OSHA’s Crystalline Silica Rule: Regulatory Changes & Enforcement Trends

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Overview - MSHA

- MSHA has engaged in rulemaking on silica
  - RFI comments closed 10/28/19 – extension DENIED.
  - Legal issues surrounding the strict liability issues
  - MSHA demands for historical sampling data, medical surveillance and more

- Key MSHA issues
  - Whether to adopt a universal PEL of 50 ug/m3 across OSHA/MSHA (coal and MNM) and whether to include an action level of 25 ug/m3 as a trigger for medical surveillance, training and inclusion of a task in a silica control program
  - Whether to adopt a “Table 1” approach for common high exposure tasks or require individualized periodic sampling
  - Whether to allow the use of respiratory protection or require exposure to be limited solely through engineering/work practice/administrative controls
  - Whether to issue overexposure citations based solely on operator’s own sampling results (current document/data requests underway)
  - Whether to require medical surveillance (what trigger), medical removal for workers with Chest X-rays of 1/0 or worse by an ILO certified B-Reader
MSHA’s RFI

- House FY 2020 Appropriations Report chastised MSHA for failing to move forward on silica rule
- MSHA published RFI on 8/29/19 – comment deadline was 10/28/19
  - MSHA solicited information and data on feasible, best practices to protect miners' health, including examination of “appropriately reduced” PEL, potential new or developing protective technologies & technical/educational assistance
- MSHA PEL currently 100 ug/m3 coal (and formula that is the equivalent for MNM)
- MSHA bases citations on a single sample and cites even if appropriate PPE used (must reduce below PEL using engineering/admin controls)
- MSHA publishes overexposure data on it DRS for mine operators and contractors which can create a litigation target
Overview - OSHA

- Final OSHA rule: March 25, 2016 Fed Reg 606 pp long!
  - 30 pp of actual reg text - rest is preamble/explanation
  - Draft enforcement guidance 9/27/16 was 100+ pages long
  - Revised Interim guidance issued 10/19/17:
  - 8/18 FAQ interpretative guidance (53 FAQ):
    https://www.osha.gov/dsg/topics/silicacrystalline/additional_info_silica.html
  - 1/19 FAQ interpretative guidance for general industry (64 FAQ):
    https://www.osha.gov/dsg/topics/silicacrystalline/generalindustry_info_silica.html
  - Two new Letters of Interpretation (LOI) issued 7/25/19
  - Rule reopened for comment in August 2019 (deadline was 10/15/19)
Litigation: OSHA Rule Upheld!

- Industry challenged rule on 5 grounds: Court found OSHA provided “substantial evidence” that the rule:
  1) would reduce a “significant risk of material impairment or harm”;
  2) is technologically feasible for the foundry, hydraulic fracturing, and construction industries;
  3) is economically feasible for the foundry, hydraulic fracturing, and construction industries;
  4) OSHA can prohibit housekeeping methods that cause silica exposure, such as dry sweeping or using compressed air; and
  5) OSHA complied with the Administrative Procedure Act

- Court panel (led by M. Garland) rejected all, and remanded rule, at Union request, for consideration of “medical removal” provision
Health Findings in OSHA Rule

- Over 600 deaths/yr and 900 new silicosis cases prevented by rule
- Crystalline Silica categorized as respiratory toxin that causes silicosis, COPD and lung cancer
  - Three types of silicosis: Chronic (15-20+ yrs), Accelerated (5-10 yrs), and Acute (months-2 yrs)
- OSHA also links occupational silica exposure with kidney disease and auto-immune disorders
- 4/19 OSHA review of OSHA between 2008 and 2017 (including 13K air samples for silica) found 14% of personal air samples for silica exceeded applicable PEL, whereas only 2.5 percent of all chemical samples overall exceeded the relevant PEL!
  - Once enforcement started, OSHA found 18% of samples exceed the revised PEL!
Where do we find silica?

