, drinking, or smoking, and at the end of the work shift, after cutting operations are conducted.

NOTE: Personal protection information in Section 8 is based on general information for normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the assistance of an industrial hygienist or other qualified professional be obtained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brittle solid; color may vary
Odor:	Odorless
Melting Point:	Not Available (>2200 °F)
Boiling Point:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density (Air = 1):	Not applicable
Solubility in Water:	Insoluble
Specific Gravity (H ₂) = 1):	1.6 to 2.1
Percent Volatile by Volume:	Not applicable
Evaporation Rate (Ethyl Ether = 1):	Not applicable
Viscosity:	Not applicable
Volatility:	0 g/L Volatile Organic Compounds (VOCs)

10. STABILITY AND REACTIVITY

Stability:	Stable in current form.
Conditions to Avoid:	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Incompatibility (Materials to Avoid):	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products:	None.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Primary Routes of Exposure

None for intact tile. Inhalation and potential exposure to eyes, hands, or other body parts if contact is made with broken tile, and/or during procedures involving the cutting of tiles, and/or for operations involving the removal of installed tiles.

Acute Effects

No acute effects from exposure to intact tile are known. Working with broken or cut tile produces a potential for cuts to the hands and exposed body parts. Acute effects such as eye irritation may occur if associated with high dust operations such as dry cutting tile or during the removal of installed tile. In very rare cases, symptoms of acute silicosis, a form of silicosis (a nodular pulmonary fibrosis) associated with exposure to respirable crystalline silica, may develop following acute exposure to extremely dusty environments caused by generation of tile dust. Signs such as labored breathing and early fatigue may indicate silicosis; however, these same symptoms can arise from many other causes.

Chronic Effects

No chronic effects are known for exposure to intact tile. Long-term, continual exposure to respirable crystalline silica at or above established permissible occupational exposure limits may lead to the development of silicosis, a nodular pulmonary fibrosis (NPF). NPFs are also associated with pulmonary tuberculosis, bronchitis, emphysema, and other airway diseases. This type of chronic exposure to silica dust may also result in the development of autoimmune disorders, chronic renal disease, and other adverse health effects. Recent epidemiologic studies demonstrate that workers exposed to elevated silica concentrations have a significant risk of developing chronic silicosis. Signs such as labored breathing and early fatigue may indicate silicosis; however, these same symptoms can also arise from many other causes.

Potential Adverse Interactions

Silicosis may be complicated by severe mycobacterial or fungal infections and result in tuberculosis (TB). Epidemiologic studies have established that silicosis is a risk factor for developing TB. Any existing respiratory or pulmonary diseases may be complicated by exposure to respirable crystalline silica. Smoking may increase the risk of adverse effects if done in conjunction with occupational exposure to silica dust at or above permissible exposure limits.

Carcinogen Status

Respirable crystalline silica is classified by the International Agency for Research on Cancer (IARC) as a Group I Carcinogen (carcinogenic to humans). The National Toxicology Program (9th Report) lists respirable crystalline silica as "Known to be a Human Carcinogen". USDOL/OSHA and NIOSH have recommended that crystalline silica be considered a potential occupational carcinogen.

Overview of Animal Testing

Short term experimental studies of rats have found that intratracheal instillation of quartz particles leads to the formation of discrete silicotic nodules in rats, mice and hamsters.

Oral (silica) Lethality

LD50 Rat oral >22,500 mg/kg
 LD50 Mouse oral >15,000 mg/kg
 LC50 Carp >10,000 mg/l (per 72 hr.)

12. ECOLOGICAL INFORMATION

No information available at this time.

13. DISPOSAL CONSIDERATIONS

Waste should be disposed of in a landfill certified to accept such materials in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

D.O.T Shipping Name:	Not applicable
Hazard Class:	Non-regulated (for disposal purposes material is non-hazardous Class III regulated material)
ID Number:	Not applicable
Marking:	Not applicable
Label:	None
Placard:	None
Hazardous Substance/RQ:	Not applicable
Shipping Description:	Porcelain/Ceramic Tiles
Packaging References:	None

15. REGULATORY INFORMATION

This product and/or its components have been previously introduced into U.S. commerce and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce. Hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR Section 721 and 723.250.

This tile contains <1 percent by weight each of the following elements, which are SARA 313 Recordable: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Copper, Manganese, Mercury, Nickel, Lead, Silver, Thallium, Tin, Titanium, Vanadium, and Zinc.

Title 22 Division 2, California Code of Regulation Chapter 3 (Proposition 65): This product contains a chemical or chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm.

This product or its components meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (Sections 3 & 11)	<input type="checkbox"/> Unstable
<input type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

Note: The information in this data sheet provides information related to the potential hazards associated with dusts which may be produced during cutting or otherwise changing the shape of the tile during installation and/or removal.

16. ADDITIONAL INFORMATION

Global Harmonization Identification System

GHIS: Health: 3 Fire: 4 Reactivity: 4

Hazardous Material Identification System

HMIS: Health: 0 Fire: 0 Reactivity: 0

National Fire Protection Association

NFPA: Health: 0 Fire: 0 Reactivity: 0



May contain Recycled
and/or Reclaimed Materials
www.daltile.com/leed

SAFETY DATA SHEET CERAMIC TILE

Tile Series: COLOR WHEEL COLLECTION - CLASSIC

1. PRODUCT IDENTIFICATION

Common Name:	Ceramic Tile (For purposes of this SDS, the term "ceramic" encompasses all types of tile products manufactured and/or sourced by Dal-Tile Corporation.)
Synonyms:	Ceramic Tile and Wares
Manufacturer Name:	Dal-Tile Corporation
Address:	Headquarters Office 7834 C.F. Hawn Freeway, Dallas, TX 75217
Emergency Assistance:	Environmental, Health and Safety Department Richard Ray - (214) 309-4295 1-800-933-TILE; (214) 398-1411 (24-hour number)
Recommended Use:	Building Material - Tile products manufactured/sourced by Dal-Tile Corporation are environmentally preferable building materials when compared to other floor/wall coverings. As defined by guidelines issued by the Environmental Protection Agency, the American Society for Testing & Materials, and the Federal Trade Commission, Tile is one of the most environmentally friendly building materials you can buy today. Should you desire additional information, please direct your inquiry to the address above.

This document has been prepared in accordance with the Occupational Safety and Health Administration (OSHA) Hazard Communication standard, 29 Code of Federal Regulations (CFR) 1910.1200(g), Safety Data Sheets.

2. HAZARDS IDENTIFICATION

Tile products are mixtures of predominantly clays, silica sand, and other natural occurring minerals that have been mixed with water and fired in a high temperature kiln. The finished, fired tiles are odorless, stable, non-flammable, and pose no immediate hazard to health. Respiratory, hand and eye protection may be needed to prevent excess exposure to airborne particulates if dust is produced by cutting tiles during installation or if dust is produced by any other operations, including demolition/removal projects.

Emergency Overview: Danger! Lung injury and Cancer Hazard
GHS Classification (Global Harmonized Standard Classification):

- Carcinogenicity Category 1A (H350)
- Specific target organ toxicity, single exposure; Respiratory tract irritation - Category 3 (H335)
- Specific target organ toxicity, repeated exposure - Category 1A (H372)

GHS Label, Hazards and Precautionary Statements

GHS Pictogram:

Crystalline Silica:  Category 3 (Respiratory tract irritation) (H335)

 Categories 1A(Carcinogenicity)(H372)

Label Signal Word: Danger

Hazard Statements:

- (H350) May cause CANCER (inhalation)
- (H335) May cause respiratory irritation
- (H372) Causes damage to organs (lung/respiratory) through prolonged or repeated exposure (inhalation)

2. HAZARDS IDENTIFICATION (Continued)

Precautionary Statements:

- Do not handle/install until all safety precautions have been read and understood. (P202)
- Do not breathe dust/spray. (P260 + P261)
- Wash skin thoroughly after handling/installing. (P264)
- Do not eat, drink or smoke when handling/installing this product. (P270)
- Wear protective gloves, protective clothing, eye protection, face protection when handling/installing this product. (P280)

Potential Health Effects:

Inhalation: Do not breathe dust. See "Health Hazards" in Section 11 for more details.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Tile products are mixtures of predominately Clays, Silica Sand and other naturally-occurring minerals, that have been mixed with water and fired in a high temperature kiln.

Tiles are manufactured in various shapes, sizes, and colors.

These products do not contain asbestos.

Under normal conditions these products do not release hazardous materials after installation and are not considered hazardous waste should disposal be necessary.

Composition	CAS# / EINECS#	Estimated % by Wt.	EU Class
Crystalline silica as quartz	CAS: 14808-60-7 EINECS: 238-878-4	0-30	(67/548/EEC) Xn R48/20
Clays	CAS: 1332-58-7 EINECS: 265-064-6	20-55	(67/548/EEC) Xi R36/37/38
Nepheline syenite	CAS: 37244-96-5 EINECS: N/A	0-50	(67/548/EEC) Xi R36/37/38
Talc	CAS: 14807-96-6 EINECS: 238-877-9	0-40	(67/548/EEC) Xi R36/37/38
Feldspar	CAS: 68476-25-5 EINECS: 270-666-7	0-20	(67/548/EEC) Xi R36/37/38

4. FIRST AID MEASURES

- Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes if dust gets in eyes. Get medical attention if irritation persists.
- Skin: Wash thoroughly after working with tiles.
- Inhalation: Remove to fresh air if exposed to large amounts of tile dust. Administer artificial respiration if breathing has stopped. Keep victim at rest. Call for prompt medical attention.
- Ingestion: Not applicable for intact tiles.

