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HAZARD STATEMENT AND INFORMATION

Talostone® - Natural Stone and Mineral Surfaces

Components: Quartz (Silica Crystalline)

CAS No.: 14808-60-7
Silicon dioxide

CAS No.: 26123-45-5
1,3-Isobenzofurandione, polymer with 2,5-furandione and 2,2-oxybisethanol

~~R~~egulated ingredients

HAZARD STATEMENTS:

May form combustible dust concentrations in air. May cause cancer. Causes damage to organs through prolonged or repeated exposure. (Lungs) (Refer to Safety Data Sheet for additional information on proper handling)

Precautionary statements:

Any product containing natural materials such as crystal, sand or stone may contain quartz (Crystalline Silica), at least in way of trace elements. However, the product is not hazardous as shipped or once it has been installed.
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not inhale any dust / fume / gas / mist / vapour / spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when fabricating or installing this product. Use personal protective equipment as required. If exposed or concerned, get medical advice / attention. If large amounts of dust is inhaled, retreat to fresh air. Changing the physical state of this product by dry cutting, grinding, polishing, routing, drilling, sanding, breaking etc, will create airborne dust particles which may contain Crystalline Silica. This can lead to various and serious health problems such as Lung Cancer, Silicosis, Tuberculosis, irritation of the skin and/or eyes as well as cornea abrasions or other health risks. This material must be fabricated using only wet tools with the use of appropriate Personal Protective Equipment as per Australian standards, AS/NZS 2210, AS/NZS 1715 & 1716, AS/NZS 2161, AS/NZS 1337, AS/NZS 1269, AS/NZS 1801:1997, and any other applicable standards depending on your situation.

Supplemental information:

The product as such is not hazardous. The potential hazards of this product are associated mainly with its processing. Operations such as drilling, sawing, routing and sanding can generate dust which may contain Crystalline Silica or trace elements thereof. Adequate ventilation is compulsory to minimise exposure to airborne dust particles below acceptable limits as per Safe Work Australia and local state safe work requirements. Dust generated during handling of Quartz Surfacing Products can contain particles of crystalline silica (quartz). Overexposure to airborne dust containing Crystalline Silica can cause silicosis (scaring of the lung tissue) or even cancer. Effects can be permanent and fatal. If small particles of dust containing Crystalline Silica are generated during further processing, handling or by other means, it may form combustible dust concentrations in air.

Every fabricator/stonemason has a legal responsibility to provide a safe work environment. All materials need to be fabricated with consideration to the material composition and behaviour under various fabrication processes. This notice is to highlight hazards associated with the fabricating of stone slabs which contain quartz or trace elements thereof. It does not cover other items that are associated with the fabrication and installation of the material such as joint fillers, glues, cleaner, and chemicals - Please seek specific advise for these. It also does not cover machinery or equipment.

Refer to Safety Data Sheet (SDS) for further information.
Please contact Talostone®, +61 (0)2 8783 0600, immediately to have the latest information.

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PERSONAL HEALTH & SAFETY

RESPIRABLE CRYSTALLINE SILICA

Guide Introduction

Natural stone, like the other earth materials, contain crystalline silica which is dangerous when inhaled. Talostone® Natroccia® slabs, as well as fabricated and installed products, do not present a health risk or hazard when transported, shipped or used by the end consumer. However, during the fabrication and processing, it generates respirable crystalline silica dust. This requires fabrication and processing to be performed under strict safety conditions.

It is important to note that the guidelines provided in this guide are not intended to replace your local laws and regulations, which should be complied with, as further detailed below.

All licensed and qualified stonemasons are required to provide their workers with the relevant information related to workplace health and safety and we strongly encourage them to also provide this information to their customers, particularly in areas where crystalline silica dust may be present.

The objective of this Guide is,

- To provide information about the risks and health hazards caused by working in an environment with respirable crystalline silica dust; and
- To provide information to assist in reducing workers' exposure to respirable crystalline silica dust, including guidance on the safe use of products containing crystalline silica in the workplace and the necessary personal protection required.