- RCS is generated by high-energy operations: cutting, sawing, grinding, drilling and crushing silica-containing materials, or by sand-blasting.
- Exposure also occurs during manufacturing products such as:
  - glass
  - pottery
  - ceramics
  - bricks
  - concrete (precast and ready-mix)
  - countertops, and
  - artificial stone
- Fine industrial sand is a source in foundry operations and during hydraulic fracturing (fracking)
On 2/4/20, OSHA launched new NEP for silica (CPL 03-00-0023) across all industries – 2% of ALL OSHA inspections must target RCS

- https://www.osha.gov/sites/default/files/enforcement/directives/CPL_03-00-023.pdf - state plan participation is mandatory
- Area offices will do 3 months of outreach before NEP enforcement begins

- General Industry/Maritime: NEP contains updated NAICS list – sectors with the largest numbers of workers performing tasks with RCS overexposures

- Construction: Will use OSHA Construction Inspection Targeting Application (C-target), CSHOs’ observations of area construction sites (i.e., knowledge gathered by CSHO “drive-bys”), and local knowledge (e.g., lists of projects from the local DOT)
  - See also CPL 02-00-155, Inspection Scheduling for Construction.
  - Appendix A also lists construction operations likely to have RCS exposures, provided as an aid for compliance officers
  - If worksite is also selected for inspection under SST initiative – inspections will be conducted concurrently (expands scope)
Hierarchy of Controls

- Elimination
- Substitution
- Engineering Controls
- Work Practice Controls
- Personal Protective Equipment
**OSHA Table 1: Work Tasks & Equipment**

1. Stationary masonry saws
2. Handheld power saws
3. Handheld power saws for cutting fiber-cement board (blade diameter of 8” or less)
4. Walk-behind saws
5. Drivable saws
6. Rig-mounted core saws or drills
7. Handheld and stand-mounted drills
8. Dowel drilling rigs for concrete
9. Vehicle-mounted drilling rigs for rock and concrete
10. Jackhammers and handheld powered chipping tools
11. Handheld grinders for mortar removal (i.e., tuck pointing)
12. Handheld grinders for uses other than mortar removal
13. Walk-behind milling machines and floor grinders
14. Small drivable milling machines
15. Large drivable milling machines
16. Crushing machines
17. Heavy equipment and utility vehicles used during demolition
18. Heavy equipment and utility vehicles for grading & excavating
### Table 1 Equipment/Task Example – *Indoor & Outdoor Use*

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<th>Equipment/Task</th>
<th>Engineering &amp; Work Practice Control Methods</th>
<th>Required Respiratory Protection &amp; Minimum APF</th>
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| (xii) Handheld grinders for uses other than mortar removal | **For tasks performed OUTDOORS only:**  
  * Use grinder **equipped with integrated** water delivery system that continuously feeds water to the grinding surface.  
  * Operate and maintain tool in accordance with manufacturer’s instructions to minimize dust emissions.  
  OR  
  * Use grinder **equipped with commercially available** shroud and dust collection system.  
  * Operate maintain tool in accordance with manufacturer's instructions to min. dust emissions  
  * Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.  

  − When used **Outdoors**  
  − When used **Indoors or in an Enclosed Area** | **Outdoors**  
  ≤ 4 hours / shift = NONE  
  ≥ 4 hours / shift = NONE  

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Exposure Monitoring Must be Performed

- Exposures must be determined when:
  1. Equipment/Tasks not listed in Table 1, or
  2. Employer does not fully implement controls and PPE required by Table 1

- Prove compliance by exposure monitoring:
  1. **Performance** option (*Air Monitoring or Objective Data*), or
  2. **Scheduled Monitoring** option

**Goal** = verify no equipment/task exposes employees above PEL of 50 µg/m³ 8-hour TWA
WECP required

- Have a copy onsite, implemented by Competent Person, readily available to all employees & OSHA

- Description of Equipment/Task involving exposure to respirable crystalline silica (RCS)
  - Construction can use Table 1 language and add to it if task applies

- Description of Engineering Controls, Work Practices and Respiratory Protection
  - Construction can use Table 1 language and add to it if task applies

- Description of Housekeeping Measures

- Description of Procedures used to Restrict Access
  - Construction: Restricted access is data driven based on potential exposure. If potential exposure exists, then access should be restricted.
  - General industry: Must barricade and placard warnings re: cancer if anticipated exposures above 50 ug/m3 – 100% Respirator Zone
Employee Training