Have emergency eyewash station available in area where tiles are cut.

5. FIRE-FIGHTING MEASURES AND INFORMATION

- Flash Point (Method Used): Not applicable
- Autoignition Temperature: Not applicable
- Flammable Limits (% by Volume in Air): LEL - not applicable
UEL - not applicable
- Fire Extinguishing Media: None required Non-flammable
- Special Fire Fighting Procedures: None required
- Fire and Explosion Hazards: None

6. ACCIDENTAL RELEASE MEASURES

Avoid creating excessive dust. Clean up dust using a vacuum system with a High-efficiency particulate (HEPA) air filter vacuum or damp sweeping. See Section 8 of this SDS concerning PPE information for clean-up.

7. HANDLING AND STORAGE

Do Not Dry Cut using motorized equipment due to potential exposure to Harmful Silica Dust. Use wet cutting methods to reduce generation of dust. When cutting, grinding or removing, use equipment with integral dust collection and/or use local exhaust ventilation. Use respiratory protection in the absence of effective engineering controls.

Do not store near acids. If tiles contact some acids, damage/discoloration to the surface may occur.

Shelf life is unlimited.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Table

Composition	OSHA PEL	NIOSH IDLH	ACGIH TLV*	Units
Crystalline silica as quartz -respirable fraction	0.05	0.05	0.025	mg/m ³
-total dust	15	N.E.	N.E.	mg/m ³
Clays -respirable fraction	5	N.E.	2	mg/m ³
Nepheline syenite -respirable fraction**	5	N.E.	N.E.	mg/m ³
Talc -respirable fraction	2	2	2	mg/m ³
-total dust**	15	10	10	mg/m ³
Feldspar -respirable fraction	N.E.	N.E.	N.E.	mg/m ³
-total dust**	15	N.E.	N.E.	mg/m ³

* 2017 Edition, respirable fraction to be determined as per Appendix D of ACGIH TLV.

** Covered as particles not otherwise regulated per OSHA and particles not otherwise classified per ACGIH.

N.D. - Not determined

N.E. - Not established

8.2 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation: Use adequate ventilation during installation and/or removal to keep exposure to dust below recommended exposure levels. Avoid inhalation of dust. The highest probability of silica exposure occurs during installation using dry cutting methods or during removal of installed tile. Do Not Dry Cut using motorized equipment due to potential exposure to Harmful Silica Dust. Use wet cutting methods to reduce generation of dust.

Respiratory Protection: Use of a properly fitted NIOSH/MSHA approved particulate respirator is recommended when cutting tiles for installation or during the removal of installed tile.

Eye Protection: Use dust-proof goggles or safety glasses with side shields. Contact lenses may absorb irritants. Do not wear contact lenses in work areas.

Skin Protection: Cotton or leather work gloves should be worn when cutting this product to minimize skin exposure to dust and/or cuts. Wash hands prior to eating, drinking, or smoking, and at the end of the work shift, after cutting operations are conducted.

NOTE: Personal protection information in Section 8 is based on general information for normal uses and conditions. Where special or unusual uses or conditions exist, it is suggested that the assistance of an industrial hygienist or other qualified professional be obtained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brittle solid; color may vary
Odor:	Odorless
Melting Point:	Not Available (>2200 °F)
Boiling Point:	Not applicable
Vapor Pressure:	Not applicable
Vapor Density (Air = 1):	Not applicable
Solubility in Water:	Insoluble
Specific Gravity (H ₂) = 1):	1.6 to 2.1
Percent Volatile by Volume:	Not applicable
Evaporation Rate (Ethyl Ether = 1):	Not applicable
Viscosity:	Not applicable
Volatility:	0 g/L Volatile Organic Compounds (VOCs)

10. STABILITY AND REACTIVITY

Stability:	Stable in current form.
Conditions to Avoid:	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Incompatibility (Materials to Avoid):	Avoid contact with acids (e.g., acetic, hydrofluoric, etc.)
Hazardous Polymerization:	Will not occur.
Hazardous Decomposition Products:	None.

11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Primary Routes of Exposure

None for intact tile. Inhalation and potential exposure to eyes, hands, or other body parts if contact is made with broken tile, and/or during procedures involving the cutting of tiles, and/or for operations involving the removal of installed tiles.

Acute Effects

No acute effects from exposure to intact tile are known. Working with broken or cut tile produces a potential for cuts to the hands and exposed body parts. Acute effects such as eye irritation may occur if associated with high dust operations such as dry cutting tile or during the removal of installed tile. In very rare cases, symptoms of acute silicosis, a form of silicosis (a nodular pulmonary fibrosis) associated with exposure to respirable crystalline silica, may develop following acute exposure to extremely dusty environments caused by generation of tile dust. Signs such as labored breathing and early fatigue may indicate silicosis; however, these same symptoms can arise from many other causes.

Chronic Effects

No chronic effects are known for exposure to intact tile. Long-term, continual exposure to respirable crystalline silica at or above established permissible occupational exposure limits may lead to the development of silicosis, a nodular pulmonary fibrosis (NPF). NPFs are also associated with pulmonary tuberculosis, bronchitis, emphysema, and other airway diseases. This type of chronic exposure to silica dust may also result in the development of autoimmune disorders, chronic renal disease, and other adverse health effects. Recent epidemiologic studies demonstrate that workers exposed to elevated silica concentrations have a significant risk of developing chronic silicosis. Signs such as labored breathing and early fatigue may indicate silicosis; however, these same symptoms can also arise from many other causes.

Potential Adverse Interactions

Silicosis may be complicated by severe mycobacterial or fungal infections and result in tuberculosis (TB). Epidemiologic studies have established that silicosis is a risk factor for developing TB. Any existing respiratory or pulmonary diseases may be complicated by exposure to respirable crystalline silica. Smoking may increase the risk of adverse effects if done in conjunction with occupational exposure to silica dust at or above permissible exposure limits.

Carcinogen Status

Respirable crystalline silica is classified by the International Agency for Research on Cancer (IARC) as a Group I Carcinogen (carcinogenic to humans). The National Toxicology Program (9th Report) lists respirable crystalline silica as "Known to be a Human Carcinogen". USDOL/OSHA and NIOSH have recommended that crystalline silica be considered a potential occupational carcinogen.

Overview of Animal Testing

Short term experimental studies of rats have found that intratracheal instillation of quartz particles leads to the formation of discrete silicotic nodules in rats, mice and hamsters.

Oral (silica) Lethality

LD50 Rat oral >22,500 mg/kg
 LD50 Mouse oral >15,000 mg/kg
 LC50 Carp >10,000 mg/l (per 72 hr.)

12. ECOLOGICAL INFORMATION

No information available at this time.

13. DISPOSAL CONSIDERATIONS

Waste should be disposed of in a landfill certified to accept such materials in accordance with federal, state, and local regulations.

14. TRANSPORTATION INFORMATION

U.S. D.O.T Shipping Name:	Not applicable
Hazard Class:	Non-regulated (for disposal purposes material is non-hazardous Class III regulated material)
ID Number:	Not applicable
Marking:	Not applicable
Label:	None
Placard:	None
Hazardous Substance/RQ:	Not applicable
Shipping Description:	Porcelain/Ceramic Tiles
Packaging References:	None

Not regulated for transportation under the IATA/ICAO, IMDG, EU ADR, or Canadian TDG Regulations.

15. REGULATORY INFORMATION

This product and/or its components have been previously introduced into U.S. commerce and is listed in the Toxic Substances Control Act (TSCA) Inventory of Chemicals in Commerce. Hence, it is subject to all applicable provisions and restrictions under TSCA 40 CFR Section 721 and 723.250.

This tile contains <1 percent by weight each of the following elements, which are SARA 313 Recordable: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Chromium, Copper, Manganese, Mercury, Nickel, Lead, Silver, Thallium, Tin, Titanium, Vanadium, and Zinc.

Title 22 Division 2, California Code of Regulation Chapter 3 (Proposition 65): This product has been evaluated for exposure levels and results conclude use of this product does not create an exposure to chemical(s) which is(are) known to the State of California to cause cancer, birth defects or other reproductive harm.

This product or its components meets the following hazard definition(s) as defined by the Occupational Safety and Health Hazard Communication Standard (29 CFR Section 1910.1200):

<input type="checkbox"/> Combustible Liquid	<input type="checkbox"/> Flammable Aerosol	<input type="checkbox"/> Oxidizer
<input type="checkbox"/> Compressed Gas	<input type="checkbox"/> Explosive	<input type="checkbox"/> Pyrophoric
<input type="checkbox"/> Flammable Gas	<input checked="" type="checkbox"/> Health Hazard (See Sections 3 & 11)	<input type="checkbox"/> Unstable
<input type="checkbox"/> Flammable Liquid	<input type="checkbox"/> Organic Peroxide	<input type="checkbox"/> Water Reactive
<input type="checkbox"/> Flammable Solid		

Based on information presently available, this product does not meet any of the hazard definitions of 29 CFR Section 1910.1200.

