VICOSTONE

HEALTH GUIDELINE *for* VICOSTONE® SURFACES

January - 2025

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Preface

With over 20 years of development in the artificial quartz-based manufacturing industry, we understand that a safe and healthy working environment is a fundamental right for workers, which employers must ensure and give top priority.

As part of our commitment to safeguarding workers' rights, VICOSTONE., JSC has developed this Health Guideline for VICOSTONE® SURFACES. The purpose of this Health Guideline is to provide instructions and convey information to workers, enabling them to manage and control the impact of Crystalline Silica dust on health. The information in this document is communicated in the most user-friendly format and aims to promote and improve safety and health in the stone processing, and fabrication industry.

Introduction to Crystalline Silica

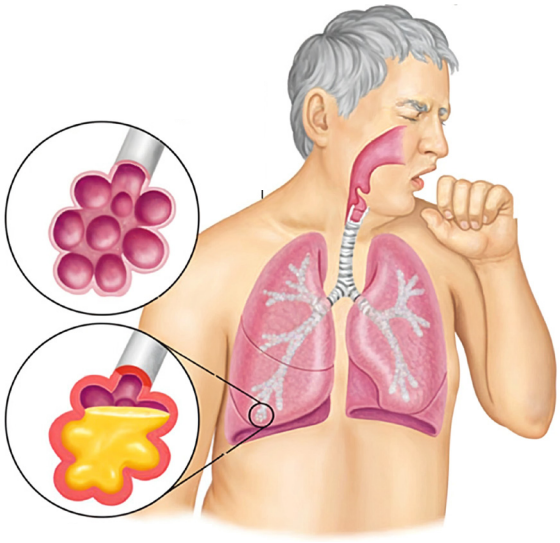
- Silica is a chemical compound, an oxide of silicon and chemical formula for it is SiO_2. Silica exists in two structural forms: crystalline and amorphous. In nature, silica is predominantly found in its crystalline form.
- Crystalline Silica is commonly present in nature such as quartz minerals and can be found in sand, granite, sandstone, quartzite, and various other types of stones.
- Silica is often used to produce daily-use products such as glass, ceramics, countertops; and construction materials such as bricks, tiles, slabs, cement, ceramics, concrete, etc.

Health hazards of Crystalline Silica

VICOSTONE® SURFACES are safe during transportation, storage, and use after installation (provided that the product is not damaged: broken, cracked, or otherwise). The finished products are odorless, stable, non-flammable and pose no immediate hazard to health. However, activities such as drilling, cutting, grinding, etc. during the processing, fabrication, and installation of the products generate (Product Series B) or may generate (Product Series 2) dust containing Crystalline Silica, which has the potential to cause adverse health effects.

Note: The specific details about Product Series B and Product Series 2 are presented in Section 1 and 3 of the SAFETY DATA SHEET VICOSTONE® SURFACES.

OSHA and NIOSH have issued a "Hazard Alert" which focuses on the countertop industry and provides important information about the hazards of Crystalline Silica exposure and how to mitigate those hazards. It is available at https://www.osha.gov/sites/default/files/publications/OSHA3768.pdf.



Respirable Crystalline Silica dust may cause silicosis if inhaled over an extended period

Silicosis is a lung disease in which lung tissue surrounding trapped silica particles reacts, causing inflammation, scarring, and reduced oxygen absorption capacity. Workers who inhale respirable Crystalline Silica dust daily are at higher risk of developing silicosis. Exposure to respirable Crystalline Silica dust can also be associated with other diseases, such as lung cancer, tuberculosis, kidney diseases, chronic obstructive pulmonary disease (COPD), and activation of latent TB infections.

Respirable Crystalline Silica dust may exacerbate underlying diseases

There is a risk of exacerbation for individuals with underlying respiratory diseases when exposed to respirable Crystalline Silica dust during the processing and fabrication of the products.

Crystalline Silica dust may cause eye irritation upon contact

Crystalline Silica dust generated during the processing and fabrication of the products may cause eye irritation such as burning, redness, and tearing.

