

CONCISE EXPLANATORY STATEMENT
Chapter 296-840 WAC Respirable Crystalline Silica
WAC 296-841-20025 Permissible exposure limits (PELs), WAC 296-307-
62625 Permissible exposure limits of air contaminants.

Public Hearing: December 15th, 2017

Adoption: March 20, 2018

Effective Date: April 23, 2018

Table of Contents

I.	Purpose of Rulemaking.....	2
	A. Background.....	2
	B. Summary of the Rulemaking Activities.....	2
II.	Changes to the Rules.....	3
III.	Summary of Comments Received and Department Response.....	4

I. Purpose of Rulemaking

The purpose of this adoption is to add a new chapter 296-840 WAC, Respirable Crystalline Silica, to address and limit worker exposure to respirable crystalline silica in workplaces, with the intent of curbing lung cancer incidents, silicosis, chronic obstructive pulmonary disease and kidney disease in Washington state workers.

A. Background

This rulemaking is in response to the Occupational Safety and Health Administration (OSHA's) final rule for Respirable Crystalline Silica in 29 CFR 1926.1153 (Construction) and 29 CFR 1910.1053 (General Industry/Maritime) which became effective on June 23, 2016. The department is required to update their rules to be at least as effective as OSHA.

The department's Respirable Crystalline Silica rule covers construction and general industry in one rule (Chapter 296-840 WAC), whereas OSHA has separate rules for each. The new Silica chapter addresses and limits worker exposure to respirable crystalline silica in workplaces, with the intent of curbing lung cancer incidents, silicosis, chronic obstructive pulmonary disease and kidney disease in Washington state workers. Furthermore, the following sections under WAC 296-841-20025 and WAC 296-307-62625 were updated to reference the respirable crystalline silica rule.

B. Summary of the rulemaking activities

The department held several stakeholder meetings in 2016 and 2017 with representatives from the construction industry, associations and those employers who dealt with Silica exposures in their workplaces such as Skansa, Pacific Northwest Regional Council of Carpenters, University of Washington, Mortenson Construction and Lakeside Industries. Stakeholders made suggestions and provided input on the draft language. The draft language was primarily from OSHA's rule. The proposed rule was filed (CR-102) on October 31, 2017. In addition, drafts of the proposal were sent out to a stakeholder list that was generated from sending notices to the listserv for standards and construction.

The Department's preliminary draft of the proposed rules shared with stakeholders and posted on the Department's rulemaking information page included two medical resources to aid physicians and other licensed health care professionals (PLHCPs) regarding compliance with the medical surveillance provisions of the rule. The first, a medical surveillance guideline, was included in Appendix B, and the second, a Tuberculosis Screening Tool designed as an adjunct to the clinical evaluation, was included in Appendix C. The proposed rule did not include these appendices; however, links to the preliminary draft with the appendices were included in the proposed rule listserv notices sent to stakeholders. The Department received comments regarding substantive changes to the appendices as well as requests to include the appendices in the codified rule. Since Appendix B and Appendix C were not included in the proposed rule, they could not be adopted as part of this rulemaking. The Department intends to adopt the appendices in a

subsequent rulemaking. As both appendices are non-mandatory and do not impose any obligations on employers not already required, the Department can use the expedited rulemaking process under RCW 34.05.353.