Note: The information in this data sheet provides information related to the potential hazards associated with dusts which may be produced during cutting or otherwise changing the shape of the tile during installation and/or removal.

16. ADDITIONAL INFORMATION (for intact tile)

Global Harmonization Identification System

GHIS: Health: 4 Fire: 4 Reactivity: 4

Hazardous Material Identification System

HMIS: Health: 0 Fire: 0 Reactivity: 0

National Fire Protection Association

NFPA: Health: 0 Fire: 0 Reactivity: 0

SDS Preparation Date: 08/29/18 Revision Date: 02/18/19



HYDRO BAN®

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Revision Date: 07/08/2019

Date of Issue: 06/19/2019

Version: 1.1

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: HYDRO BAN®

1.2. Intended Use of the Product

Waterproofing Membrane.

1.3. Name, Address, and Telephone of the Responsible Party

Company

LATICRETE International

1 Laticrete Park, N

Bethany, CT 06524

T (203)-393-0010

www.laticrete.com

Company

LATICRETE Canada ULC

PO Box 129, Emeryville, Ontario, Canada

NOR-1AO

(833)-254-9255

1.4. Emergency Telephone Number

Emergency Number : For Chemical Emergency Call ChemTel day or night

Within USA and Canada: 1.800.255.3924

Mexico: 1.800.099.0731

Outside USA and Canada: 1.813.248.0585 (collect calls accepted))

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Skin Sens. 1A H317

Aquatic Acute 3 H402

Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



GHS07

Signal Word (GHS-US/CA)

: Warning

Hazard Statements (GHS-US/CA)

: H317 - May cause an allergic skin reaction.

H402 - Harmful to aquatic life.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (GHS-US/CA) :

P261 - Avoid breathing mist, spray, vapors.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, and eye protection.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

HYDRO BAN®

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Limestone	(CAS-No.) 1317-65-3	15 - 40	Not classified
Zinc oxide (ZnO)	(CAS-No.) 1314-13-2	2 - 2.1	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Diethylene glycol monobutyl ether	(CAS-No.) 112-34-5	0.1 - 1	Flam. Liq. 4, H227 Eye Irrit. 2A, H319
Ethylene glycol	(CAS-No.) 107-21-1	0.5 - 1.5	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Titanium dioxide	(CAS-No.) 13463-67-7	0.5 - 1.5	Not classified
Kaolin	(CAS-No.) 1332-58-7	<= 0.04	Not classified
Quartz	(CAS-No.) 14808-60-7	>= 0.04	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
3(2H)-Isothiazolone, 2-methyl-	(CAS-No.) 2682-20-4	0.01	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 STOT SE 3, H335 Aquatic Acute 1, H400
Octamethylcyclotetrasiloxane	(CAS-No.) 556-67-2	0.0008 - 0.0009	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Repr. 2, H361 Aquatic Chronic 4, H413

Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

** The actual concentration of ingredient(s) is withheld as a trade secret in accordance with the Hazardous Products Regulations (HPR) SOR/2015-17 and 29 CFR 1910.1200.

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation/rash develops or persists.

Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for at least 15 minutes. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Skin sensitization.

Inhalation: Prolonged exposure may cause irritation.

Skin Contact: May cause an allergic skin reaction.

Eye Contact: May cause slight irritation to eyes.

Ingestion: Ingestion may cause adverse effects.

HYDRO BAN®

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Chronic Symptoms: None known.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO₂). Hydrocarbons.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapor, mist, spray). Do not get in eyes, on skin, or on clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: Strong acids, strong bases, strong oxidizers.

7.3. Specific End Use(s)

Waterproofing Membrane.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Limestone (1317-65-3)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (total)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³
Diethylene glycol monobutyl ether (112-34-5)		
USA ACGIH	ACGIH TWA (ppm)	10 ppm (inhalable fraction and vapor)
Manitoba	OEL TWA (ppm)	10 ppm (inhalable fraction and vapor)
Newfoundland & Labrador	OEL TWA (ppm)	10 ppm (inhalable fraction and vapor)
Nova Scotia	OEL TWA (ppm)	10 ppm (inhalable fraction and vapor)
Ontario	OEL TWA (ppm)	10 ppm (inhalable fraction and vapor)
Prince Edward Island	OEL TWA (ppm)	10 ppm (inhalable fraction and vapor)
Ethylene glycol (107-21-1)		
USA ACGIH	ACGIH TWA (ppm)	25 ppm (vapor fraction)
USA ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
USA ACGIH	ACGIH STEL (ppm)	50 ppm (vapor fraction)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
Alberta	OEL Ceiling (mg/m ³)	100 mg/m ³
British Columbia	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
British Columbia	OEL Ceiling (ppm)	50 ppm (vapour)
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (particulate)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (particulate)
Manitoba	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Manitoba	OEL STEL (ppm)	50 ppm (vapor fraction)
Manitoba	OEL TWA (ppm)	25 ppm (vapor fraction)
New Brunswick	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Newfoundland & Labrador	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Newfoundland & Labrador	OEL STEL (ppm)	50 ppm (vapor fraction)
Newfoundland & Labrador	OEL TWA (ppm)	25 ppm (vapor fraction)

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Nova Scotia	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Nova Scotia	OEL STEL (ppm)	50 ppm (vapor fraction)
Nova Scotia	OEL TWA (ppm)	25 ppm (vapor fraction)
Nunavut	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Northwest Territories	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Ontario	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol only)
Prince Edward Island	OEL STEL (mg/m ³)	10 mg/m ³ (inhalable particulate matter, aerosol only)
Prince Edward Island	OEL STEL (ppm)	50 ppm (vapor fraction)
Prince Edward Island	OEL TWA (ppm)	25 ppm (vapor fraction)
Québec	PLAFOND (mg/m ³)	127 mg/m ³ (mist and vapour)
Québec	PLAFOND (ppm)	50 ppm (mist and vapour)
Saskatchewan	OEL Ceiling (mg/m ³)	100 mg/m ³ (aerosol)
Yukon	OEL STEL (mg/m ³)	20 mg/m ³ (particulate) 325 mg/m ³ (vapour)
Yukon	OEL STEL (ppm)	10 ppm (particulate) 125 ppm (vapour)
Yukon	OEL TWA (mg/m ³)	10 mg/m ³ (particulate) 250 mg/m ³ (vapour)
Yukon	OEL TWA (ppm)	100 ppm (vapour)
Titanium dioxide (13463-67-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2.4 mg/m ³ (CIB 63-fine) 0.3 mg/m ³ (CIB 63-ultrafine, including engineered nanoscale)
USA IDLH	US IDLH (mg/m ³)	5000 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Ontario	OEL TWA (mg/m ³)	10 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³
Zinc oxide (ZnO) (1314-13-2)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³ (respirable particulate matter)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³ (fume) 15 mg/m ³ (total dust)

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		5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³ (dust and fume)
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	10 mg/m ³ (fume)
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	15 mg/m ³ (dust)
USA IDLH	US IDLH (mg/m ³)	500 mg/m ³
Alberta	OEL STEL (mg/m ³)	10 mg/m ³ (respirable)
Alberta	OEL TWA (mg/m ³)	2 mg/m ³ (respirable)
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³ (respirable)
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³ (respirable)
Manitoba	OEL STEL (mg/m ³)	10 mg/m ³ (respirable particulate matter)
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³ (respirable particulate matter)
New Brunswick	OEL STEL (mg/m ³)	10 mg/m ³ (fume)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, dust) 5 mg/m ³ (fume)
Newfoundland & Labrador	OEL STEL (mg/m ³)	10 mg/m ³ (respirable particulate matter)
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL STEL (mg/m ³)	10 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³ (respirable particulate matter)
Nunavut	OEL STEL (mg/m ³)	10 mg/m ³ (dust and fume; respirable fraction)
Nunavut	OEL TWA (mg/m ³)	2 mg/m ³ (dust and fume; respirable fraction)
Northwest Territories	OEL STEL (mg/m ³)	10 mg/m ³ (dust and fume; respirable fraction)
Northwest Territories	OEL TWA (mg/m ³)	2 mg/m ³ (dust and fume; respirable fraction)
Ontario	OEL STEL (mg/m ³)	10 mg/m ³ (respirable)
Ontario	OEL TWA (mg/m ³)	2 mg/m ³ (respirable)
Prince Edward Island	OEL STEL (mg/m ³)	10 mg/m ³ (respirable particulate matter)
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³ (respirable particulate matter)
Québec	VECD (mg/m ³)	10 mg/m ³ (fume)
Québec	VEMP (mg/m ³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) 5 mg/m ³ (fume)
Saskatchewan	OEL STEL (mg/m ³)	10 mg/m ³ (dust and fume, respirable fraction)
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³ (dust and fume, respirable fraction)
Yukon	OEL STEL (mg/m ³)	10 mg/m ³ (fume)
Yukon	OEL TWA (mg/m ³)	5 mg/m ³ (fume) 30 mppcf (dust) 10 mg/m ³ (dust)
Kaolin (1332-58-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	2 mg/m ³ (respirable)
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica-respirable particulate)
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and

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		<1% Crystalline silica, respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Nunavut	OEL STEL (mg/m ³)	4 mg/m ³ (respirable fraction)
Nunavut	OEL TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
Northwest Territories	OEL STEL (mg/m ³)	4 mg/m ³ (respirable fraction)
Northwest Territories	OEL TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
Ontario	OEL TWA (mg/m ³)	2 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable)
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Québec	VEMP (mg/m ³)	5 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable dust)
Saskatchewan	OEL STEL (mg/m ³)	4 mg/m ³ (respirable fraction)
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³
Octamethylcyclotetrasiloxane (556-67-2)		
USA AIHA	WEEL TWA (ppm)	10 ppm
Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	50 µg/m ³ (Respirable crystalline silica)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	50 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate)
British Columbia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable)
Manitoba	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nunavut	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline))
Northwest Territories	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline))
Ontario	OEL TWA (mg/m ³)	0.1 mg/m ³ (designated substances regulation-respirable (Silica, crystalline))
Prince Edward Island	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Québec	VEMP (mg/m ³)	0.1 mg/m ³ (respirable dust)
Saskatchewan	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline (Trydimite removed)))
Yukon	OEL TWA (mg/m ³)	300 particle/mL (Silica - Quartz, crystalline)

8.2. Exposure Controls

Appropriate Engineering Controls: Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

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Personal Protective Equipment: Gloves. Protective clothing. Protective goggles.



Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn.

In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Olive green liquid
Odor	:	Styrene butadiene
Odor Threshold	:	Not available
pH	:	8.0 - 9.0
Evaporation Rate	:	Not available
Melting Point	:	0 °C (32 °F)
Freezing Point	:	Not available
Boiling Point	:	100 °C (212 °F)
Flash Point	:	Not available
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not applicable
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20°C	:	Not available
Relative Density	:	Not available
Specific Gravity	:	1.34
Solubility	:	Water: Soluble
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials.

10.5. Incompatible Materials: Strong acids, strong bases, strong oxidizers.

10.6. Hazardous Decomposition Products: None known.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

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LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified

pH: 8.0 - 9.0

Eye Damage/Irritation: Not classified

pH: 8.0 - 9.0

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: None known.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Diethylene glycol monobutyl ether (112-34-5)	
LD50 Oral Rat	5660 mg/kg
LD50 Dermal Rabbit	2700 mg/kg
ATE US/CA (dermal)	2,700.00 mg/kg body weight
Ethylene glycol (107-21-1)	
LD50 Dermal Rat	10600 mg/kg
ATE US/CA (oral)	500.00 mg/kg body weight
Titanium dioxide (13463-67-7)	
LD50 Oral Rat	> 10000 mg/kg
Zinc oxide (ZnO) (1314-13-2)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 2000 mg/kg
Kaolin (1332-58-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 5000 mg/kg
Octamethylcyclotetrasiloxane (556-67-2)	
LD50 Oral Rat	1540 mg/kg
LD50 Dermal Rabbit	794 µl/kg
LC50 Inhalation Rat	36 g/m³ (Exposure time: 4 h)
ATE US/CA (vapors)	36.00 mg/l/4h
ATE US/CA (dust, mist)	36.00 mg/l/4h
3(2H)-Isothiazolone, 2-methyl- (2682-20-4)	
LD50 Oral Rat	120 mg/kg
LD50 Dermal Rabbit	200 mg/kg
LC50 Inhalation Rat	0.11 mg/l/4h
ATE US/CA (dermal)	200.00 mg/kg body weight
ATE US/CA (vapors)	0.11 mg/l/4h
ATE US/CA (dust, mist)	0.11 mg/l/4h
Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg

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LD50 Dermal Rat	> 5000 mg/kg
Titanium dioxide (13463-67-7)	
IARC Group	2B
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Quartz (14808-60-7)	
IARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Harmful to aquatic life with long lasting effects. Harmful to aquatic life.

Diethylene glycol monobutyl ether (112-34-5)	
LC50 Fish 1	1300 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Ethylene glycol (107-21-1)	
LC50 Fish 1	41000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	46300 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	14 - 18 ml/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
NOEC Chronic Crustacea	4.2 mg/l
Zinc oxide (ZnO) (1314-13-2)	
LC50 Fish 1	970 µg/l (780 ug Zn/L; Exposure time: 96 h - Species: Pimephales promelas)
LC50 Fish 2	1.793 mg/l (Exposure time: 96 h - Species: Zebrafish)
NOEC Chronic Fish	0.026 mg/l (Species: Jordanella floridae)
Octamethylcyclotetrasiloxane (556-67-2)	
LC50 Fish 1	> 500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
LC50 Fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)

12.2. Persistence and Degradability

HYDRO BAN®	
Persistence and Degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

HYDRO BAN®	
Bioaccumulative Potential	Not established.
Diethylene glycol monobutyl ether (112-34-5)	
BCF Fish 1	(no bioconcentration expected)
Ethylene glycol (107-21-1)	
Log Pow	-1.93
Octamethylcyclotetrasiloxane (556-67-2)	
BCF Fish 1	12400
Log Pow	5.1

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

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SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

- 14.1. In Accordance with DOT Not regulated for transport
- 14.2. In Accordance with IMDG Not regulated for transport
- 14.3. In Accordance with IATA Not regulated for transport
- 14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

HYDRO BAN®	
SARA Section 311/312 Hazard Classes	Health hazard - Respiratory or skin sensitization
Limestone (1317-65-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Diethylene glycol monobutyl ether (112-34-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Ethylene glycol (107-21-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	5000 lb
SARA Section 313 - Emission Reporting	1 %
Titanium dioxide (13463-67-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Zinc oxide (ZnO) (1314-13-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Kaolin (1332-58-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Octamethylcyclotetrasiloxane (556-67-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a final TSCA section 4 test rule.
3(2H)-Isothiazolone, 2-methyl- (2682-20-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	PMN - PMN - indicates a commenced PMN substance. SP - SP - indicates a substance that is identified in a proposed Significant New Uses Rule.
Quartz (14808-60-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. US State Regulations

California Proposition 65

 **WARNING:** This product can expose you to Titanium dioxide, which is known to the State of California to cause cancer, and Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Ethylene glycol (107-21-1)		X		
Titanium dioxide (13463-67-7)	X			
Quartz (14808-60-7)	X			
Limestone (1317-65-3)				
U.S. - Massachusetts - Right To Know List				

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U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Ethylene glycol (107-21-1)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

Titanium dioxide (13463-67-7)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Zinc oxide (ZnO) (1314-13-2)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

Kaolin (1332-58-7)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Quartz (14808-60-7)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Limestone (1317-65-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Diethylene glycol monobutyl ether (112-34-5)

Listed on the Canadian DSL (Domestic Substances List)

Ethylene glycol (107-21-1)

Listed on the Canadian DSL (Domestic Substances List)

Titanium dioxide (13463-67-7)

Listed on the Canadian DSL (Domestic Substances List)

Zinc oxide (ZnO) (1314-13-2)

Listed on the Canadian DSL (Domestic Substances List)

Kaolin (1332-58-7)

Listed on the Canadian DSL (Domestic Substances List)

Octamethylcyclotetrasiloxane (556-67-2)

Listed on the Canadian DSL (Domestic Substances List)

3(2H)-Isothiazolone, 2-methyl- (2682-20-4)

Listed on the Canadian DSL (Domestic Substances List)

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest : 07/08/2019

Revision

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

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GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2
Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment - Chronic Hazard Category 4
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Repr. 2	Reproductive toxicity Category 2
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Sens. 1A	Skin sensitization, category 1A
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H226	Flammable liquid and vapour
H227	Combustible liquid
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



TRI-LITE™

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Revision Date: 07/02/2019

Date of Issue: 06/17/2019

Version: 1.1

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: TRI-LITE™

Product Code: 0279-0030-21 (100, 110, 115, 130), 0279-0030-22 (100, 105, 108, 110, 115, 130)

1.2. Intended Use of the Product

Tile Adhesive.

1.3. Name, Address, and Telephone of the Responsible Party

Company

LATICRETE International

1 Laticrete Park, N

Bethany, CT 06524

T (203)-393-0010

www.laticrete.com

Company

LATICRETE Canada ULC

PO Box 129, Emeryville, Ontario, Canada

N0R-1A0

(833)-254-9255

1.4. Emergency Telephone Number

Emergency Number : For Chemical Emergency Call ChemTel day or night

Within USA and Canada: 1.800.255.3924

Mexico: 1.800.099.0731

Outside USA and Canada: 1.813.248.0585 (collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Skin Corr. 1C H314

Eye Dam. 1 H318

Skin Sens. 1 H317

Carc. 1A H350

STOT SE 3 H335

STOT RE 1 H372

Aquatic Acute 3 H402

Aquatic Chronic 3 H412

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :



Signal Word (GHS-US/CA)

Hazard Statements (GHS-US/CA)

: Danger

: H314 - Causes severe skin burns and eye damage.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H335 - May cause respiratory irritation.

H350 - May cause cancer (Inhalation).

H372 - Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).

H402 - Harmful to aquatic life.

H412 - Harmful to aquatic life with long lasting effects.

