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September 15th, 2017

Danielle L. Sitzman, AICP  
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City of Mission  
6090 Woodson St.  
Mission, KS 66202  
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RE: Maryway Mixed Use/Mission Trails Final Preliminary Plan Case #17-08-Staff  
Review Comments

Dear Danielle;

In regards to the cities August 8th and August 9th, 2017 review comments we are resubmitting revised plans, and we offer the following responses:

### **Engineering Review Comments**

#### Floodplain Comments

1. Compensatory volume for any fill within the 100 year floodplain must be provided. Please show fill areas and location for compensatory volume.

*An exhibit has been added to the Drainage Memo showing the fill areas and the locations of compensatory volume.*

2. Provide the maximum 100 year floodplain depth in the parking lot. 7" depth is the maximum allowed.

*The 100 year floodplain limits over parking lot have been shown on Sheet C-203, Proposed Floodplain Plan. The parking lot has been graded such that no parking stall would pond over 7" based on the FEMA floodplain depths.*

3. Show that the 1st floor retail is 2' above the 100 year floodplain.

*The finished floor elevations have been shown, and are 2' or more above the FEMA 100yr floodplain elevations.*

Board of Directors:  
Kenneth M. Blair, P.E.  
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Sabin A. Yañez, P.E.

Associates:  
Aaron J. Gaspers, P.E.  
Michael J. Morrissey, P.E.  
Gene E. Petersen, P.E.  
Todd R. Polk, P.E.  
William J. Stafford, P.E.  
Richard A. Walker, P.E.  
Lucas W. Williams, P.E.

#### Drainage Memo Comments

1. State that the additional impervious area is under 5,000 square feet as required by APWA 5600.

*The Drainage Memo has been updated to address the 3418 sqft of additional impervious area from the proposed development.*

2. Provide an exhibit or multiple exhibits that show the existing and proposed development, existing and proposed drainage boundaries and floodplain lines.

*An exhibit has been added to the drainage memo.*

### Preliminary Development Plans

#### All Sheets/General Comments

1. Delineate building footprint with a darker line type as it's difficult to discern from parking lot.

*The building footprint line type has been revised.*

2. Show and label all columns, elevators and general site features.

*All columns, elevators and general site features have been added to the site plans.*

3. Provide a turning template for service and emergency vehicles as required within the site.

*Fire truck access requirements were coordinated with the Fire Marshal of CFD#2 and that their largest truck is 44' from bumper to bumper and 48' from front bumper to back of basket, with a turning radius of 42' wall-to-wall, outside diameter, which is reflected on the plans.*

#### C100/101

1. State ADA van and regular stalls provided in parking chart.

*The number of regular and van ADA spaces has been added to the parking chart.*

2. Confirm with city that variances requested are acceptable

*Noted.*

3. Show striping or linework to indicate vehicle circulation within parking area. There is a concern with vehicle flow within parking lot.

*Circulation arrows have been added to the site plan.*

4. Match legend to linework for floodplain limits hatch.

*The legend for the floodplain limits has been updated.*

5. Show internal pedestrian path for ADA route.

*The internal pedestrian path for the ADA route has been added to the site plans.*

6. The parking spaces along the east side of the property are directly adjacent to the driveway. Provide an adequate throat length (50' min.) to allow for vehicle queuing and reduce potential conflict when vehicles enter/exit the property via that drive and enter/exit parking spaces.

*The parking layout has been revised to provide a 40' throat length to match the island adjacent to the easterly parking spaces.*

7. In SW quadrant of parking lot, it appears that the two parking spaces (one is oriented N/S, the other E/W) would be in conflict with one another, specifically when the N/S vehicle tries to exit. Please resolve.

*The parking layout has been revised to alleviate this conflict.*

#### C200

1. Confirm retaining walls are not needed. If needed, show and state height of walls.

*No retaining walls are required for this project.*

#### Traffic Study Comments

The following comments are in reference to the Traffic Impact Analysis submitted by Cook, Flatt & Strobel Engineers, P.A., dated July 6, 2017, for the Martway Mixed Use Development Project.