- Employer’s Written Exposure Control Plan
  - Specific tasks in workplace that could result in exposures
  - Specific measures implemented to reduce/eliminate exposure, including engineering and work practice controls, and any respiratory protection

- OSHA’s HAZCOM Standard (*29 CFR 1910.1200*)
  - Hazards of RCS containing products, access to labels and SDS's

- Employees must also be trained on:
  - Contents of OSHA rule
  - Tool/Equipment operation & maintenance in accordance with manufacturer's instructions to minimize dust emissions.
  - Health hazards associated with exposure to RCS
  - If necessary, medical surveillance program elements
Proving Silica Exposure on Site

- OSHA will review the employer’s WECP.
- Construction: If following Table 1, OSHA will review tasks to ensure compliance with Table 1 and WECP – Will not sample.
- If employer is not under Table 1 – OSHA will sample and compare results with employer’s samples and review effectiveness of control measures (and what was considered)
- OSHA recognizes that small amounts of dust can be expected from equipment operated according to manufacturer’s recommendations, but an increase in dust generation during operation of tool indicates controls are not operating correctly
- If not complying with WECP, then OSHA can issue citation.
Respiratory Protection – 1910.134

☐ For those tasks where respiratory protection is required, ensure that the designated respiratory protection is used, properly worn and maintained when not in use (i.e. cleaned, stored in protective bags/containers, not exposed to excessive heat/cold).

☐ Ensure that persons wearing Respiratory Protection have been fit tested and that records can be produced.

✔ What challenges for employers in finding N95 respirators in light of COVID-19?
Medical Surveillance

- Employer must make medical surveillance available at no cost to employee
  - Construction - for each worker who uses a respirator for 30 days/yr
  - General Industry – for each worker exposed above AL for 30+ days/yr

- All exams and procedures must be performed by PLHCP – after initial, exam must be repeated every 3 years or more often if recommended. Baseline exam includes:
  - past, present and anticipated exposure to RCS, dusts, and other agents affecting respiratory system,
  - history of respiratory system dysfunction and TB,
  - smoking status and history,
  - physical exam,
  - chest X-ray,
  - pulmonary function test,
  - testing for latent TB infection, and
  - any other tests determined appropriate by PLHCP.
Enforcement Highlights

- CSHOs are expected to:
  - Collect breathing zone samples on 1st day of inspection,
  - Review written exposure control plan, respiratory protection and HazCom programs,
  - Review ER’s own air monitoring records (if any), and
  - Interview affected employees and the competent person to assess implementation of WECP

- Employers must use engineering and work practice controls to reduce & maintain exposures below the PEL unless ER can demonstrate not feasible … only then can supplement with respiratory protection or use worker rotation.
2018 FAQ Guidance Highlights

- 8/18: OSHA issues 53 FAQ to guide on construction rule compliance – developed in conjunction with union and industry stakeholders

- Guidance issues clarifications:
  - Scope: covers all occ. exposures to RCS in construction except where exposures remain below AL of 25 ug/m3 under any foreseeable conditions … intent is for rule NOT to apply where work results in only minimal silica exposures
  - OSHA says many common construction tasks will be outside scope because silica-containing products are only handled while wet or are performed for 15 minutes per day or less
2018 FAQ Highlights: Table 1

- For respiratory protection 4 hr triggers, FAQ clarifies that ER does not have to track exact amount of time EE performs job during shift to be in compliance
  - Before task is performed, ER must make “good faith judgment” about whether task will take >4 hr – and if estimates will exceed 4 hrs, utilize protection from the start
- Clarifies that Table 1 requirements to “operate and maintain tools” per manufacturer instruction is aimed at “those related to dust control” and not the other instructions (such as recommended respiratory protection)
- Clarifies that hand-held powered demolition hammers with bushing tools and tile saws are covered by Table 1
Clarifies that when silica-generating tasks are performed, standard is not intended to prohibit all employees from entering entire construction area simply because some work generates silica

- Rule calls for **minimizing** the EE in relevant work areas

Clarifies that standard does **not** require ER to develop NEW written plan for each job or worksite – must only have a plan **applicable** to each worksite