Precautionary Statements (GHS-US/CA) :

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

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- P260 - Do not breathe dust.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Immediately call a POISON CENTER or doctor.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Cement, portland, chemicals	(CAS-No.) 65997-15-1	30 - 60	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335
Calcium oxide	(CAS-No.) 1305-78-8	33 - 42	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402
Quartz	(CAS-No.) 14808-60-7	24	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Limestone	(CAS-No.) 1317-65-3	< 11	Not classified
Kaolin	(CAS-No.) 1332-58-7	< 8	Not classified
Perlite	(CAS-No.) 93763-70-3	3 - 7	Not classified
Silicic acid (H4SiO4), calcium salt (1:2)	(CAS-No.) 10034-77-2	1.7 - 2.9	Eye Irrit. 2A, H319
Calcium sulfate dihydrate	(CAS-No.) 13397-24-5	<= 3	Not classified
Magnesium oxide (MgO)	(CAS-No.) 1309-48-4	1.7 - 2.7	Not classified
Chromium, ion (Cr6+)	(CAS-No.) 18540-29-9	< 0.00006	Skin Sens. 1, H317 Carc. 1B, H350 Aquatic Acute 1, H400

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		Aquatic Chronic 1, H410
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Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

** The actual concentration of ingredient(s) is withheld as a trade secret in accordance with the Hazardous Products Regulations (HPR) SOR/2015-17 and 29 CFR 1910.1200.

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

Skin Contact: Immediately remove contaminated clothing. Immediately flush skin with plenty of water for at least 30 minutes. Get immediate medical advice/attention.

Eye Contact: Immediately rinse with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: May cause respiratory irritation. May cause cancer (Inhalation). Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation). Skin sensitization. Causes severe skin burns and eye damage.

Inhalation: Irritation of the respiratory tract and the other mucous membranes. May be corrosive to the respiratory tract.

Skin Contact: Concrete may cause dry skin, discomfort, irritation, severe burns, and dermatitis. Exposure of sufficient duration to wet concrete can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort. Unhardened concrete is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of concrete including alkalinity and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in concrete. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with wet concrete. Others may develop allergic dermatitis after years of repeated contact with wet concrete.

Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Contains Crystalline Silica (quartz): As quartz is bound in a polymer matrix, it is not expected to be available as an airborne hazard under normal condition of use. If dust is released into the air, repeated exposure to respirable (airborne) crystalline silica dust may cause respiratory irritation, lung damage in the form of silicosis, and cancer. May cause cancer (Inhalation). Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, or dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered flammable but may burn at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Calcium oxide reacts with water to form corrosive calcium hydroxide, with evolution of much heat. Temperatures as high as 800° C (1472 °F) have been reached with addition of water (moisture in air or soil). May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

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Hazardous Combustion Products: Carbon oxides (CO, CO₂). Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C (1598 °F), it can change to a form of crystalline silica known as trydomite, and if crystalline silica (quartz) is heated to more than 1470°C (2678 °F), it can change to a form of crystalline silica known as cristobalite. The OSHA PEL for crystalline silica as trydomite and cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Cautiously neutralize spilled solid. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: This product contains crystalline silica, which naturally varies depending on the composition of the soil. Clay, decomposed matter, and moisture likely prevent crystalline silica from becoming respirable. If crystalline silica dust is released into the air, repeated exposure to dust may cause lung damage in the form of silicosis, lung cancer, or respiratory irritation. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss. May release corrosive vapors.

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid contact with eyes, skin and clothing. Do not breathe dust. Handle empty containers with care because they may still present a hazard.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area. Store in original container or corrosive resistant and/or lined container.

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Incompatible Materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt.

Portland cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts.

Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

7.3. Specific End Use(s)

Tile Adhesive.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Cement, portland, chemicals (65997-15-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	5000 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica-respirable particulate)
Manitoba	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Newfoundland & Labrador	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Ontario	OEL TWA (mg/m ³)	1 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable)
Prince Edward Island	OEL TWA (mg/m ³)	1 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Québec	VEMP (mg/m ³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) 5 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable dust)

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Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³

Calcium oxide (1305-78-8)

USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	25 mg/m ³
Alberta	OEL TWA (mg/m ³)	2 mg/m ³
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	2 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³
Nunavut	OEL STEL (mg/m ³)	4 mg/m ³
Nunavut	OEL TWA (mg/m ³)	2 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	4 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	2 mg/m ³
Ontario	OEL TWA (mg/m ³)	2 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³
Québec	VEMP (mg/m ³)	2 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	4 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³
Yukon	OEL STEL (mg/m ³)	4 mg/m ³
Yukon	OEL TWA (mg/m ³)	2 mg/m ³

Perlite (93763-70-3)

USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (General Industry - total dust)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf

Calcium sulfate dihydrate (13397-24-5)

USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter (Calcium sulfate))
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³ (Calcium sulphate)
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (total)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)

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Manitoba	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter (Calcium sulfate)
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter (Calcium sulfate)
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter (Calcium sulfate)
Ontario	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable (Calcium sulfate)
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter (Calcium sulfate)
Québec	VEMP (mg/m ³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) 5 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³
Limestone (1317-65-3)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	20 mg/m ³ (total)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (total dust) 3 mg/m ³ (respirable fraction)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (Limestone, containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³
Magnesium oxide (MgO) (1309-48-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (fume, total particulate)
USA IDLH	US IDLH (mg/m ³)	750 mg/m ³ (fume)
Alberta	OEL TWA (mg/m ³)	10 mg/m ³ (fume)
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³ (respirable dust and fume)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (fume, inhalable) 3 mg/m ³ (respirable dust and fume)
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (fume)
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³ (inhalable fraction)
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³ (inhalable fraction)

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Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
Ontario	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable)
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particulate matter)
Québec	VEMP (mg/m ³)	10 mg/m ³ (fume)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³ (inhalable fraction)
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable fraction)
Yukon	OEL STEL (mg/m ³)	10 mg/m ³ (fume)
Yukon	OEL TWA (mg/m ³)	10 mg/m ³ (fume)
Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
USA ACGIH	ACGIH chemical category	A2 - Suspected Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	50 µg/m ³ (Respirable crystalline silica)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.05 mg/m ³ (respirable dust)
USA IDLH	US IDLH (mg/m ³)	50 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate)
British Columbia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable)
Manitoba	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Nunavut	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline))
Northwest Territories	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline))
Ontario	OEL TWA (mg/m ³)	0.1 mg/m ³ (designated substances regulation-respirable (Silica, crystalline))
Prince Edward Island	OEL TWA (mg/m ³)	0.025 mg/m ³ (respirable particulate matter)
Québec	VEMP (mg/m ³)	0.1 mg/m ³ (respirable dust)
Saskatchewan	OEL TWA (mg/m ³)	0.05 mg/m ³ (respirable fraction (Silica - crystalline (Trydimite removed)))
Yukon	OEL TWA (mg/m ³)	300 particle/mL (Silica - Quartz, crystalline)
Chromium, ion (Cr6+) (18540-29-9)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 µg/m ³
Kaolin (1332-58-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter)
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)
Alberta	OEL TWA (mg/m ³)	2 mg/m ³ (respirable)
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica-respirable particulate)
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
New Brunswick	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-

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		particulate matter, respirable particulate matter)
Nunavut	OEL STEL (mg/m ³)	4 mg/m ³ (respirable fraction)
Nunavut	OEL TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
Northwest Territories	OEL STEL (mg/m ³)	4 mg/m ³ (respirable fraction)
Northwest Territories	OEL TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
Ontario	OEL TWA (mg/m ³)	2 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable)
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable particulate matter-particulate matter, respirable particulate matter)
Québec	VEMP (mg/m ³)	5 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable dust)
Saskatchewan	OEL STEL (mg/m ³)	4 mg/m ³ (respirable fraction)
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³ (respirable fraction)
Yukon	OEL STEL (mg/m ³)	20 mg/m ³
Yukon	OEL TWA (mg/m ³)	30 mppcf 10 mg/m ³

Particulates not otherwise classified (PNOC) (Not applicable)

USA ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³ Respirable fraction 10 mg/m ³ Total Dust
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³ Respirable fraction 15 mg/m ³ Total Dust
Alberta	OEL TWA (mg/m ³)	10 mg/m ³ (total) 3 mg/m ³ (respirable)
British Columbia	OEL TWA (mg/m ³)	10 mg/m ³ (nuisance dust-total dust) 3 mg/m ³ (nuisance dust-respirable fraction)
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended) 3 mg/m ³ (respirable particles, recommended)
New Brunswick	OEL TWA (mg/m ³)	3 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction) 10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, inhalable fraction)
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended) 3 mg/m ³ (respirable particles, recommended)
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended) 3 mg/m ³ (respirable particles, recommended)
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³ (insoluble or poorly soluble-inhalable fraction) 6 mg/m ³ (insoluble or poorly soluble-respirable fraction)
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (insoluble or poorly soluble-inhalable fraction) 3 mg/m ³ (insoluble or poorly soluble-respirable fraction)
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³ (insoluble or poorly soluble-inhalable fraction) 6 mg/m ³ (insoluble or poorly soluble-respirable fraction)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (insoluble or poorly soluble-inhalable fraction) 3 mg/m ³ (insoluble or poorly soluble-respirable fraction)
Ontario	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable) 3 mg/m ³ (respirable)
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³ (inhalable particles, recommended) 3 mg/m ³ (respirable particles, recommended)
Québec	VEMP (mg/m ³)	10 mg/m ³ (including dust, inert or nuisance particulates-total dust)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³ (insoluble or poorly soluble-inhalable fraction) 6 mg/m ³ (insoluble or poorly soluble-respirable fraction)
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³ (insoluble or poorly soluble-inhalable fraction)

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3 mg/m³ (insoluble or poorly soluble-respirable fraction)

8.2. Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Face shield.