1. Page 4 of report: Confirm posted speed limit along Johnson Drive (30 mph or 25 mph).

*Eastbound Johnson Drive west of Beverly posted at 30 mph. Report revised.*

2. Neither proposed drive provides alignment with the existing street network or existing access points. Recommend alignment of new drives at intersections (Beverly Avenue and Dearborn Street) to limit offset intersections and decrease the introduction of new conflict points along this segment of roadway.

- a. West Drive – Recommend alignment of the proposed west drive with Beverly Avenue. Intersection analysis sheets provided in the report indicate drive is aligned at the intersection, but the site plan illustrates an offset drive.

*The west entrance driveway was shifted east to align with Beverly Avenue.*

- b. East Drive – Based on the submitted site plan, it appears that the east drive cannot be aligned with Dearborn Street due to existing property lines. Recommend alignment of the drive with an existing access along the north side of Martway Street. Current drive alignment presents an offset intersection from Dearborn Street as well as existing access points along the north side of Martway Street. The provided intersection analysis sheets illustrate that analysis was conducted with the drive aligned at the intersection.

*The east drive lane will be constructed close to its current location, offsetting Dearborn Street by approximately 35 ft, as it has been for the past forty or so years. If the eastern entrance is required to be shifted slightly to the west, we would anticipate minimal changes to the traffic or safety characteristics of the intersections. Also, turning radius for emergency vehicles would be impacted and could result in the loss of parking spaces due to inefficiencies in the layout. The Synchro models of the existing and proposed site conditions were revisited to include offset-links for both of the driveways.*

### 3. Trip Generation:

- a. Daily trip generation is not provided.

*The traffic study scope received on May 23, 2017, only called for AM and PM peak hour traffic counts, however, the daily trip generation has been included.*

- b. Trip generation for the retail portion of the site (3,530 sf of retail space) was conducted using a shopping center land use. Based on the size of retail proposed with this development, the specialty retail land use may be more appropriate for this site. Recommend conducting analysis and revising report as necessary.
  - i. Page 8 of the report references a retail square footage of 3,254 sf in the trip generation paragraph and 3,530 sf in the trip generation table. Revise report as necessary for correct building square footage.

*The trip generation calculations and report were revised to the updated 3,491 sqft building area, and changed from Specialty Retail (ITE Code 826) to General Office (ITE Code 710).*

- c. Trip generation calculations were conducted using the average rate. For the majority of the land uses there is an adequate sample size and the  $R^2$  value is greater than 0.75, thus use of the provided trip generation equation should be considered.

*Both trip generation equations and the average rates were examined and higher values used in the traffic models.*

4. Operational Analysis:

- a. Unsignalized intersection analysis was conducted with the proposed drives aligning with Dearborn/Beverly. The site plan indicates that these drives are offset. See comment 2 regarding access location recommendations. However, analysis should be conducted to be consistent with the proposed site plan. Analysis indicates a southbound right-turn movement at the intersection of Martway and Beverly associated with proposed traffic. For analysis considering alignment of the intersections, as illustrated on the provided files in the appendix, there should be no additional trips assigned to the southbound right-turn movement.

*The southbound right-turn movements have been eliminated.*

- b. It appears that analysis was conducted adding the proposed development trips to the existing volumes. The analysis should take into account the removal of trips associated with the existing development (proposed to be removed). I.e: trips entering and exiting the site should match the trip generation conducted (AM: 27 enter/62 exit, PM: 70 enter, 47 exit).

*The small amount of traffic from the existing site has been removed from the traffic volumes.*

5. Parking:

- a. Report states a portion of the provided parking spaces may have 6-8" of overbank water with the 100-year flood, but does not state how many spaces may be impacted. Please address also in Drainage Memo above.

*Both the traffic study and the drainage memo has been updated to address parking lot ponding. The 100 year floodplain limits over parking lot have been shown on Sheet C-203, Proposed Floodplain Plan. The parking lot has been graded such that no parking stall would pond over 7" based on the FEMA floodplain depths.*

- b. Report indicates 210 parking spaces are required but the development only provides 175 spaces. Report indicates an additional 35 spots will be leased off site.

*Parking on the revised site has been reduced to 166 spaces and an additional 44 spaces will need to be leased off of the site. The traffic report has been updated to reflect this change.*

6. Update report to include intersection figures for traffic volumes (existing, proposed trips, and existing plus proposed), trip distribution and level of service. This will allow for a more expedient review and is consistent with industry standard.