Emergency first aid

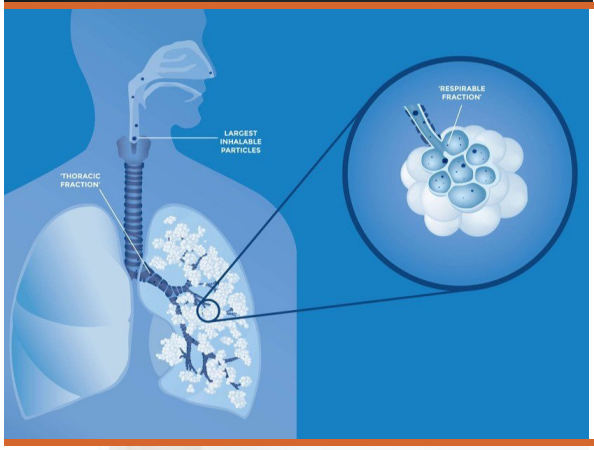
The finished VICOSTONE® SURFACES are odorless, stable, non-flammable and pose no immediate hazard to health. However, dust is generated or may be generated during the processing, fabrication, and installation of the product, which includes tasks such as drilling, cutting, grinding, etc. The following measures will be applied when exposed to dust:

Eye Exposure

If Crystalline Silica dust gets into your eyes, do not rub your eyes. Instead, immediately rinse the eye under a continuous stream of clean water at room temperature for at least 15 minutes. If you experience irritation after rinsing, seek medical attention promptly for diagnosis and treatment.

Skin Exposure

If Crystalline Silica dust adheres to your skin or clothing, clean the affected skin area thoroughly with clean water and soap, and remove any exposed or contaminated clothing, being careful not to contaminate the eyes. Seek medical attention promptly for diagnosis and treatment.



Inhalation

In case of inhaling respirable Crystalline Silica dust and having symptoms of poisoning such as dizziness, vertigo, or headaches, etc., it is crucial to move the affected person away from the hazardous area. If breathing becomes difficult or stops, perform emergency measures such as artificial respiration or immediately notify medical personnel for on-site first aid. Subsequently, take the affected person to the nearest healthcare facility for diagnosis and treatment.

Ingestion

If Crystalline Silica dust is ingested and experience symptoms of poisoning such as nausea, dizziness, headaches, or abdominal pain, etc., seek medical attention promptly at the nearest healthcare facility for diagnosis and treatment.

HOW TO MINIMIZE OR CONTROL CRYSTALLINE SILICA DUST

VICOSTONE., JSC provides the following measures to minimize and control exposure to Crystalline Silica dust in the workplace.

General rules

Certain states have OSHA approved programs with more stringent standards. California is an example of one of those states, and should perhaps be cited in the SDS. This information is general, and each employer has its own responsibility to make decisions about employee protection measures, such as personal protective equipment, based on its particular workplace and activities, and should consult with an industrial hygienist or other qualified professional as necessary.

Comply with local laws regarding the distribution and use of personal protective equipment.

Warning in work areas where workers are exposed to Crystalline Silica dust

- Post warning signs to identify areas where workers are exposed to Crystalline Silica dust. These signs should alert workers to the health hazards and protective measures against the harmful effects of silica dust, ensuring compliance with local regulations. Additionally, put warning labels on the products in the work area.

- All operations, jobs, and stages that generate silica dust must be identified and disseminated to workers.

- Equip and maintain devices that minimize the generation of silica dust such as: Dust extraction and processing systems, wet cutting machines, wet grinding machines, combined cutting dust extraction machines, etc.

CRYSTALLINE SILICA WORK AREA

Respirator required

Equipped with personal protective equipment

SELECTING PERSONAL PROTECTIVE EQUIPMENT

For individuals exposed to Crystalline Silica dust, they must be equipped with and use appropriate personal protective equipment according to the manufacturer's instructions as follows:

- **Respiratory protection:** Use respirators to protect workers from inhaling dust. When choosing, wearing, and using respirators, be careful and use them according to the manufacturer's instructions. The minimum quality requirement for respirators is the type of respirator that is suitable for the processing, fabrication, and installation environment and approved by NIOSH or equivalent protection that complies with OSHA's Respiratory Protection Standard (29 C.F.R. § 1910.134).

- **Eye/face protection:** During the processing, fabrication, and installation of the product or other activities that may generate dust, eye protection glasses must be used with quality requirements according to OSHA's Eye and Face Protection Standard (29 C.F.R. § 1910.133), ANSI/ISEA Z87.1-2010 standard. Additionally, it is advised to avoid wearing contact lenses in work areas, as they may absorb irritants.