What is crystalline silica dust and what health risks can be caused by crystalline silica dust?

Crystalline silica dust is generated in workplace mechanical processes such as crushing, cutting, drilling, grinding, sawing or polishing of natural stone or man-made products that contain crystalline silica. Some dust particles can be so small that they are not visible; these are commonly referred to as respirable particles.

Respirable crystalline silica dust particles are small enough to penetrate deep into the lungs and can cause irreversible lung damage.

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As a result, unprotected and uncontrolled occupational exposure and inhalation of respirable crystalline silica particles without the safety measures required by law is dangerous to health and may cause severe illnesses such as Silicosis, which is characterised by fibrosis of the lungs.

Silicosis is a chronic and non reversible disease which may cause severe physical disabilities and may be fatal. The pathological process of Silicosis may cause severe complications such as: lung cancer, tuberculosis and autoimmune diseases such as rheumatoid arthritis. Pre-existing physical disorders may aggravate the adverse effects of exposure to Silica dust. Silicosis is an occupational disease that may affect workers in the stone fabrication industry if they process marble, granite, quartz surfaces and other natural stones or products containing natural stone without safety measures, which has been recognised for over a century. This disease can affect the production/ fabrication workers themselves, and any other employee/worker who is present at the fabrication facility (where there is silica dust) such as managers and administrative staff.

What diseases can crystalline silica dust cause?

If a worker is exposed to and breathes in crystalline silica dust they could develop:

- Chronic bronchitis
- Emphysema
- Acute silicosis
    - Can develop after a short exposure high levels of crystalline silica dust, within a few weeks or years, and causes severe inflammation and an outpouring of protein into the lung.
- Accelerated silicosis
    - Can develop after exposures of 3 to 10 years of moderate to high levels of crystalline silica dust and causes inflammation, protein in the lungs and scarring of the lungs (fibrotic nodules).

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- Chronic silicosis
  - Can develop after long term exposure to lower levels of crystalline silica dust and causes fibrotic nodules and shortness of breath.
  - Can include progressive massive fibrosis where the fibrotic nodules in the lung aggregate.
- Lung cancer
- Kidney damage
- Scleroderma
  - A disease of the connective tissue of the body resulting in the formation of scar tissue in the skin, joints and other organs of the body.

The above section information was sourced from www.safeworkaustralis.gov.au

General Prevention Principles

Silicosis and other diseases associated with crystalline silica dust as stated above can be reduced and controlled by following the required safety precautions, including those described below. Measures include improved work practices such as working with wet tools, engineering controls, ventilation and filter systems, respiratory protective equipment and training programmes, as further detailed below and in your local laws and regulations regarding working in environments containing harmful dust. Please note that the recommendations with respect to the work area relate mainly to the production/fabrication facilities, but are also applicable to adjacent offices.

In order to control and reduce the health risks associated with crystalline silica, a crystalline silica control program needs to be implemented in the workplace in accordance with all the applicable laws, regulations, orders and directives. This program should be reviewed on a regular basis. Furthermore, permissible exposure limits to respirable crystalline silica dust should be met. Exposure limits for quartz, silica sand and cristobalite must meet SafeWork Australia standard, please refer to www.safeworkaustralia.gov.au for detailed information.

It is important to note that the exposure and personal protection precautions are only necessary for the fabrication of Talostone® Natroccia® products (cutting, sawing, polishing etc.), due to the dust that may be generated in the process containing crystalline silica, and not for the slab as a product.

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The employer is responsible for the primary duty of care for their employees, providing their workers with all the current information, tools and safety measures required in order to protect them from the risk of exposure to crystalline silica dust. The workers are responsible for fully implementing safety instructions. Access to the work area should be restricted to authorised employees only. By a joint effort of employers and their employees, the workplace can become a safe environment for everyone.

DRY FABRICATING PROCESSES ARE NOT PERMISSIBLE ON ANY TALOSTONE® PRODUCTS, WATER-FED TOOLS MUST BE USED AT ALL TIMES.