*Added schematic traffic volume figures including: Existing Traffic with incoming & outgoing directional percentages, Site-Generated Traffic, and Total Combined Traffic.*

7. Provide a flash drive with all electronic files including Synchro.

## **Planning Review Comments**

### Plat Comments

1. Re-platting of the property will be required prior to the issuance of building permits. Right-of-way must be dedicated to include all of the Rock Creek Trail, public sidewalks, and public infrastructure including stormwater facilities. A final plat may be submitted with the final site plan.

*Noted.*

### Site Comments

2. Please explain the purpose for each of the deviations requested and how they meet the objectives and standards of the planned district regulations (Section 405.070)

*Deviation 1- On site parking requirements reduction- Residential Use and Office Use are highly compatible uses due to the peak demand being offset between day and night use. Large empty parking lots is not the highest and best in a vibrant walkable neighborhood of Mission, so are intent is not to continue this trend. We anticipate that the 14 parking spaces for the business use will easily be handled on site due to this peak day/night offset. An expected operational vacancy for the residential use is 5% which reduces the actual parking demand from 196 to 186 required spaces. This results in a likely scenario of leasing approximately 10 parking spaces off-site.*

*The existing adjacent privately owned parking lots totaling over 200 parking spaces, are highly underutilized during day use and largely vacant for night use. We have reached out to several of the property owners and they are agreeable to leasing their surplus spaces for residential use, if needed.*

*Deviation 2- Rear yard setback reduction- The proposed building and parking footprint have been designed to maximize the potential of the site. The Rock Creek channel that runs along the rear of the entire property provides a natural landscape buffer of over 30' that exceeds the setback requirement. Additionally the City Park provides an additional buffer of approximately 300'.*

*Deviation 3- Maximum building height increase- The Martway Mixed Use project has been designed to accommodate a total unit count that will make the project financially sustainable. As such, the proposed residential unit count, coupled with the site's unique shape have resulted in the proposed design's footprint and overall building height. As illustrated in the composite views, Architectural detailing at the podium level, and the existing tree canopy to the south, and the 300' naturally landscaped City Park will effectively reduce the buildings height. The floodplain has required the building to be built on a podium structure. The fire department access to the rear of the building has dictated the height of the first floor podium elevation. The proposed structure is consistent with the surrounding precedents, the Mission Square building is approximately 56' above grade at its high point and the recently approved Mission Trails project is approximately 63' above grade at its high point. Due to the sloping topography, these projects sit 10' -20' higher than the the Martway site effectively making the proposed structure the lowest of the three*

*developments in elevation.*

*Deviation 4- Minimum lot area per multi-family increase- The Martway Mixed Use project has been designed in response to current marketplace trends for increased density as well as developmental targets to make the project an economically sustainable project. To continue developing a vibrant walk-able neighborhood and support the existing business along Johnson Drive additional density is required.*

*Deviation 5- Parking lot setback reduction- The proposed parking lot is designed to maximize the on-site parking potential to accommodate the residential and commercial parking requirements. The standard 6' dimension is typically related to incompatible uses and we don't want to create an awkward condition between the 2 parking lots (existing and new) at the west property line. Also, the proposed building massing design exceeds the setback requirements to provide more openness between the adjacent property owners to the east and west. As the site design continues to develop, we will look for opportunities to create landscape buffers where feasible and we will submit a proposed solution with final development plan if required. We can also evaluate compact parking dimensions and site optimization as the planning process moves forward in an effort to reduce the overall parking lot width. Please note that the 6' setback at the east property line is compliant. We are seeking this deviation at the west property line only.*

*Deviation 6- Minimum green space buffer reduction- The proposed parking lot is designed to maximize the on-site parking potential to accommodate the residential and commercial parking requirements. See above response for deviation request #5.*

*Deviation 7- Interior parking lot tree requirement- In lieu of a large open surface parking lot or multi-level parking deck, the proposed parking has intentionally been placed under the building's footprint to reduce its visual impact to the surrounding areas. As such, tree growth will not be possible. The Rock Creek channel creates a natural landscape buffer that exceeds the requirement.*

*Deviation 8- Parking lot interior open space requirement- The proposed parking lot is designed to maximize the on-site parking potential to accommodate the residential and commercial parking requirements. The majority of the parking is covered by the building above (so this requirement is more applicable to open suburban surface lots). As the site design continues to develop, we will look for opportunities to create landscape buffers where feasible and we will submit a proposed solution with final development plan if required.*

3. Please provide any additional studies or data regarding the anticipated parking demand for this use. These may be counts or observations made at other similar projects for the number of vehicles per dwelling unit. A deviation for the number of required parking stalls may be considered. Staff would prefer this to deviations in parking lot design especially along the west and east property boundaries.