II. Changes to the Rules (Proposed rule versus rule adopted):

- WAC 296-841-20025: Deleted changes to the permissible exposure limits and short-term exposure limit (STEL) related to beryllium. Changes related to beryllium are being addressed in a separate rulemaking specific to beryllium.
- WAC 296-307-62625: Deleted changes to the permissible exposure limits and STEL related to beryllium. Changes related to beryllium are being addressed in a separate rulemaking specific to beryllium.
- WAC 296-840-095: Omitted language regarding the application of the existing silica STELs under WAC 296-841-20025 and WAC 296-307-62625 to exposures covered by the new rule under chapter 296-840 WAC.
- WAC 296-840-100: Omitted language regarding the application of the existing silica STELs under WAC 296-841-20025 and WAC 296-307-62625 to exposures covered by the new rule under chapter 296-840 WAC.
- WAC 296-840-105: Omitted language regarding the application of the existing silica STELs under WAC 296-841-20025 and WAC 296-307-62625 to exposures covered by the new rule under chapter 296-840 WAC.
- WAC 296-840-145: Added the wording “except for 3 (e) of this subsection” to subsection (4) to be consistent with OSHA’s language.
- WAC 296-840-145: Omitted language regarding the application of the existing silica STELs under WAC 296-841-20025 and WAC 296-307-62625 to exposures covered by the new rule under chapter 296-840 WAC.
- WAC 296-840-160: Omitted language regarding the application of the existing silica STELs under WAC 296-841-20025 and WAC 296-307-62625 to exposures covered by the new rule under chapter 296-840 WAC.
- WAC 296-840-165: Added the word “mandatory” to title of Appendix A.

Public Hearing: Nine people attended the public hearing held at the Department of Labor and Industries in Tumwater. No attendees provided verbal testimony. Four written comments were received from industry representatives. Below is a summary of the comments the department received.

III. Summary of Comments Received and Department Response

Comments	Department Response
<p>WAC 296-840-095 Definitions</p> <p>We have been informed that exposure results for the different forms of silica currently need to be added to form a composite exposure that is then compared to the PEL, rather than being considered separately.</p>	<p>Thank you for your comment.</p> <p>Yes, the Permissible Exposure Limit (PEL), calculated as an 8-hour time-weighted average (TWA), is a total of 50 ug/m³ and consists of one or any combination of quartz, cristobalite, and/or tridymite, the three types of respirable crystalline silica defined in the rule.</p> <p>The required methods of air sample analysis is addressed in WAC 296-840-105(4) and WAC 296-840-165 Appendix A—Methods of sample analysis.</p> <p>The rule also requires sampling be performed using a sampling device designed to meet the characteristics for respirable-particle-size-selective samplers specified in the International Organization for Standardization (ISO) 7708:1995: Air quality – Particle size fraction definitions for health-related sampling.</p>
<p>Our understanding is that since the current Washington State DOSH PELs are different for the 3 substances, the calculation is done by first comparing the results for each to its individual PEL, and then adding the 3 comparisons.</p> <p>If the total is above 100%, it would be a violation of DOSH rules.</p>	<p>Thank you for your comment.</p> <p>With the adoption of these new silica rules under chapter 296-840 WAC, the existing air contaminant exposure level tables in WAC 296-841-20025 and 296-307-62625 will only apply to exposures not covered by chapter 296-840 WAC. Chapter 296-840 WAC applies to all occupational exposures to respirable crystalline silica except exposures that result from the processing of sorptive clays (i.e., specific types of clay found in a few geologic deposits in the country that are used in a range of consumer products and industrial applications, such as pet litter and sealants for landfills).</p>

	<p>Under the existing air contaminant exposure level tables in WAC 296-841-20025 and 296-307-62625 there are individual PELs for quartz, cristobalite, and/or tridymite, the three type of respirable crystalline silica as defined in the rule.</p> <p>For these exposures, the formula found in WAC 296-841-20005(5) for substances with additive health effects would apply if there were exposures to two or more of the three forms of respirable crystalline silica with different PELs or STELs as they have an additive effect on the body. See WAC 296-841-20005(5) for information on calculating employee exposure where two or more substances have an additive health effect. When the value of the calculation is greater than 1, an airborne hazard is present.</p>
<p>How would an employer know what airborne contaminants have additive health effects to evoke the mixtures rule?</p>	<p>Thank you for your comment.</p> <p>In general, where there is exposure to more than one chemical and the target organs are the same, then additive calculations should be considered to properly evaluate employee exposure. Safety Data Sheets are one source of information on health effects. Also, the National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards lists many chemicals, provides a lot of information concerning exposure limits, and includes information on affected "Target Organs."</p>
<p>What is the new STEL?</p>	<p>Thank you for your comment.</p> <p>Initially the Department's proposed rule would have required employers to comply with the 8-hour TWA in Chapter 296-840 WAC, Respirable Crystalline Silica, and the short term exposure limits (STELs) for the individual types of respirable crystalline silica found in WAC 296-841-20025 and WAC 296-307-62625. The final version of the rule has omitted any requirements associated with silica STELs for exposures covered by the new silica rule under chapter 296-840 WAC. Both the PELs and STELs under the existing air contaminant exposure level tables in</p>