- ER can have single comprehensive plan that covers all required aspects of plan for all work activities at all worksites
2018 FAQ : Medical Surveillance

- Initial exam for covered workers must be offered within 30 days of initial assignment unless EE has received medical exam meeting standard’s requirements within previous 3 yrs.
- Clarifies that rule does not preclude in-house healthcare providers from performing the required exams.
- Standard does not bar ERs from receiving the same info as EEs from the exam, if is received for other purposes and through other means such as workers’ compensation actions.
- Standard requires ER to make surveillance available to qualifying EE, but does not require EE to participate in surveillance.
ER does not have to sample every employee; can sample representative # in each task who are expected to have highest exposure, and those results are assigned to others performing that task

Gauging what tasks are < 25 ug/m3 TWA under “foreseeable circumstances” includes failure/absence of controls, but not substitution of materials, or fixed walls

Standard does not specifically exempt tasks with short-term exposure (15 minutes or less) but will not apply if employer has objective data showing EE exposure will be < 25 ug/m3 under all foreseeable circumstances

ER needs to document its determination of such excluded tasks through objective data, and maintain EE exposure records under 1910.1020

ER can mix scheduled monitoring and performance options, depending on which is optimal approach for task

ER can start with scheduled monitoring, then switch to objective data once have sufficient info
2019 GI Guidance: Key Points

- Standard doesn’t prohibit ER from requiring workers to wear personal samplers, but other laws or CBA might
- Sampling results need not be reported to OSHA, but must be made available to EEs under records access rule -period of employment + 30 yrs
- To protect workers from identity theft, it is now a *de minimis* violation to omit SS# from health records
- Employees must receive notice of their sampling results within 15 working days (GI) or 5 working days (construction) but the notification period only starts when the employer receives monitoring results
- If one or more EE will be exposed above 50 ug/m³, area must be “regulated” and all entering must wear respirators, even if they would not be in the area long enough to be overexposed
- Regulated areas can be temporary, using moveable stanchions, caution tape, cones … but must have mandatory posted signage
2019 GI Guidance: Key Points

- Administrative controls are permitted to reduce worker exposure: worker rotation, or schedule high exposure tasks when other workers not near … but worker rotation may subject additional workers to medical surv.

- If use of engineering and work practice controls reduce exposures below PEL, then additional controls are not required to reduce exposures even lower (even if feasible)

- If feasible engineering & work practice controls are not sufficient to reduce exposures below PEL, then ER must use all feasible controls and then provide appropriate PPE

- Only tasks with foreseeable exposures above 25 ug/m3 (AL) must be listed in WECP

- ER do not need separate ECP for different operations, processes or shifts at the same worksite (use single comprehensive plan) but terms must be sufficiently descriptive to enable EE to consistently identify and control silica-related hazards
Federal OSHA Silica Enforcement: 674 Citations FY 2019 & $1.4M Fines

Percent of all construction silica citations since 9/23/17 – by category

- Air Monitoring
- Written Exposure Control Plans
- Training
- Respiratory Protection
- Medical Surveillance
- Housekeeping
Conclusion: Next Steps

- OSHA reopened rule to with RFI on expansion of Table 1 and offering that option for general industry - also should address “medical removal” issue
- OSHA will issue a new NEP for respirable silica dust exposure in 2020, but details are still under review by OSHA
- Expect higher enforcement rates now that rules are fully in effect
- MSHA rulemaking is likely to mirror OSHA requirements – but will subject operators to greater scrutiny due to 2/4 inspections
  - MSHA will continue compiling operator data where available to help build rulemaking record (enforcement for data provision through Sec. 103(a) and Sec. 108(a)(1)(E) of Mine Act
  - Open question of whether such data can trigger citations (due to lack of statute of limitations and strict liability) or be used to show “pattern or practice”
  - Considerable WC and tort liability if mine operators with “knowledge” fail to protect miners from adverse health effect … and Dept. of Labor says that this occurs above 50 ug/m3!

  BE PROACTIVE AT MIXED OPERATIONS ... DON’T WAIT FOR MSHA TO REGULATE