*Based on past experience with mixed use projects located cities of Olathe, Overland Park and KCMO, it is not recommended to deviate from the 210 space parking requirement. As mentioned in our deviation request #1 response for onsite parking reduction, we anticipate that the 14 parking spaces for the business use will easily be handled on site due to this peak day/night offset. An expected operational vacancy for the residential use is 5% which reduces the actual parking demand from 196 to*

*186 required spaces. This results in a likely scenario of leasing approximately 10 parking spaces off-site. We do not foresee any further reduction in the anticipated parking demand.*

4. The tree species shown for shade trees must comply with the City's approved list of street trees per Section 240.070. Please substitute another compliant species.

*The landscape plan has been updated to show compliant species.*

5. Automatic irrigation of the streetscape trees is required.

*A note has been added to the landscape plan.*

6. Leave sufficient room for the required streetscape elements. A minimum of 15' feet from back of curb to building is suggested. Sidewalks along Martway Street are part of the Rock Creek Trail system and must maintain a 10' wide clear path. See the previous platting comment. A five foot tree planting zone is preferred.

*The plan has been revised to show a 5' planting zone, and a 8' trail with a 10' wide clear path.*

7. Please show the pedestrian crosswalk locations along Martway Street and how they relate to the proposed building. Details of pedestrian circulation/access to the building on the site will need to be shown with final site plan drawings.

*Existing and proposed pedestrian crosswalks have been added to the site plan.*

8. The establishment of a private sign criteria to serve as the adopted sign code for this development is suggested. The criteria must be approved by the Planning Commission as part of the final site plan (Section 430.120). Staff recommends organizing the sign criteria by building area or use and including an analysis of how the proposed criteria is similar to the City Sign Ordinance. Objective criteria for signs such as type, area, height, number, illumination should to be provided in a separate document at that time. Signs are not approved as part of the site plan review process and individual sign permits must be issued before installation.

*Clockwork is handling this comment.*

9. Stories beyond the second story must incorporate a minimum 8' step back from the front facade of lower stories to meet the Johnson Drive Design Guidelines. Please keep this in mind for final site plan review.

*Clockwork is handling this comment.*

10. The primary facades of the parking structure along Martway Street should reflect similar materials and building quality as the main building. The Johnson Drive Design Guidelines require first floor buildings along Martway Street to incorporate glazing into at least 75% of the facade.

*Clockwork is handling this comment.*



11. Vehicles inside the parking structure must be screened so as to be obscured from view from the street. Additional screening treatment may be required.

*The landscape plan has been revised to show screening between the parking structure and Martway.*

12. Please provide additional perspective views of the building from the surrounding neighborhoods to the north and south so the impact to public health, safety, morals, order, convenience, prosperity or general welfare can be evaluated as part of the height deviation review.

*Clockwork is handling this comment.*

13. Indicate which area of the parking field will be designated for resident use or business use.

Business use and resident use spaces have been indicated on the site plans.

14. Surface parking stalls along the Rock Creek Trail must be screening with hardscape and plantings or an equivalent evergreen landscape a minimum of 3' in height.

*The landscape plan has been revised to show screening between the parking structure and Martway.*

15. The Johnson Drive Design Guidelines encourage hard surfaced exterior materials that do not artificially simulate other materials. Please explain how Nichiha fiber cement board panels as proposed accomplish this.

*Clockwork is handling this comment.*

16. Windows along the ground floor along Martway Street should be elevated above the sidewalks by 18-24". Bulkheads should be constructed out of sturdy materials

*Clockwork is handling this comment.*

17. A floodplain development permit will be required per Section 460. Please explain how the proposed design will meet these standards.