	<p>WAC 296-841-20025 and 296-307-62625 will apply to exposures not covered by chapter 296-840 WAC (exposures from processing sorptive clays) There was no change in the existing STEL values for these exposures.</p>
<p>Is the Short Term Exposure Limit (STEL) in the state rule also found in OSHA’s language? I’ve tried to find it. It wouldn’t be the first time I’ve missed something.</p>	<p>Thank you for your comment.</p> <p>OSHA does not have STELs in their respirable crystalline silica rules.</p>
<p>WAC 296-840-100 Scope and application</p>	
<p>What does the statement “Applies only where the exposure limit in chapter 296-840 WAC is not in effect” in 296-841 mean? Is this just a way of saying only the STEL from 296-841 applies, not the TWA8?</p>	<p>Thank you for your comment.</p> <p>With the adoption of the new silica rules under chapter 296-840 WAC, the existing air contaminant exposure level tables in WAC 296-841-20025 and 296-307-62625 will only apply to exposures no covered by the chapter 296-840 WAC. Chapter 296-840 WAC applies to all occupational exposures to respirable crystalline silica except exposures that result from the processing of sorptive clays (i.e., specific types of clay found in a few geologic deposits in the country that are used in a range of consumer products and industrial applications, such as pet litter and sealants for landfills).</p> <p>The amendment to the air contaminant exposure level tables in WAC 296-841-20025 and 296-307-62625 indicating the PELs and STELs for the three types of respirable crystalline silica listed apply only to exposures not covered by chapter 296-840 WAC (processing sorptive clay), is consist with OSHA. OSHA’s existing PELs for respirable crystalline silica in 29 CFR 1910.1000 Table Z-3, as indicated in footnote 7, apply only to any operations or sectors for which the respirable crystalline silica standard is not otherwise in</p>

	effect. (See also the preamble ¹ to OSHA’s final rule on page 16830).
WAC 296-840-105 Exposure assessment	
Is there an expectation that if exposures are perceived to be very high for short-term tasks, should sampling be conducted?	<p>Thank you for your comment.</p> <p>Employers must conduct an employee exposure assessment (WAC 296-840-105) and must ensure that no employee is exposed to airborne concentrations of respirable crystalline silica in excess of the 8-hour TWA PEL. This may require short-term air monitoring be conducted during short-term tasks.</p> <p>Initially the Department’s proposed rule would have required employers to comply with the 8-hour TWA PEL in Chapter 296-840 WAC, Respirable Crystalline Silica, and the STELs for the individual types of respirable crystalline silica found in WAC 296-841-20025 and WAC 296-307-62625. The final version of the rule has omitted any requirements associated with silica STELs for exposures covered by the new silica rule under chapter 296-840 WAC.</p> <p>Where employers are engaged in construction tasks according to Table 1 under WAC 296-840-110, they do not have to conduct exposure assessments or otherwise comply with the PEL if they fully and properly implement the engineering controls, work practices, and respiratory protection listed in Table 1. However, if employers are using Table 1 and identify very high exposures, even for a short period of time, it is likely that the engineering and work practice controls required by Table 1 are not being properly implemented.</p>

¹ Department of Labor, “Occupational Exposure to Respirable Crystalline Silica,” 81 Federal Register 16286, March 25, 2016. <https://www.federalregister.gov/documents/2016/03/25/2016-04800/occupational-exposure-to-respirable-crystalline-silica>