Materials for Protective Clothing: Chemically resistant materials and fabrics. Corrosion-proof clothing.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles and face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Grey and off-white powder
Odor	: Not available
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: Not available
Relative Density	: Not available
Specific Gravity	: Not available
Solubility	: Water: Insoluble
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Calcium oxide reacts with water to form corrosive calcium hydroxide, with evolution of much heat. Temperatures as high as 800° C (1472 °F) have been reached with addition of water (moisture in air or soil). May react exothermically with water releasing heat. Adding an acid to a base or base to an acid may cause a violent reaction.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials.

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10.5. Incompatible Materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt.

Portland cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

10.6. Hazardous Decomposition Products: Crystalline silica (quartz) will dissolve in hydrofluoric acid and produce a corrosive gas — silicon tetrafluoride. Thermal decomposition generates: Corrosive vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: May cause an allergic skin reaction.

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer (Inhalation).

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes. May be corrosive to the respiratory tract.

Symptoms/Injuries After Skin Contact: Concrete may cause dry skin, discomfort, irritation, severe burns, and dermatitis. Exposure of sufficient duration to wet concrete can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. A skin exposure may be hazardous even if there is no pain or discomfort. Unhardened concrete is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of concrete including alkalinity and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in concrete. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with wet concrete. Others may develop allergic dermatitis after years of repeated contact with wet concrete.

Symptoms/Injuries After Eye Contact: Causes permanent damage to the cornea, iris, or conjunctiva.

Symptoms/Injuries After Ingestion: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Chronic Symptoms: Contains Crystalline Silica (quartz): As quartz is bound in a polymer matrix, it is not expected to be available as an airborne hazard under normal condition of use. If dust is released into the air, repeated exposure to respirable (airborne) crystalline silica dust may cause respiratory irritation, lung damage in the form of silicosis, and cancer. May cause cancer (Inhalation). Causes damage to organs (lungs) through prolonged or repeated exposure (Inhalation).

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg
Perlite (93763-70-3)	
LD50 Oral Rat	12960 mg/kg (Mouse)
Magnesium oxide (MgO) (1309-48-4)	

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LD50 Oral Rat	3870 mg/kg
Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
Kaolin (1332-58-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 5000 mg/kg
Quartz (14808-60-7)	
IARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
Chromium, ion (Cr6+) (18540-29-9)	
IARC Group	1
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
OSHA Specifically Regulated Carcinogen List	In OSHA Specifically Regulated Carcinogen list.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Calcium oxide (1305-78-8)	
LC50 Fish 1	50.6 mg/l
Chromium, ion (Cr6+) (18540-29-9)	
LC50 Fish 1	36.2 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
LC50 Fish 2	7.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)

12.2. Persistence and Degradability

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Persistence and Degradability May cause long-term adverse effects in the environment.

12.3. Bioaccumulative Potential

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Bioaccumulative Potential Not established.

Calcium oxide (1305-78-8)	
BCF Fish 1	(no bioaccumulation)

12.4. Mobility in Soil

Not available

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

Ecology - Waste Materials: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

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SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

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SARA Section 311/312 Hazard Classes	Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Carcinogenicity Health hazard - Respiratory or skin sensitization Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation
Cement, portland, chemicals (65997-15-1)	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Calcium oxide (1305-78-8)	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Silicic acid (H4SiO4), calcium salt (1:2) (10034-77-2)	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Limestone (1317-65-3)	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Magnesium oxide (MgO) (1309-48-4)	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Quartz (14808-60-7)	Listed on the United States TSCA (Toxic Substances Control Act) inventory
Kaolin (1332-58-7)	Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

California Proposition 65

 **WARNING:** This product can expose you to Chromium, ion (Cr6+), which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Quartz (14808-60-7)	X			
Chromium, ion (Cr6+) (18540-29-9)	X	X		
Cement, portland, chemicals (65997-15-1)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				
Calcium oxide (1305-78-8)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				
Perlite (93763-70-3)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				
Calcium sulfate dihydrate (13397-24-5)				
U.S. - New Jersey - Right to Know Hazardous Substance List				
U.S. - Pennsylvania - RTK (Right to Know) List				
Limestone (1317-65-3)				
U.S. - Massachusetts - Right To Know List				
U.S. - New Jersey - Right to Know Hazardous Substance List				

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U.S. - Pennsylvania - RTK (Right to Know) List

Magnesium oxide (MgO) (1309-48-4)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Quartz (14808-60-7)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Chromium, ion (Cr6+) (18540-29-9)

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

Kaolin (1332-58-7)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Cement, portland, chemicals (65997-15-1)

Listed on the Canadian DSL (Domestic Substances List)

Calcium oxide (1305-78-8)

Listed on the Canadian DSL (Domestic Substances List)

Perlite (93763-70-3)

Listed on the Canadian DSL (Domestic Substances List)

Calcium sulfate dihydrate (13397-24-5)

Listed on the Canadian DSL (Domestic Substances List)

Silicic acid (H4SiO4), calcium salt (1:2) (10034-77-2)

Listed on the Canadian DSL (Domestic Substances List)

Limestone (1317-65-3)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Magnesium oxide (MgO) (1309-48-4)

Listed on the Canadian DSL (Domestic Substances List)

Quartz (14808-60-7)

Listed on the Canadian DSL (Domestic Substances List)

Kaolin (1332-58-7)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Date of Preparation or Latest : 07/02/2019

Revision

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B

TRI-LITE™

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Corr. 1C	Skin corrosion/irritation Category 1C
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

NA GHS SDS 2015 (Can, US)



SAFETY DATA SHEET

1. Identification

Product identifier	Permacolor Select
Other means of identification	Not available.
Recommended use	Grout.
Recommended restrictions	Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards.

Manufacturer/ Importer/ Supplier/ Distributor information Company

Name	LATICRETE MIDDLE EAST LLC
Address	P.O. Box. 86028, Ras Al Khaimah, United Arab Emirates
Telephone	+971 7 244 6396
Contact person	Mohmed Rafiq. M
Website	www.laticrete.com www.laticrete.me

Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

2. Hazard(s) identification

Physical hazards	Not classified.	
Health Hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1
	Carcinogenicity	Category 1A
	Reproductive toxicity	Category 1B
	Specific Target Organ Toxicity, Repeated Exposure	Category 2 (Lung)
OSHA defined hazards	Not classified.	
Label elements		
Signal word	Danger	
Hazard statement	Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer. May damage fertility or the unborn child. May cause damage to organs (Lung) through prolonged or repeated exposure.	
Precautionary statement		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.	
Response	If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.	
Storage	Store locked up.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Silica Sand	14808-60-7	55 - 65
Calcium aluminate cement	65997-16-2	22 - 25
Calcium sulfate	7778-18-9	5 - 7
Portland Cement	65997-15-1	1 - 4
Calcium sulfate hemihydrate	26499-65-0	1 - 2
Lithium Carbonate	554-13-2	0.1 - 0.3

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Rash. Coughing. Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep upwind. Avoid formation of dust. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Sweep or shovel up material and place in a clearly labeled container for waste. Collect dust using a vacuum cleaner. Following product recovery, flush area with water.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Wear appropriate personal protective equipment. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Calcium sulfate (CAS 7778-18-9)	PEL	5 mg/m ³	Respirable fraction.
Calcium sulfate hemihydrate (CAS 26499-65-0)	PEL	15 mg/m ³ 5 mg/m ³	Total dust. Respirable fraction.
Portland Cement (CAS 65997-15-1)	PEL	15 mg/m ³ 5 mg/m ³	Total dust. Respirable fraction.
		15 mg/m ³	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Portland Cement (CAS 65997-15-1)	TWA	50 mppcf	
Silica Sand (CAS 14808-60-7)	TWA	0.3 mg/m ³	Total dust.
		0.1 mg/m ³	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Calcium sulfate (CAS 7778-18-9)	TWA	10 mg/m ³	Inhalable fraction.
Portland Cement (CAS 65997-15-1)	TWA	1 mg/m ³	Respirable fraction.
Silica Sand (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Calcium sulfate (CAS 7778-18-9)	TWA	5 mg/m ³	Respirable.
Calcium sulfate hemihydrate (CAS 26499-65-0)	TWA	10 mg/m ³ 5 mg/m ³	Total Respirable.
Portland Cement (CAS 65997-15-1)	TWA	10 mg/m ³ 5 mg/m ³	Total Respirable.
Silica Sand (CAS 14808-60-7)	TWA	10 mg/m ³ 0.05 mg/m ³	Total Respirable dust.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Occupational exposure to nuisance dust (total and respirable) and respirable crystalline silica should be monitored and controlled.

Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear chemical-resistant, impervious gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	Wear a dust mask if dust is generated above exposure limits.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Color	Colored.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.

Flash point Not flammable or combustible.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure Not available.

Vapor density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Insoluble in water.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.
Skin contact	Causes skin irritation. May cause an allergic skin reaction. Prolonged contact with wet cement/mixture may cause burns.
Eye contact	Causes serious eye damage. Prolonged contact with wet cement/mixture may cause burns.
Ingestion	Swallowing may cause gastrointestinal irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Rash. Coughing. Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Acute toxicity	May cause respiratory irritation.
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Components	Species	Test Results
Calcium sulfate (CAS 7778-18-9)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 3.26 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse	4704 mg/kg
	Rat	> 1581 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Respiratory or skin sensitization		
Respiratory sensitization	No data available.	
Skin sensitization	May cause an allergic skin reaction.	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	May cause cancer. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.) In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003)	

IARC Monographs. Overall Evaluation of Carcinogenicity

Silica Sand (CAS 14808-60-7) 1 Carcinogenic to humans.