*A floodplain permit will be filed based on city standards.*



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**To:** Danielle L. Sitzman, AICP  
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6090 Woodson St.  
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Ph. 913.673.8363  
Email: dsitzman@missionks.org

**Date:** September 15, 2017

**From:** Todd Howard  
Clockwork Architecture & Design  
423 Delaware, #102  
Kansas City, MO 64133

**Project:** Martway Mixed Use

**RE:** Responses to Preliminary Planning Review Comments

Comment # & Response

Plat Comments:

- 1) Re-platting of the property will be required prior to the issuance of building permits. Right-of-way must be dedicated to include all of the Rock Creek Trail, public sidewalks, and public infrastructure including stormwater facilities. A final plat may be submitted with the final site plan.

Acknowledged.

Site Comments:

- 2) Please explain the purpose for each of the deviations requested and how they meet the objectives and standards of the planned district regulations (Section 405.070

Refer to attached responses prepared by CFS Engineers.

- 3) Please provide any additional studies or data regarding the anticipated parking demand for this use. These may be counts or observations made at other similar projects for the number of vehicles per dwelling unit. A deviation for the number of required parking stalls may be considered. Staff would prefer this to deviations in parking lot design especially along the west and east property boundaries.

Refer to attached responses prepared by CFS Engineers.

- 4) The tree species shown for shade trees must comply with the City's approved list of street trees per Section 240.070. Please substitute another compliant species.

Refer to attached responses prepared by CFS Engineers.

- 5) Automatic irrigation of the streetscape trees is required.

Refer to attached responses prepared by CFS Engineers.



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- 6) Leave sufficient room for the required streetscape elements. A minimum of 15' feet from back of curb to building is suggested. Sidewalks along Martway Street are part of the Rock Creek Trail system and must maintain a 10' wide clear path. See the previous platting comment. A five foot tree planting zone is preferred.

Refer to attached responses prepared by CFS Engineers.

- 7) Please show the pedestrian crosswalk locations along Martway Street and how they relate to the proposed building. Details of pedestrian circulation/access to the building on the site will need to be shown with final site plan drawings.

Refer to attached responses prepared by CFS Engineers.

- 8) The establishment of a private sign criteria to serve as the adopted sign code for this development is suggested. The criteria must be approved by the Planning Commission as part of the final site plan (Section 430.120). Staff recommends organizing the sign criteria by building area or use and including an analysis of how the proposed criteria is similar to the City Sign Ordinance. Objective criteria for signs such as type, area, height, number, illumination should to be provided in a separate document at that time. Signs are not approved as part of the site plan review process and individual sign permits must be issued before installation.

Refer to new Signage Details 11"x17" sheet. The signage criteria has been organized by building area and includes objective criteria for sign type, area, height, number and illumination. All building signage shall comply with Mission design guidelines and section 430.120 'Private Sign Criteria'.

- 9) Stories beyond the second story must incorporate a minimum 8' step back from the front facade of lower stories to meet the Johnson Drive Design Guidelines. Please keep this in mind for final site plan review.

Acknowledged. We understand that this guideline relates to the historical buildings along Johnson Drive to respect the scale of the existing single story buildings and provide setback relief from the street to simulate the vernacular of a historical downtown main street. Given that this project is not directly on Johnson Drive and the existing adjacent and surround buildings do not provide an 8' step back from their front façade of the lower stories, the current design aligns with the existing context and fabric on Martway Street. An 8' setback at the second floor and above would result in the loss of 14 units per floor or 56 total units for floors 2-5 parallel to Martway street. A redesign to push the building further back into the site would conflict with alleviating building massing concerns for the residents directly behind the project along 61<sup>st</sup> Street.



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- 10) The primary facades of the parking structure along Martway Street should reflect similar materials and building quality as the main building. The Johnson Drive Design Guidelines require first floor buildings along Martway Street to incorporate glazing into at least 75% of the facade.

The primary façade of the parking structure does reflect similar materials and building quality of the main building. The Nichiha wood wall panel is used as an accent on the main building at the back wall of all balcony insets and between windows. Per the Mission Design Guidelines, lower levels of buildings should be differentiated architecturally from upper levels, which is reflected in the current design.

Regarding glazing and openness area at the first floor, calculations have been provided on the elevations showing the overall area of the first floor façade (6,861 sf) and the area and percentage of glazing and openness (3,762 sf) (55%). Refer to A200.