- **Skin protection:** During processing, fabrication, and installation activities, use appropriate body protection equipment for the job, including: long-sleeved protective clothing, protective gloves (with the minimum standard meeting the requirement of EN388:2003 standard when handling sharp or rough edges), and steel-toed shoes for lifting products.

- **Hygiene measures:** Wash hands and face after finishing work and before smoking. Wash contaminated clothing before reuse.

General rules

Equipped with personal protective equipment

GENERAL NOTES

- Consult with an occupational health and safety expert to select the appropriate respiratory protection based on the concentration of silica dust that workers may inhale.
- When using multiple pieces of personal protective equipment, ensure compatibility between them (to avoid compromising their individual effectiveness).
- Follow the manufacturer's instructions when using respiratory protection equipment.
- Maintain records of usage (such as personal protective equipment allocation records, personal protective equipment quality records, etc.), provide training, and perform maintenance.
- Use a properly tight-fitting respirator to ensure that the respirator is properly seated to the face.
- In addition to using respiratory protection equipment, employers must control and take timely measures to ensure that the concentration of silica dust in the working environment does not exceed the occupational exposure limit set by local regulations.

COMMONLY USED RESPIRATORY PROTECTIVE EQUIPMENT

The most common respiratory protective equipment include Powered Air-Purifying Respirators (PAPRs) and half-face dust respirators. Manufacturer's instructions for personal protective equipment usually specify dust filtration capabilities, instructions for use, and permissible duration of use. In cases where such instructions are unavailable, consulting an expert is recommended.

When should you use a half-face dust respirator?

- When manually processing and fabricating products in the plant.
- When exposed to sources that generate silica dust.
- At installation sites where activities result in silica dust.

When should you use a Powered Air-Purifying Respirators (PAPRs)

- If a worker involving in product processing and fabricating has a beard that affects the tightness when using a half-face dust respirator.
- If the dust filtration capability of any other respiratory protective equipment is insufficient, or where it is necessary to replace multiple integrated personal protective equipment (such as masks, goggles, etc.).
- When working in confined spaces, where the oxygen concentration in the working environment falls outside the permissible range of 19.5% to 23.5%.

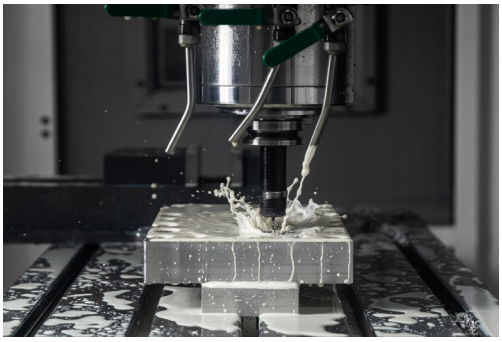
General rules

Guidelines on measures to minimize silica dust for processing and fabrication facilities

The employer who engages in the fabrication and processing of engineered stone has the responsibility to implement appropriate engineering or technical controls and to identify and utilize available resources regarding best practices. Always process, fabricate, and install VICOSTONE® SURFACES in well-ventilated areas, ensuring the concentration of respirable Crystalline Silica (SiO_2) dust below the permissible exposure limits stated in the Safety Data Sheet; and use wet methods and processing, fabrication, and installation equipment with dust collection or suction functions during processing, fabrication, and installation to minimize dust generation.

SELECTING EQUIPMENT IN PROCESSING AND FABRICATION:

- Processing and fabrication of VICOSTONE® SURFACES such as cutting, polishing, drilling, grinding, etc., must be carried out using water spraying tools. It is also important to pay attention to electrical hazards and recommend that all workers should wear rubber boots when working.
- Tools such as CNC machines, manual tools and manual saws with integrated water dust suppression should be used as an effective method for controlling silica dust. The wet dust suppression process significantly reduces workers' exposure to silica dust through inhalation, ingestion, skin contact, and eye exposure.
- Water curtains should be used as a method for minimizing and controlling dust.