<p>That may be problematic because the methods limit of detection may be very close to the STEL of 300 µg/m3?</p>	<p>Thank you for your comment.</p> <p>Initially the Department’s proposed rule would have required employers to comply with the 8-hour TWA PEL in Chapter 296-840 WAC, Respirable Crystalline Silica, and the STELs for the individual types of respirable crystalline silica found in the air contaminant exposure level tables under WAC 296-841-20025 and WAC 296-307-62625. The final version of the rule has omitted any requirements associated with silica STELs for exposures covered by chapter 296-840 WAC.</p> <p>Both the PELs and STELs under the air contaminant exposure level tables in WAC 296-841-20025 and 296-307-62625 will apply to exposures not covered by chapter 296-840 WAC (exposures from processing sorptive clays).</p> <p>If an employer processing sorptive clay has questions about sampling for the STELs, they can contact the department for assistance.</p>
<p>296-840-105(2) requires STEL monitoring. Is there a current or planned monitoring method that can demonstrate that your exposure is below the STEL with a 15-minute sample?</p>	<p>Thank you for your comment.</p> <p>Initially the Department’s proposed rule would have required employers to comply with the 8-hour TWA PEL in Chapter 296-840 WAC, Respirable Crystalline Silica, and the STELs for the individual types of respirable crystalline silica found in the air contaminant exposure level tables under WAC 296-841-20025 and WAC 296-307-62625. The final version of the rule has omitted any requirements associated with silica STELs for exposures covered by chapter 296-840 WAC.</p> <p>If an employer processing sorptive clay has questions about sampling for the STELs, they can contact the department for assistance.</p>
<p>WAC 296-840-110 Specified exposure control methods Table 1</p>	
<p>Would the use of a ceramic tile saw commonly used on a residential worksite, be considered the same as Stationary masonry saws on Table 1?</p>	<p>Thank you for your comment.</p> <p>Yes, in the OSHA silica rule preamble it states, that stationary masonry saws are used in the construction industry to cut silica containing</p>

	<p>masonry materials such as bricks, concrete blocks, stone, and tile. Because OSHA includes tile as one of the materials cut by a stationary masonry saw a stationary saw designed specifically to cut tile would be included as stationary masonry saw. Of course, the saw would need to be equipped with an integrated water delivery system that continuously feeds water to the blade.</p>
<p>I found this on the National Association of Homebuilders website in an informational document to members regarding the federal rule:</p> <p>Examples of tasks with low exposures include, mixing mortar; pouring concrete footers, slab foundation and foundation walls; removing concrete formwork; and finishing drywall.</p> <p>Since the action level and PEL are the same in the state rule and OSHA’s rule, would you agree with that statement? Particularly finishing drywall.</p>	<p>Thank you for your comment.</p> <p>The OSHA silica rule preamble states that drywall finishing was not included on Table 1 due to the following reasons:</p> <ul style="list-style-type: none"> • The rulemaking record indicates that drywall compound currently in use does not usually contain silica. • Fifteen full shift personal breathing samples taken of workers had one result at 72 ug/m3, which is above the 50 ug/m3 PEL, one sample above the action level of 25 ug/m3. • All other samples were well below the 8-hr PEL. OSHA goes on to state that in the event silica containing joint compound is used or work is done on existing silica containing joint compound there are sufficient engineering controls available to ensure employee exposure is less than 50 ug/m3. Where employees work with silica containing joint compound employers will need to comply with the exposure assessment requirements in WAC 296-840-105. <p>OSHA silica rule preamble states:</p> <p>“However, some construction tasks may involve only minimal exposure to respirable crystalline silica. Some commenters indicated that they believed these tasks were covered under the scope of the proposed construction standard. For example, the Construction Industry Safety Coalition (CISC) and the National Association of Home Builders indicated that they believed that mixing mortar, pouring concrete footers, slab</p>