Please note that glazing area was reduced 170 sf (5%) to provide an 18" bulkhead per planning comment #16.

- 11) Vehicles inside the parking structure must be screened so as to be obscured from view from the street. Additional screening treatment may be required.

Refer to attached responses prepared by CFS Engineers.

- 12) Please provide additional perspective views of the building from the surrounding neighborhoods to the north and south so the impact to public health, safety, morals, order, convenience, prosperity or general welfare can be evaluated as part of the height deviation review.

Three additional photomontage/composite views have been added. Refer to A202.

- 13) Indicate which area of the parking field will be designated for resident use or business use.

Refer to attached responses prepared by CFS Engineers.

- 14) Surface parking stalls along the Rock Creek Trail must be screening with hardscape and plantings or an equivalent evergreen landscape a minimum of 3' in height.

Refer to attached responses prepared by CFS Engineers.



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15) The Johnson Drive Design Guidelines encourage hard surfaced exterior materials that do not artificially simulate other materials. Please explain how Nichiha fiber cement board panels as proposed accomplish this.

Nichiha fiber cement board panels are a hard surface exterior material. Only one of the three panel types that have been specified simulate another material, wood. When compared to wood, the Nichiha fiber cement panel is more durable, requires less maintenance, has better color stability, is resistant to delamination, resists warping, rotting and pests, has a fire rating and is a higher end product when compared to the cost of wood. The Nichiha fiber cement panel carries a 15 year warranty, which cannot be provided with true wood. Please see attached Nichiha vs wood comparison chart.

16) Windows along the ground floor along Martway Street should be elevated above the sidewalks by 18-24". Bulkheads should be constructed out of sturdy materials.

An 18" tall bulkhead has been added to base of the ground floor windows along Martway. Refer to A200.


17) A floodplain development permit will be required per Section 460. Please explain how the proposed design will meet these standards.

Acknowledged. A floodplain permit will be filed based on city standards.

# WOOD CLADDING COMPARISON CHART

See how Nichiha's Wood Series Architectural Wall Panels stack up against the competition...



	NATURAL WOOD	PARKLEX FACADE	 NICHIIHA fiber cement <i>the power of possibilities™</i>	LONGBOARD	RESYSTA
Wood Texture	✓		✓		✓
Color Stability		✓	✓	✓	✓
Exclusive manufacturer of wall cladding			✓	✓	
Integrated Rainscreen		✓	✓	✓	
Easy Installation	✓		✓	✓	✓
Fire Rating		✓	✓	✓	
Resistant to warping rotting and pests		✓	✓	✓	✓
50-year or more limited lifetime warranty			✓	✓	
Resistant to delamination			✓	✓	✓
Budget friendly	✓		✓		✓



## Safety Data Sheet (SDS)

### [1. PRODUCT AND COMPANY IDENTIFICATION]

PRODUCT NAME	Nichiha NichiProducts: NichiBoard, NichiPanel, NichiShake, NichiStaggered, NichiStraight, NichiSoffit, NichiTrim, NichiFrontier
MANUFACTURER	Nichiha USA, Inc.
ADDRESS	3150 Avondale Mill Road, Macon, GA 31216
HEADQUARTERS ADDRESS	6565 East Johns Crossing, Johns Creek, GA 30097
PHONE	866-424-4421
DATE PREPARED	June 2015

### [2. SUMMARY OF HAZARDOUSNESS/HARMFULNESS]

#### GHS classification

##### Health harmfulness

- Skin corrosivity/irritation: Classification 1
- Serious eye damage/eye irritation: Classification 1
- Carcinogenicity: Classification 1A
- Specific target organ toxicity (single exposure): Classification 1 (respiratory system)
- Specific target organ toxicity (repeated exposures): Classification 1 (respiratory system, kidney)

#### GHS label element(s)

##### Symbols



Signal Word: DANGER

##### Hazard Statements

- Serious chemical damage to skin
- Serious eye damage
- Carcinogenicity
- May damage the respiratory system if inhaled.
- May damage the respiratory system or kidneys through long-term or repeated exposures.

##### Safety Measures

- Wash your hands and face thoroughly after handling the product.
- Wear protective gloves, clothes, goggles and mask.
- Do not inhale powder dust.
- Do not eat, drink or smoke while using this product.