SUITABLE EQUIPMENT FOR PROCESSING AND FABRICATION:

CNC MACHINES

- CNC (Computer Numerical Control) machining is a manufacturing process where computer software pre-programs the movement of tools and machinery in a factory. These machines are used for automatically cutting stone slabs.
- Using CNC machines is like using waterjet cutter or automatic saws.
- Close the safety doors of CNC machines to prevent dust dispersion and create distance between operators and the dust source.

General rules

Guidelines on measures to minimize silica dust for processing and fabrication facilities

SUITABLE EQUIPMENT FOR PROCESSING AND FABRICATION:

MANUAL TOOLS

- These tools are used for manual processing and fabrication (for example: drilling, cutting, and polishing stone slabs) after the initial cut. When working with manual tools, the worker is in close proximity to the dust source. Therefore, to minimize dust dispersion, it is necessary to:

  - Control water spray through a shield or plastic cover during cutting.

  - Adjust the water spray amount to minimize dust generation.

MANUAL SAWS

- Even when equipped with water integration, manual saws are less recommended for cutting initial stone slabs (for example: bridge saws) due to the following reasons:

  - Operators are in close proximity to the dust source; there are no safety doors to prevent dust dispersion; and they are less accurate and slower compared to CNC machines

  - Workers using manual saws are often exposed to higher levels of silica dust compared to CNC machines.

EQUIPMENT INSPECTION AND MAINTENANCE

- Visually inspect equipment and water sources for any signs of damage before use.
- Regularly maintain equipment according to the manufacturer's guidelines.
- Keep inspection records for an appropriate period of time in accordance with national and local regulations.

HYGIENE AND CLEANING

- DO NOT use dry sweeping or compressed air to clean clothing or surfaces when these activities may expose workers to silica dust.
- Regularly clean all equipment according to the manufacturer's recommendations.
- Clean work area floors by using low-pressure water hoses or wet sweeping, ensuring a clean work area at the end of each shift.
- Replace water frequently if using a closed water system.

General rules

Installation instructions

The finished product is an inert, stable product that does not release hazardous materials in its fully intact form. Therefore, it is advisable to carry out all processing and fabrication tasks in the factory to avoid generating silica dust at the installation site.

BEFORE INSTALLATION

- Prepare the product that has been processed and fabricated according to the design drawings.
- Clean the dust from the surface of the product before transporting it to the installation site.