The best protection is to avoid exposure to dry crystalline silica. Therefore, implement fabrication techniques in which all cutting, grinding and shaping is performed wet.

- Work with wet tools and cutting machines as they help to prevent the release of crystalline silica dust. This applies to all tools.
- Design and use a good and efficient water system.
- Clean and maintain all drainage systems when using water sprays and hoses.
- Wet hosing rather than compressed air should be used for cleaning and under no circumstances should dust be swept up with a broom.

Ventilation and Filtration Systems

Engineering control is critical as well. This refers to the use of ventilation and filtration systems specifically designed to collect respirable particles of dust. Implement filter systems that include the following elements:

- Professional extraction hoods.
- Enclosure for collecting and containing pollutants.
- Ducts for pollutant removal.
- Filters positioned between the hood and the fan.
- Fans for moving air flow and releasing clean air outside the workplace.

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Ventilation

Please visit or speak to your local authority to get professional help and detailed requirements for this. Our further recommendations regarding proper ventilation include, but are not limited to;

- Ensuring that the workplace (including the fabrication facilities as well as adjacent offices) have complete and effective ventilation.
- Working with qualified ventilation expert or engineer prior to implementing any ventilation systems to ensure they meet all requirements.
- Operating local exhaust ventilation at the dust source in order to capture the dust at the highest level.
- Connecting local exhaust ventilation to a dust extraction unit such as a bag filter/cyclone.
- Maintaining local exhaust ventilation in good working order plus replacing/maintaining filters and other parts in accordance with supplier's instructions.
- Keeping the dust source as isolated as possible to prevent dust dispersal.
- Keeping air ducts as short as possible, minimising the risk of exposure to employees.
- Positioning the work area as far away as possible from doors, windows and passages in order to prevent wind and drafts spreading the dust and hindering local exhaust ventilation.

Dust Monitoring & Supervision

Dust monitoring and supervision include the following:

- Researching your local regulations and laws as to the Permissible Exposure Limit (PEL) and Threshold Limit Value (TLV) for the legally permitted level of exposure to the different types of respirable silica dust, including crystalline silica.
- Performing a risk assessment to determine whether existing dust controls are sufficient.
- Working with designated experts to create appropriate dust monitoring systems and consulting with industrial hygiene professionals regarding a dust sampling strategy.

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- Keeping complete records for dust monitoring and implementing a quality system accordingly.
- Performing regular checks to ensure that the dust intake, filtration and expulsion systems are functioning correctly.
- Ensuring that settled dust and polluted air cannot be dispersed or spread to clean areas or outside the work area.
- Creating and enforcing rules that all employees wear protective respiratory equipment in areas with hazardous dust.
- It is extremely important that all dust extraction emissions comply with local environmental rules.
- Signs of “Hazardous Dust” should be displayed in all areas with hazardous dust.

Personal Protective Equipment (PPE)

Workers must wear protective equipment and in cases where there is potential exposure to airborne crystalline silica. Where exposure is risk of exposure is high, industrial respirators need be used and comprehensive training provided.

- Personal Protective Equipment (PPE) is mandatory in workplaces where risks exist. This should be clearly marked with appropriate signage.
- PPE should comply with your local legal requirements, be designed and manufactured according to safety and health standards and be used, maintained and replaced in accordance with the manufacturer’s instructions.
- Respiratory protection against crystalline silica dust should be P3 classification.
- Employees should receive training on the proper use and maintenance of their PPE, and should check efficacy of all respiratory protection equipment prior to use.
- Ensure that all employees wear appropriate PPE and keep records of all PPE in use, pursuant to applicable law.
- Provide employees who work with crystalline silica dust with overalls, protective eye wear and face respirators that prevent dust absorption.