##### First-aid Measures

- Inhalation: Move the victim to a place with fresh air and rest patient in the posture comfortable for breathing.
- Skin contact: Immediately take off/remove all contaminated clothes. Wash the skin under running water.
- Eye contact: Rinse the eye with water carefully for a few minutes. Next, if contact lenses are worn, remove them if easy to remove. Continue washing the eye with water. Immediately seek medical advice/attention.
- When ingested: Wash the mouth. Do not induce vomiting.
- When reusing the contaminated clothes: Wash them prior to use.
- Seek medical attention if you were exposed or feel sick.

##### Disposal

- Follow applicable local, state, and federal construction waste management requirements. Prevent potential dust exposure for others.

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**[3. COMPONENT/INFORMATION ON INGREDIENTS]**

Classification of single product or mixture: Mixture

Ingredients: Cement, silicate material, organic fiber, additives

NAME	CAS#	%content
Crystalline silica	14808-60-7	0 ~ 10
Calcium silicate	1344-95-2	30 ~ 60
Cellulose	9004-34-6	5 ~ 10
Mica	12001-26-2	3 ~ 5

- The product does not contain asbestos.
- The product does not contain formaldehydes.

---

**[4. FIRST AID]**

Eye contact: Immediately wash the eye for at least 15 minutes using clean water and then seek attention of a doctor.

Skin contact: Immediately wash the skin thoroughly with soap and water. Seek medical attention as needed if irritation develops or persists.

Inhalation: Immediately move to a place with fresh air away from dust, gargle with water, and seek medical attention as needed.

Ingestion: Wash the inside of the mouth thoroughly with water and seek medical attention. If the victim is groggy or unconscious, do not induce vomiting, but seek medical attention without delay.

When exposed or potentially exposed to silica dust: Seek medical attention/treatment as necessary.

---

**[5. MEASURES TAKEN IN CASE OF FIRE]**

Flammability of the product: Non-combustible when tested under ASTM E136.

Extinguishing method: Cut off the combustion path to the source of fire and extinguish the fire using water and fire-extinguishing medium. Fight the fire from the upwind side and wear respiratory protection gear if necessary.

Fire-extinguishing media: Water, powder, carbonic acid gas, foam

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**[6. MEASURES TAKEN IN CASE OF LEAK]**

The product is normally in a solid sheet-shaped state, so no special measures are needed.

---

**[7. HANDLING AND STORAGE PRECAUTIONS]**

Handling:

- Wear protective gloves (work gloves, etc.) when handling the product.
- Provide local exhaust measures when cutting the material and use cutting equipment with anti-dust function. Also wear proper protective equipment (anti-dust mask, protective goggles, etc.) so as not to inhale powder dust or let it enter the eyes.
- Clean dust with HEPA filter equipped vacuum. Do not dry sweep or use compressed air.
- Do not wet the product.
- Rinse face, hands, mouth, etc., with water after handling the product.

Storage: Store the product away from water.

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**[8. MEASURES FOR PREVENTION OF EXPOSURE]**

See below if powder or dust is generated from cutting or otherwise processing the product.

Japan Society for Occupational Health (2014)

Inhalant crystalline silica	0.03 mg/m <sup>3</sup> (TWA)
Inhalant powder dust	1 mg/m <sup>3</sup> (TWA)
Total powder dust	4 mg/m <sup>3</sup> (TWA)



ACGIH TLV (2006):	
Crystalline silica	0.025 mg/m <sup>3</sup> (TWA)
Inhalant powder dust	3 mg/m <sup>3</sup> (TWA)
Total powder dust	10 mg/m <sup>3</sup> (TWA)

OSHA PEL (2015) (Refer to 29 CFR 1910 Table Z-3 regarding mineral dusts):

Crystalline silica (Quartz) (Action Level)	25 µg/m <sup>3</sup> (TWA)
(Permissible Exposure Limit [PEL])	50 µg/m <sup>3</sup> (TWA)
Calcium Silicate	(Respirable Fraction) 5 mg/m <sup>3</sup> (TWA)
(Total)	15 mg/m <sup>3</sup> (TWA)
Cellulose	(Respirable Fraction) 5 mg/m <sup>3</sup> (TWA)
(Total)	15 mg/m <sup>3</sup> (TWA)
NIOSH REL (2015)	
Mica	(Respirable Fraction) 3 mg/m <sup>3</sup> (TWA)

Facility/Engineering Measures: Cut the product outdoors or in a well-ventilated place using a saw with fiber cement saw blades and dust-collecting function. When handling the product indoors, provide a ventilation system, etc., to keep the concentration of airborne dust to the controlled level or below or cut using fiber cement shears.