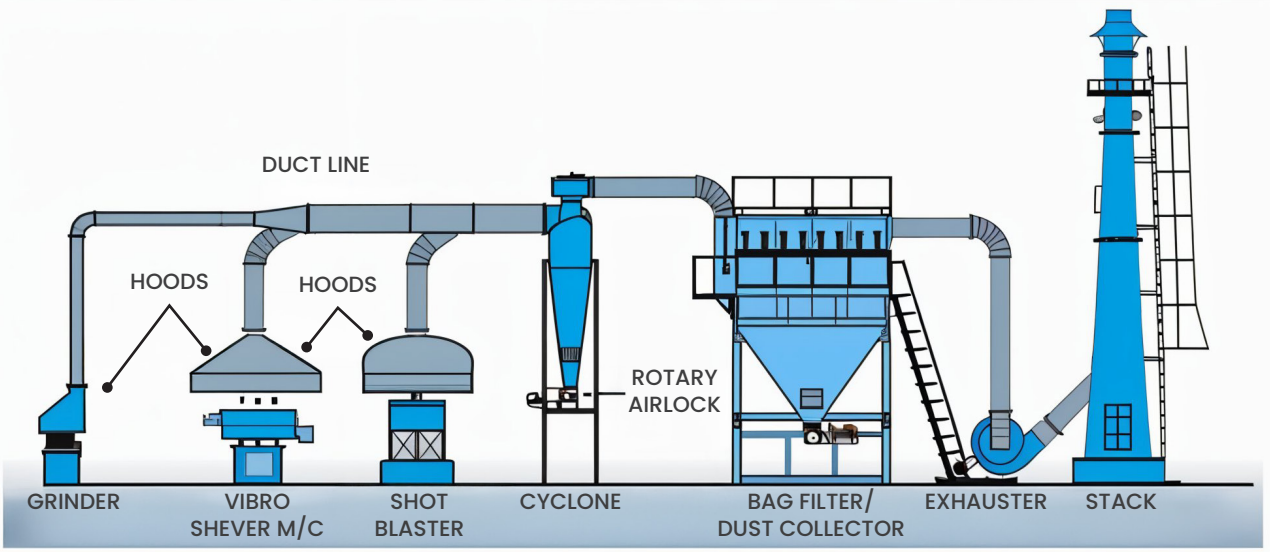
DURING INSTALLATION

- When performing operations related to processing and fabricating products at the installation site, you should:
  - Take the process outdoors, using tools integrated with water.
  - If there is no outdoor area, shut down and seal the local air conditioning or heating system, and use tools equipped with dust collectors connected to high-efficiency particulate air filters.
  - During installation, clean the work area by using wet methods or vacuum cleaners equipped with either a HEPA filter or an air filter that meets the requirements of the OSHA Crystalline Silica standard, pursuant to 29 C.F.R. § 1910.1053(h)(1).
- Product Surface Cleaning: Use water to clean the product surface or use cleaning solutions as recommended by VICOSTONE., JSC.
- Installation Area Cleaning: Use vacuum cleaners or wet sweeping, etc.
- Tool Cleaning: Use vacuum cleaners or damp cloths for cleaning.
- DO NOT use dry sweeping, dry brushing or compressed air to clean.

General rules

Technical measures to control dust in the workplace

- Use local exhaust ventilation (LEV) systems to capture silica dust and prevent dust from escaping.
- Install dust collection systems on machines and equipment that have the potential to emit dust (see illustration below).



- Isolate and keep distance from dust generating areas:
  - Maintain a safe distance between workers using handheld power tools and other workers in the workplace to avoid exposure to silica dust.
  - Provide physical barriers between workers and different workstations to prevent silica-contaminated water mist from moving to other work areas or towards other workers.
  - Ensure that settled silica dust cannot disperse to clean areas or outside the work area.

Training and communication for workers on the hazards of silica dust

Ensure that all workers are trained and communicated on the following:

- Information about the potential health hazards of exposure to silica dust.
- Instructions for compliance with signs in work areas containing silica dust.
- Instructions for personal hygiene, such as washing hands after working with materials containing silica, and changing into clean clothes before leaving the workplace.

General rules

Training and communication for workers on the hazards of silica dust

- Awareness of the importance of technical control measures, personal hygiene, and taking measures to reduce silica dust exposure.
- Instructions for use and preservation of personal protective equipment.
- Specific tasks in the workplace that may lead to respiratory exposure to Crystalline Silica.
- Purpose and description of regular health examination Program in section 7 of this guidance.
- Contents of the Guidelines for health safety regarding Crystalline Silica.
- Provide a copy of this guidance at no cost to each worker covered by this section.

Health monitoring for workers exposed to silica dust

- Workers exposed to silica dust must be examined to detect occupational diseases after signing labor contracts, before arranging work tasks, periodically during work, and before leaving employment as stipulated by local laws.
- The health examination focuses on the respiratory system and other medical indicators as stipulated by local laws.
- Other health monitoring complies with local legal requirements.

General rules

Conducting occupational environment monitoring

- The unit conducting monitoring must meet the full capacity requirements as stipulated by local laws.
- Frequency of implementation is according to local regulations.
- The results of monitoring the concentration of silica dust in the working environment serve as a basis for determining whether the work area exceeds the permissible limit. Based on this, appropriate methods are decided to reduce silica dust concentration, ensuring it does not exceed the permissible limit as specified by local regulations.

VICOSTONE., JSC always promotes a safe and healthy working environment for all employees

VICOSTONE.,JSC also encourages all workers to raise awareness of their rights in establishing and maintaining a safe working environment. All workers have the right to:

- Work in conditions without health hazards.
- Request all personal protective equipment when necessary.
- Demand appropriate control measures to minimize exposure to silica dust, such as water spraying, dust collection and treatment, and workplace ventilation.
- Receive information and training on workplace hazards, preventive methods, and OSHA standards applicable to their workplace.
- Be informed about working environment monitoring results.
- Exercise their rights under the law without retaliation or discrimination

Obligation to comply with the law

This guidance is considered one of the instructional documents for VICOSTONE® SURFACES. All processors and fabricators of these products understand that they are responsible for reviewing and adhering to all information mentioned in this guidance.