	<p>foundation, and foundation walls, and the removal of concrete formwork would be covered by the standard (Document ID 2319, pp. 19–21; 2296, pp. 8–9). OSHA finds that these tasks, when performed in isolation from activities that do generate significant exposures to respirable crystalline silica (e.g., tasks listed on Table 1, abrasive blasting), do not create respirable crystalline silica exposures that exceed 25 mg/m³ as an 8-hour TWA.”</p> <p>The OSHA Small Entity Compliance Guide² states on page 3, “Employee exposure can reasonably be anticipated to remain below 25 µg/m³ as an 8-hour TWA when performing certain tasks that involve only minimal exposure to respirable crystalline silica. Such tasks include: Mixing concrete for post holes; Pouring concrete footers, slab foundation, and foundation walls; and Removing concrete formwork. When these tasks are performed in isolation from tasks that generate significant exposures to respirable crystalline silica, the standard does not apply. These examples are not exclusive, and there may be other tasks that involve exposure under 25 µg/m³ as an 8-hour TWA under any foreseeable conditions.”</p>
<p>WAC 296-840-145 Medical surveillance</p>	
<p>I haven’t found technology that would be capable of measuring air quality of a worker cutting tile or masonry outside whether using wet methods or not, would they have to provide medical surveillance or an initial exam for their</p>	<p>Thank you for your comment.</p> <p>Where employers engaged in construction tasks according to Table 1 under WAC 296-840-110, they do not have to conduct exposure assessments or otherwise comply with the PEL if they fully and</p>

² OSHA, Small Entity Compliance Guide for the Respirable Silica Standard for Construction, <https://www.osha.gov/Publications/OSHA3902.pdf>

<p>employees? I'm thinking they would be considered low risk activities but would like to know for sure.</p>	<p>properly implement the engineering controls, work practices, and respiratory protection listed in Table 1. Use of a stationary masonry saw to cut tile in accordance with Table 1 under WAC 296-240-110 does not require the use of respiratory protection.</p> <p>Medical surveillance for construction employees is mandatory where employees are required to use a respirator for thirty or more days per year. Respirator use is required where monitoring shows exposure above the PEL and/or when performing task listed on Table 1 and respirator use is specified.</p> <p>Since respiratory protection is not required for uses of a stationary masonry saw to cut tile when fully and properly in compliance with Table 1 under WAC 296-840-110, medical surveillance would also not be required for employees unless the employees perform other tasks or activities that require respirator use under chapter 296-240 WAC and the 30-day threshold is met.</p>
<p>Appendices</p>	
<p>The state rule(s) proposal emphasizes that it is "identical" to Federal OSHA, whereas in reality, it is not. Specifically, we ask that Appendix B – medical Surveillance Guidelines Introduction – Non-Mandatory be included in the current rulemaking as identical.</p> <p>The arbitrary deletion of the Federal OSHA appendix simply makes no sense with respect to furthering the knowledge and ability of Washington's employers, employees, and their representatives to achieve an "identical" and "as-effective-as" result under Washington's State Plan Program. For example, why should those in Washington be forced to travel the Internet and look at different and separate documents to obtain an</p>	<p>Thank you for your comment.</p> <p>The department intends to have three appendices codified in the rule.</p> <p>Appendix A – Methods of sample analysis is mandatory.</p> <p>Appendix B – Medical surveillance guidelines is nonmandatory.</p> <p>Appendix C – Adult tuberculosis screening tool for workers exposed to respirable crystalline silica is nonmandatory.</p> <p>Appendix A was included in the proposed rule and is adopted in this rulemaking. Since Appendix B and Appendix C were not included in the proposed rule, the department is filing an expedited rule to adopt these sections.</p>