Personal Protective Equipment:

Eyes:	Anti-dust goggles compliant with ANSI Z87.1.
Hands:	Protective work gloves, regularly washed.
Respiratory:	Use a properly-fitted N, O, or P 100 respirator when cutting or otherwise abrading product.
Skin:	Select personal protective equipment for the body based on the task being performed. Pants, long-sleeve shirts recommended to prevent skin from dust exposure.

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## [9. PHYSICAL AND CHEMICAL PROPERTIES]

Appearance:	Sheet shaped
Bulk specific gravity:	1.2 ± 0.2
Solubility:	Insoluble in water

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## [10. STABILITY AND REACTIVITY INFORMATION]

Stability/Reactivity:	Stable
Hazardous/harmful reaction potential:	Not applicable
Hazardous/harmful decomposition products:	Not applicable

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## [11. INFORMATION ON TOXICOLOGY/HARMFULNESS]

Acute toxicity: No data is available.

Skin corrosivity/irritation and serious damage/irritation to eye:

- If product comes into contact with water, it may exhibit strong alkalinity (pH12 to 13) and cause irritation to the eye, nose and skin as well as inflammation to the cornea, tissues inside the nose, and skin.

Respiratory organ sensitization or skin sensitization:

- The cement contains a trace amount of chromium compound and may cause allergic reaction in people sensitive to hexavalent chromium.

Carcinogenicity: No data is available.

- The product is classified under carcinogenicity classification 1A because it contains crystalline silica.

Reproductive cell mutagenicity: No data is available.

Reproductive toxicity: No data is available.

Specific target toxicity (single exposure): No data is available.

- The product is classified as specific target toxicity (single exposure) classification 1 (respiratory system) because it contains crystalline silica that is classified as having specific target toxicity (single exposure).

Specific target toxicity (repeated exposures): The product may cause pneumoconiosis if inhaled in large quantities over a long period of time.

- The product is classified as specific target toxicity (repeated exposures) classification 1 (respiratory system) because it contains crystalline silica that is classified as having specific target toxicity (repeated exposures).

**[12. INFORMATION ON ENVIRONMENTAL IMPACT]**

Environmental impact/bio-toxicity

- Exercise caution to prevent negative environmental impact, water may exhibit strong alkalinity (pH12 to 13) with prolonged exposure.

**[13. PRECAUTIONS ON DISPOSAL]**

Follow all local, state, and federal regulations with respect to construction waste material disposal. When cleaning up dust, never dry sweep. Wet the dust prior to sweeping or use a HEPA vacuum. Take measures to prevent potential dust exposure to others.

**[14. PRECAUTIONS ON TRANSPORT]**

Information on codes and classifications under international regulations: Not applicable

Specific safety measures and conditions for transport:

- Prevent collapse of cargo, etc., without fail.
- Pay attention to prevent wetting.

**[15. REGULATORY INFORMATION]**

United States inventory (TSCA) listed items: Quartz – Crystalline Silica (14808-60-7), Calcium Silicate (1344-95-2).

SARA 302/303: No Extremely Hazardous Substances.

SARA 311/312:	Acute	Chronic	Fire	Pressure	Reactive
Crystalline Silica (Quartz)	yes	yes	no	no	no

**[16. OTHER INFORMATION]**

Cited Literatures

- JIS Z 7253: 2012 (Japan)
- Health, Labour and Welfare Ministry's Workplace Safety Site, Information on GHS-compliant Model Labeling/Model SDS (Japan)

This data sheet has been prepared based on documents, information and data currently available, but the contents, physical/chemical properties, hazardousness information and other values are not guaranteed. Also note that the cautionary instructions assume normal handling, and if the product will be handled in any special manner, implement safety measures appropriate for the specific application/method of use.