NTP Report on Carcinogens

Silica Sand (CAS 14808-60-7) Known To Be Human Carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure May cause damage to organs (Lung) through prolonged or repeated exposure.

Aspiration hazard Due to the physical form of the product it is not an aspiration hazard.

Chronic effects Prolonged or repeated exposure may cause lung injury, including silicosis.

12. Ecological information

Ecotoxicity Not expected to be harmful to aquatic organisms.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available for this product.

Mobility in soil The product is not mobile in soil.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations. Do not contaminate ponds, waterways or ditches with chemical or used container.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

- Immediate Hazard - Yes
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

WARNING: This product contains chemical(s) known to the State of California to cause birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Calcium sulfate (CAS 7778-18-9)
 Calcium sulfate hemihydrate (CAS 26499-65-0)
 Lithium Carbonate (CAS 554-13-2)
 Portland Cement (CAS 65997-15-1)
 Silica Sand (CAS 14808-60-7)

US. New Jersey Worker and Community Right-to-Know Act

Calcium sulfate (CAS 7778-18-9)
 Calcium sulfate hemihydrate (CAS 26499-65-0)
 Lithium Carbonate (CAS 554-13-2)
 Portland Cement (CAS 65997-15-1)
 Silica Sand (CAS 14808-60-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Calcium sulfate (CAS 7778-18-9)
 Calcium sulfate hemihydrate (CAS 26499-65-0)
 Portland Cement (CAS 65997-15-1)
 Silica Sand (CAS 14808-60-7)

US. Rhode Island RTK

Lithium Carbonate (CAS 554-13-2)

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Lithium Carbonate (CAS 554-13-2)
 Silica Sand (CAS 14808-60-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 16-October-2014

Revision date -

Version # 01

NFPA ratings**References**

HSDB® - Hazardous Substances Data Bank
Registry of Toxic Effects of Chemical Substances (RTECS)

Disclaimer

The information in this (M)SDS was obtained from sources which we believe are reliable but cannot guarantee. Additionally, your use of this information is beyond our control and may be beyond our knowledge. Therefore, the information is provided without any representation or warranty express or implied.



SAFETY DATA SHEET

1. Identification

Product identifier LATICRETE Permacolor Select Color Kit

Other means of identification None.

Recommended use Grout.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Name, Address, and Telephone of the Responsible Party

Company

LATICRETE International
1 Laticrete Park, N
Bethany, CT 06524
T (203)-393-0010
www.laticrete.com

Company

LATICRETE Middle East LLC
P.O. Box. 86028, RAK, UAE.
Tel.: + 971 7 244 6396
www.laticrete.me

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Carcinogenicity Category 2

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Suspected of causing cancer.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

Response If exposed or concerned: Get medical advice/attention.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Calcium-silica-aluminium	65997-17-3	0 - 90
Iron oxide	1309-37-1	0 - 60
Titanium dioxide	13463-67-7	0 - 50
Chromium oxide	1308-38-9	0 - 40
Carbon black	1333-86-4	0 - 15

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort occurs.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Coughing. Dust may irritate the eyes and the respiratory system.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. IF exposed or concerned: Get medical advice/attention.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. Wear appropriate personal protective equipment. For personal protection, see Section 8 of the SDS.
Methods and materials for containment and cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not vacuum clean unless vacuum cleaners are equipped with HEPA filter. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Provide appropriate exhaust ventilation at places where dust is formed. Keep formation of airborne dusts to a minimum. Do not breathe dust. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	PEL	3.5 mg/m ³	
Chromium oxide (CAS 1308-38-9)	PEL	0.5 mg/m ³	
Iron oxide (CAS 1309-37-1)	PEL	10 mg/m ³	Fume.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Titanium dioxide (CAS 13463-67-7)	PEL	15 mg/m ³	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m ³	Inhalable fraction.
Chromium oxide (CAS 1308-38-9)	TWA	0.5 mg/m ³	
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m ³	Respirable fraction.
Titanium dioxide (CAS 13463-67-7)	TWA	10 mg/m ³	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Calcium-silica-aluminium (CAS 65997-17-3)	TWA	3 fibers/cm ³	Dust.
		3 fibers/cm ³	Fiber.
		5 mg/m ³	Fiber, total
		5 mg/m ³	fibers, total dust
Carbon black (CAS 1333-86-4)	TWA	3.5 mg/m ³	
Chromium oxide (CAS 1308-38-9)	TWA	0.5 mg/m ³	
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m ³	Dust and fume.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Use personal protective equipment as required.

Other Use personal protective equipment as required.

Respiratory protection

In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements.

9. Physical and chemical properties

Appearance Solid, various colors.

Physical state Solid.

Form Powder.

Color Various colors.

Odor None.

Odor threshold Not applicable.

pH Not applicable.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not applicable.

Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Non flammable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable.
Flammability limit - upper (%)	Not applicable.
Explosive limit - lower (%)	Not applicable.
Explosive limit - upper (%)	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Moderate soluble in water.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	Not applicable.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	None under normal conditions.
Incompatible materials	None known.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system.
Skin contact	May cause irritation through mechanical abrasion.
Eye contact	Dust may irritate the eyes.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity	May cause discomfort if swallowed.
Skin corrosion/irritation	May cause irritation through mechanical abrasion.
Serious eye damage/eye irritation	Dust may irritate the eyes.

Respiratory or skin sensitization

Respiratory sensitization	Not classified.
Skin sensitization	Not a skin sensitizer.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Carbon black (CAS 1333-86-4)

2B Possibly carcinogenic to humans.

Chromium oxide (CAS 1308-38-9) 3 Not classifiable as to carcinogenicity to humans.
Iron oxide (CAS 1309-37-1) 3 Not classifiable as to carcinogenicity to humans.
Titanium dioxide (CAS 13463-67-7) 2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Due to the physical form of the product it is not an aspiration hazard.
Chronic effects	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

12. Ecological information

Ecotoxicity	Not expected to be harmful to aquatic organisms.
Persistence and degradability	The product contains inorganic compounds which are not biodegradable.
Bioaccumulative potential	The product is not expected to bioaccumulate.
Mobility in soil	The product is immiscible with water and will sediment in water systems.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Chromium oxide (CAS 1308-38-9)

LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

- Immediate Hazard - No
- Delayed Hazard - Yes
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Chromium oxide	1308-38-9	0 - 40

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Chromium oxide (CAS 1308-38-9)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations**US. Massachusetts RTK - Substance List**

- Carbon black (CAS 1333-86-4)
- Chromium oxide (CAS 1308-38-9)
- Iron oxide (CAS 1309-37-1)
- Titanium dioxide (CAS 13463-67-7)

US. New Jersey Worker and Community Right-to-Know Act

- Calcium-silica-aluminium (CAS 65997-17-3)
- Carbon black (CAS 1333-86-4)
- Chromium oxide (CAS 1308-38-9)
- Iron oxide (CAS 1309-37-1)
- Titanium dioxide (CAS 13463-67-7)

US. Pennsylvania Worker and Community Right-to-Know Law

- Carbon black (CAS 1333-86-4)
- Chromium oxide (CAS 1308-38-9)
- Iron oxide (CAS 1309-37-1)
- Titanium dioxide (CAS 13463-67-7)

US. Rhode Island RTK

Chromium oxide (CAS 1308-38-9)

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

- Carbon black (CAS 1333-86-4)
- Titanium dioxide (CAS 13463-67-7)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 14-November-2014

Revision date -

Version # 01

NFPA ratings



References HSDB® - Hazardous Substances Data Bank
Registry of Toxic Effects of Chemical Substances (RTECS)

Disclaimer The information in this (M)SDS was obtained from sources which we believe are reliable but cannot guarantee. Additionally, your use of this information is beyond our control and may be beyond our knowledge. Therefore, the information is provided without any representation or warranty express or implied.



C4: Portland Cement Based Concrete Products

**SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)**

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
5 Concourse Parkway, Suite 1900
Atlanta, GA 30083

Emergency Telephone Number
INFOTRAC (800) 535-5053
Information Telephone Number
(800) 282-5828

Revision: Feb-23
SDS C4

QUIKRETE® Product Name	Item #(s)
MORTAR MIX	1102
VIEUX CARRE MORTAR MIX	1102-86
ALL-STAR MORTAR MIX	1122
MASON MIX	1136
ALL-STAR MASON MIX	1136
QUIKRETE® PRO-FINISH BLENDED MASON MIX	1136-58
ALL-STAR VENEER STONE MORTAR	1137
ROOF TILE MORTAR	1140
LIGHTWEIGHT ROOF TILE MORTAR	1140
VENEER STONE MORTAR	1137
POLYMER MODIFIED VENEER STONE MORTAR	1137-85
CSC-4	1191-84
TUCKPOINTING MORTAR – ZIP AND MIX	1251-15
GLASS BLOCK MORTAR	1610
K-1 Mortar	210280
HANDICRETE MORTAR MIX	
NATURAL STONE MORTAR	
RED-E-CRETE MORTAR	
BULK MASONRY MORTARS: MIX 101M, 102 S, 104 N, 112 M, 112 N, 112 S, 122 M, 122 N, 122 S, 132 S, 142, 201 M, 202 PLN, 202 S, 203 PLS, 203 S, 203 N, 204 N, 205 P/L type O, 203 M, 212 M, 212 N, 212 S, 222 M, 222 S, 253 S, 294 N	

Product Use: Masonry Mortars for construction with block, brick, veneer stones, etc.