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Hygiene

Personnel hygiene is another important factor in health protection, and includes the following:

- Providing bathroom facilities in the plant with toilets, showers, wash basins and individual lockers for storing changes of clothing.
- Making two checkrooms available to all plant employees: one in which they change from home clothes into clean work clothes and store their home clothes during working hours; and another in which they change out of work clothes at the end of a working day before showering and changing back into home clothes.
- Employees should wear only designated work apparel at the worksite.
- Employees should leave their work clothes and shoes in the workplace and never remove them from the plant.
- Launder all employees' work clothes and provide them with clean clothes on a daily basis.
- Providing explanations on the importance of separating work clothes from home clothes.
- Employees should wash their hands and faces plus change clothes before eating.
- Permitting eating, drinking and smoking only in designated areas that are not exposed to hazardous dust.

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Cleaning

- Clean the workplace, floors and all exposed surfaces on a daily basis.
- Clean all equipment and systems on a regular basis.
- Employ both wet and approved vacuum cleaning methods,
- Do not sweep using a dry broom, brush or compressed air.
- Do not clean work clothes, machines or floors with compressed air.

Administration, Regulation & Maintenance

- Maintain all equipment in good working order.
- Do not make changes to any working systems without supplier approval.
- Keep instructions and diagrams of installed systems in a safe place for reference.
- Ensure that regular checks are performed on inlet airflows, duct air speed and filter pressure index on ventilation systems.
- Check all systems on a regular basis and in accordance with supplier instructions.
- Keep inspection reports as per local law compliance.

NOTE: All surfaces need to be fabricated within the plant only and not at the end user's location in order to protect installers as well as other persons on site or in the surrounding area.

Training Employees on Safety & Hygiene Issues

Employees who are involved in and committed to the safety program are most likely to comply with them. Employee training needs to include the following:

- Creating and implementing clear guidelines for safe working procedures and good practices in your workplace.
- Training all new employees about health, safety and hygiene procedures.

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- Continuously delivering mandatory training sessions to existing employees on an ongoing basis in order to update and review their knowledge of your health and safety procedures.
- Regularly reviewing and updating your safety and hygiene procedures as per local, state and national laws as well as any other regulation requirements.
- Providing employees with current data on health effects associated with respirable crystalline silica dust.
- Providing training for the use of respiratory protective equipment as well as other PPE and keeping comprehensive records of all training provided to employees plus recording employees' attendance at training sessions.
- Assessing employees' knowledge after each training session in order to verify that they understand your safety procedures.
- Providing clear data about the risks associated with fabrication tasks.

Health Surveillance

Health surveillance needs to be implemented based on your local rules and regulations, which may include the following:

- Implementing a health surveillance programme for employees who are exposed to respirable crystalline silica, including medical testing and other tests as required by local regulations.
- Keeping records following the termination of each employee's employment as per local regulation requirements.
- Keeping records of protocols and all tasks that expose workers to respirable crystalline silica.

Additional Information & Disclaimers

The information contained in this Guide is, to the best of our knowledge, is current and accurate. However, this is only a summary. It is not possible in this short document to comprehensively cover all the topics mentioned, nor is it possible to cover in detail all areas of concern regarding crystalline silica dust in the workplace.

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Any recommendations or advise provided here are general and do not take into account the specific conditions that exist at each fabrication site. Furthermore, none of the content in this guide may be construed as encouragement for using any product or tool in violation of any laws, safety practice or instructions by the supplier.
We strongly recommend that you consult with occupational health professionals and other experts concerning all matters regarding the control of respirable crystalline silica in each specific workplace.

We also note that the laws and regulations regarding crystalline silica dust differ from state to state, and we vehemently insist that you obey your local regulations and legislation regarding working in environments containing harmful crystalline silica dust. In any case where these guidelines contradict your local regulations, your local regulations shall take precedence.

None of the information contained in this guide creates a contractual relationship between Talostone® and any fabricator.

Information on occupational safety and health administration appears, among other sources on the following websites;

Safework Australia (https://www.safeworkaustralia.gov.au/)

Occupational Health & Safety Australia (http://www.ohs.net.au/)