<p>appendix, whether non-mandatory or not, unlike counterparts in virtually every other state in the country? Appendix B is literally mentioned in the body of the rules being adopted. Often an employer or union representative will check with health care providers or furnish information to their members regarding what information their physician should have in front of them. Proposing rules as “identical” and then intentionally leaving information out of the rule is not acceptable. Please include the appropriate and complete Appendix B from the federal rules in your final adoption.</p>	
<p>In the initial draft proposed rules produced by the Division of Occupational Safety and Health (DOSH) prior to filing the CR-102 had, in addition to including the Appendix B identified above, also included an additional “Appendix C – Adult Tuberculosis Screening Tool for Workers Exposed to Respirable Crystalline Silica – Non-Mandatory”. We ask that you revisit the decision to leave Appendix C out of the final silica rulemaking.</p>	<p>Thank you for your comment.</p> <p>The department intends to have all three appendices codified in the rule. Appendix A – Methods of sample analysis is mandatory. Appendix B – Medical surveillance guidelines is nonmandatory. Appendix C – Adult tuberculosis screening tool for workers exposed to respirable crystalline silica is nonmandatory.</p> <p>Appendix A was included in the proposed rule and is adopted in this rulemaking. Since Appendix B and Appendix C were not included in the proposed rule, the department will be filing an expedited rule to adopt these sections.</p>
<p>On the TB screening tool itself, if active TB is suspected, consider adding the option of infectious disease consult.</p>	<p>Thank you for your comment.</p> <p>The Department has added language to the preamble of Appendix C directing providers to contact their local health department for assistance with the evaluation of suspected or confirmed cases of active TB disease. In consultation with their local health department, providers may choose to refer patients to</p>

	<p>infectious disease specialists for further evaluation or management.</p> <p>Since the TB screening tool, Appendix C, was not included in the proposed rule language, the department will be filing an expedited rule to adopt this section.</p>
<p>I strongly support the requirement that all pulmonary function testing is performed by a technician with a current certificate documenting training through a NIOSH certified course.</p> <p>I also request that any physicians who may perform spirometry as part of the silica rule also demonstrate completion of a NIOSH certified spirometry course.</p>	<p>Thank you for your comment.</p> <p>Health care providers who are administering pulmonary function testing would need a current certificate from a NIOSH approved spirometry course to comply with WAC 296-840-145 (3)(d). This includes physicians.</p>
<p>On the “Written Medical Report for Employee”, I see a check box for “Test for Tuberculosis” result.</p> <p>However, under recommendations, consider adding a line indicating option for referral to an infectious disease specialist for evaluation if the LTBI test is positive and indicates the need for further evaluation and management of LTBI.</p>	<p>Thank you for your comment.</p> <p>The Department has added language to Appendix B regarding Washington State reporting requirements for tuberculosis. With the addition of this language, it has been determined an additional check box is not necessary. If providers, in consultation with their local health department, refer employees to infectious disease specialist for further evaluation or management, they may describe this recommendation using the “other recommendations” field of the Written Medical Report for Employee.</p> <p>Since the Medical Surveillance Guidelines, Appendix B, was not included in the proposed rule language, the department will be filing an expedited rule to adopt this section.</p>
<p>It may help to indicate on the form that If active TB is confirmed, this is a reportable condition.</p>	<p>Thank you for your comment.</p> <p>The Department has added information about Washington state notification requirements for tuberculosis to the preamble of Appendix C.</p>

	<p>Since the TB screening tool, Appendix C, was not included in the proposed rule language, the department will be filing an expedited rule to adopt this section.</p>
<p>Latent TB is not required to be reported to local county DOH in my location. It may be helpful to clarify this on the screening form as well.</p>	<p>Thank you for your comment.</p> <p>Latent TB infection may be a reportable condition and can vary from county to county. Providers should contact their local health department for more information on local reporting requirements, or to obtain assistance with the evaluation and management of latent TB infection.</p> <p>The Department has added information about Washington state notification requirements for tuberculosis to the preamble of Appendix C.</p> <p>Since the TB screening tool, Appendix C, was not included in the proposed rule language, the department will be filing an expedited rule to adopt this section.</p>
<p>Can “low risk” for TB be briefly defined on the screening tool?</p>	<p>The Department has clarified the meaning of low risk, as used by the screening tool, under Appendix C.</p> <p>Since the TB screening tool, Appendix C, was not included in the proposed rule language, the department will be filing an expedited rule to adopt this section.</p>