See most current revision of this document at www.QUIKRETE.com.

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica, Portland cement
SDS C4 OUIKRETE Companies, LLC

2.1 Classification of the substance or mixture

Carcinogen – Category 1A

Skin Corrosion – Category 1B

Skin Sensitization – Category 1B

Specific Target Organ Toxicity Repeat Exposure – Category 1

Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!**2.2b Hazard Statements**

May cause cancer through chronic inhalation

Causes severe skin burns and serious eye damage

May cause an allergic skin reaction

Causes damage to lungs through prolonged or repeated inhalation

May cause respiratory irritation

2.2c Pictograms**2.2d Precautionary statements**

Do not handle until all safety precautions have been read and understood.

Wear impervious gloves, such as nitrile. Wear eye protection, protective clothing and rubber boots.

Do not eat, drink or smoke when using this product.

Wash thoroughly after handling.

Use only in a well-ventilated area.

Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.

If significant skin irritation or rash occurs: get medical advice or attention.

Immediately seek medical advice if symptoms are significant or persist.

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Store in a well-ventilated place. Keep container tightly closed.
Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information

The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

2.3a HNOC – Hazards not otherwise classified: Not applicable

2.3b Unknown Acute Toxicity: None

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	% by Weight
Sand, Silica, Quartz	14808-60-7	40-70*
Portland Cement	65997 15 1	10-30*
Lime	01305-62-0	5-10*

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Alternately to Lime, May Contain:

Calcium Carbonate	1317-65-3	5-10*
Calcium Sulfate Dihydrate	7778-18-9	1-5*

*The concentrations ranges are provided due to batch-to-batch variability.
None of the constituents of this material are of unknown toxicity.

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures**General information:**

After inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place patient stably in side position for transportation.

After skin contact: Wash skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs: get medical advice or attention.

After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: The Portland cement in this product can cause serious, potentially irreversible damage to skin, eye, respiratory and digestive tracts due to chemical (caustic) burns, including third degree burns. Burns from Portland cement may not cause immediate pain or discomfort. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization. Therefore precautions must be taken to prevent all contact with Portland cement. Cement burns can become worse even after contact has ended. If there is contact with this product, immediately remove all product from body and thoroughly rinse with water. If you experience or suspect a cement burn or inflammation you should immediately see a health care professional.

Skin burns and irritation may be caused by brief exposure, though often are caused by extended exposure of 15 minutes, an hour, or longer. Interaction of Portland cement with water or sweat releases a caustic solution which produces the burns or irritation. Any extended exposure should be treated as though a burn has occurred until determined otherwise.

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Skin contact with Portland cement can also cause inflammation of the skin, referred to as dermatitis. Signs and symptoms of dermatitis can include itching, redness, swelling, blisters, scaling, and other changes in the normal condition of the skin. Signs and symptoms of burns include the above and whitening, yellowing, blackening, peeling or cracking of skin.

The Portland cement in this product may cause allergic contact dermatitis in sensitized individuals. This overreaction of the immune system can lead to severe inflammation. Sensitization may result from a single exposure to the low levels of Cr (VI) in Portland cement or repeated exposures over months or years. Sensitization is long lasting and, after sensitization, even very small quantities can trigger the dermatitis. Sensitization is uncommon. Individuals who experience skin problems, including seemingly minor ones, are advised to seek medical attention.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:

Immediately seek medical advice if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible

5.2 Suitable extinguishing agents: Treat for surrounding material

5.3 Special hazards arising from the substance or mixture: None

5.3a Products of Combustion: None

5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks

SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:

Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE



7.1 Handling

Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8). Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. Do not allow water to contact the product until time of use to preserve product utility.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M ³	TLV (ACGIH) mg/M ³
Silica Sand, crystalline	14808-60-7	0.05	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Lime	01305-62-0	5	5
Pulverized Limestone	01317-65-3	5 (resp) 15 (total)	10 (resp)

8.2 Exposure Controls

Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.3a Personal protective equipment

Protection of hands and feet:

Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. Wear rubber boots when stepping in concrete. You cannot rely on pain to alert you to cement burns. Portland cement can cause dermatitis or sensitization.

Eye protection:

Wear approved eye protection (properly fitted dust- or splash-proof chemical safety glasses).

**Respiratory protection:**

A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information**Appearance**

Form: Granular Solid

Color: Gray to gray-brown colored

Odor: None

pH-value at 20°C (68 °F): 13 (10%)

Boiling point/Boiling range: Not applicable

Flash point: Not applicable

Auto igniting: Product is not self-igniting

Vapor pressure at 21°C (70°F) Not available

Density at 25°C (77 °F): 2.6 to 3.15

Solubility in / Miscibility with

Water: Insoluble

VOC content: 0 g/L VOC

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal storage conditions. Keep in dry storage.

10.3 Possibility of hazardous reaction

No dangerous reaction known under conditions of normal use.

10.4 Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

10.5 Incompatible materials

Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

10.6 Hazardous Decomposition or By-products

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

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11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure

Short Term

Skin Corrosion/Irritation: Causes severe skin burns.

Serious Eye Damage/Irritation: Causes severe eye damage.

Respiratory Sensitization: Not available

Skin Sensitization: May cause an allergic skin reaction.

Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation.

Aspiration Hazard: Not available

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.

Germ Cell Mutagenicity: Not available

Reproductive Toxicity: Not available

Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure

Synergistic/Antagonistic Effects: Not available.

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity

May cause long-term adverse effects to the aquatic environment. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or un-neutralized



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12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential:

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Other Adverse Effects

No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Method

The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations**Uncleaned packaging**

Recommendation: Disposal must be made in accordance with local, state and federal regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:

Not Available

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code

Not available

14.3 Special precautions for user

Do not handle until all safety precautions have been read and understood.



SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

Canada

WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information

SARA 302/311/312/313 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws

California Prop. 65 Components



WARNING: This product can expose you to chemicals including crystalline silica which is known to the State of California to cause cancer and Portland cement which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a

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substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

SECTION XVI – OTHER INFORMATION

Last Updated: February 10, 2023

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by

The QUIKRETE Companies, LLC

End of SDS

KEYSTONES™

COLORBODY® PORCELAIN MOSAICS

CARD 1 OF 3

FINISHES: MATTE



MOSAIC		USAGE			
				<img alt="Por	

This sample card displays a variety of ceramic tile finishes and colors, organized into three columns. The top row includes a legend for tile sizes and finishes.

FINISHES: POLISHED | MATTE

6 x 6 Wall Tile

4 x 4 Wall Tile

3 x 6 Bevel Wall Tile

3 x 6 Wall Tile

6 x 6 Wall Tile

4 x 4 Wall Tile

3 x 6 Bevel Wall Tile

ARTISAN BROWN 0144 (2)

ELEMENTAL TAN 0166 (2)

URBAN PUTTY 0151 (2)

ALMOND 0135 (1)

BISCUIT K175 (1)

ARCTIC WHITE 0190 (1)

WHITE 0100 (1)

MATTE ARCTIC WHITE 0790 (1)

MATTE

MATTE BLACK K111 (2)

MATTE DESERT GRAY X714 (1)

SUEDE GRAY 0182 (2)

DESERT GRAY X114 (1)

MATTE ALMOND X275 (1)

NATURAL URBAN BUTTERY 0761 (2)

MATTE ELEMENTAL TAN CGG (2)

MATTE ARTISAN BROWN 0144 (2)

ARCHITECTURAL GRAY CI09 (2)

CHALKBOARD 0180 (2)

SUEDE GRAY 0182 (2)

MATTE SUEDE GRAY 0780 (2)

MATTE CHALKBOARD 0790 (2)

MATTE ARCHITECTURAL GRAY 0709 (2)

(1) and (2) indicate price group, (1) being the least expensive.

(1) and (2) indicate price group, (1) being the least expensive.



WALL
CLASSIC
COLOR WHEEL® COLLECTION – GLAZED CERAMIC
CARD 2 OF 2

SIZES:

6x6 Wall Tile 4x4 Wall Tile 3x6 Wall Tile Bevel Wall Tile

FINISHES: **POLISHED | MATTE**



CORNSILK 0160 (3)



MUSTARD 1012 (3)



SUNFLOWER DH5G (3)



ORANGE BURST 1097 (3)



CURRANT SH7 (3)



PLUM CRAZY 178 (3)



SPA 0148 (3)



KEY LIME 109B (3)



COBALT DM14 (3)



WOOD VIOLET 1467 (3)



WATERFALL 0169 (3)



OCEAN BLUE 1049 (3)



NAVY K189 (3)



GALAXY 1469 (3)



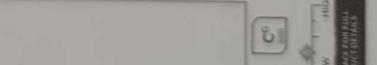
SEA BREEZE 1174 (3)

WALL

USAGE



SPECIAL FEATURES



(3) indicates price group.
all colors available in semi-gloss only.

daltile