Processors, fabricators, and installers must be aware that VICOSTONE® SURFACES, along with other stone products, contain Crystalline Silica. When in respirable dust form, Crystalline Silica is classified as a hazardous substance under California's Proposition 65 List. It is associated with lung diseases such as silicosis, tuberculosis, chronic obstructive pulmonary disease, kidney disease, cancer, and immune system deficiency if proper preventive and protective measures are not implemented.

Therefore, all processors, fabricators, and installers are obligated to comply with all local and other regulations, rules, ordinances, and laws related to the use, handling, storage, fabrication, and disposal of VICOSTONE® SURFACES. VICOSTONE., JSC recommends that processors, fabricators and installers must strictly adhere to the requirements set forth by the International Labor Organization (http://www.ilo.org), California's Proposition 65 List, the Occupational Safety and Health Administration (www.osha.org), the U.S. National Institute for Occupational Safety and Health (http://www.cdc.gov/niosh/), and the European Network on Silica (http://www.nepsi.eu), as well as the recommendations outlined in the Safety Data Sheet (SDS), Fabrication & Installation Guideline, and Health Guideline regarding Crystalline Silica issued by VICOSTONE., JSC from time to time, and this guidance to help control exposure to silica dust and minimize health risks.

General rules

Obligation to comply with the law

Responsibilities of distributors

- Provide information to their partners (including, but not limited to, distributors, fabricators, installers, and customers), employees, and other contractors about the risks of exposure to Crystalline Silica dust, including local regulations for controlling Crystalline Silica dust, the recommendations in this guidance, and other recommended information/instructions published/provided by VICOSTONE., JSC.
- Comply with current legal regulations related to the import, sale, and distribution of the products in the countries where distributors operate.

Responsibilities of fabricators and installers (Employers)

- Understand and strictly comply with all applicable health, safety, and environmental laws, rules, regulations and standards, as well as the recommendations in this guide, Safety Data Sheets, and other recommended information/instructions published/provided by VICOSTONE., JSC.
- Regularly assess workplace health, safety, and environmental risks and take necessary measures to minimize health risks when exposed to silica dust.
- Fully provide and ensure that their workers use appropriate Personal Protective Equipment as required by current legal regulations to minimize health risks when exposed to silica dust.
- Ensure that workers consistently use suitable appropriate Personal Protective Equipment (PPE) to protect themselves from potential exposure to Crystalline Silica dust.
- Instruct workers on risks and safety measures related to Crystalline Silica, utilizing resources such as this guidance document and other relevant information.
- Ensure Crystalline Silica dust levels are below the local regulation limits.

Disclaimer

The information in this Guideline is based on available data as of the document's preparation date. To the best of our knowledge, this data is accurate and reliable.

Providing this information should not be construed as superseding or substituting any expert opinions or local legal regulations. Processors, fabricators, and installers should not consider the information in this Guideline as an explanation of any existing laws, regulations, or standards. Instead, they should independently assess the relevance of this information to their specific purposes and circumstances. To safeguard the health and lives of all workers exposed to silica dust, processors, fabricators, and installers should consult local occupational health and safety advisors for accurate safety measures to implement in their work environments.

Processors, fabricators, and installers bear full responsibility for the occupational health and safety of their workers, including matters related to the safety risks of Crystalline Silica. This responsibility encompasses understanding and fully complying with labor safety regulations and standards according to local law.

Because the information in this document may be applicable under conditions beyond our control, VICOSTONE., JSC cannot be held responsible for any losses or damages resulting from the use of information in this guideline.

VICOSTONE., JSC reserves the right to modify or amend this Guideline or its electronic version at any time without prior notice. Consumers are responsible for referring to or contacting VICOSTONE., JSC for the latest version or updates.

General rules

Confirmation and agreement

Please fill in your details and email this form to **info@vicostone.com** or send it to your direct Product Distributor.

Receipt form:

“Health Guideline for Crystalline Silica, 2025”

To whom it may concern,

I, the undersigned, confirm that I have received the attached **Health Guideline for Crystalline Silica, 2025.**

PROCESSOR/FABRICATOR/ INSTALLER’S NAME.....

PROCESSOR/FABRICATOR/ INSTALLER’S CONFIRMATION: *(Signature of legal representative/ authorized representative and/or organization’s seal (if any)*.....

DATE: ...../...../.....