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| PC Portal ID: | D19-01-001 | PC Published: | 03/28/2019 | Request Received: | 01/15/2019 |
| Requestor: | Mark Deichman | | Field Element: | Richland Operations Office | |
| Notes: | None | | | | |

Subject: Silica standard and HEPA vacuum requirements

Question:

After drilling holes, does a HEPA-filtered vacuum need to be used for cleaning out the holes? Or can the manufacturer's vacuum with a 99% efficiency rating be used?

Background Information:

To minimize employee exposure to silica, a roto-hammer is being used with the manufacturer's dust collection system, auto filter cleaning mechanism, 99% efficient filter, and tool shroud. The employer is applying the controls prescribed in 29 CFR 1926.1153(c)(1), Table 1 equipment/task (vii), handheld and stand-mounted drills including impact and rotary hammer drills.

Policy Clarification:

Yes, a high-efficiency particulate air (HEPA) filtered vacuum is required to be used when cleaning out drilled holes.

Title 10 CFR 851.23 incorporates by reference the 2016 American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Value (TLV)[®] for Chemical Substances and Physical Agents and Biological Exposure Indices and two Occupational Safety and Health Administration (OSHA) respirable crystalline silica standards including: 29 CFR 1926.1153 for construction and 29 CFR 1910.1053 for general industry.

The 2016 ACGIH TLV[®] for respirable silica is 25 µg/m³, which is below the OSHA Permissible Exposure Limits (PEL) of 50 µg/m³. Contractors must comply with 10 CFR Part 851 and therefore must also comply with the 2016 ACGIH TLV[®] of 25 µg/m³ for respirable silica. DOE construction contractors cannot solely rely on 29 CFR § 1926.1153(c)(1) Table 1 instead of obtaining exposure monitoring data and/or a combination of exposure monitoring data and objective data sufficient to accurately characterize worker exposures. (See DOE Policy Clarification PCID #D17-12-003).

However, Table 1 is still useful as it identifies engineering and work practice control methods to be used with pre-defined equipment and tasks in construction. According to Table 1 section (vii) for handheld and stand-mounted drills (including impact and rotary hammer drills), the engineering and work practice control methods are listed as follows:

- Use drill equipped with commercially available shroud or cowling with dust collection system.
- Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.

- Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism.
- Use a HEPA-filtered vacuum when cleaning holes.

HEPA filter means a filter that is at least 99.97 percent efficient in removing mono-dispersed particles of 0.3 micrometers in diameter. OSHA requires that holes be cleaned with a HEPA-filtered vacuum. Any method for cleaning holes can be used, including the use of compressed air, if a HEPA-filtered vacuum is used to capture the dust. If a HEPA-filtered vacuum is not used when cleaning holes, then the DOE contractor must assess and control the exposure of that employee in accordance with 10 CFR 851.22, *Hazard prevention and abatement*, 29 CFR 1926.1153(d), and alternative exposure control methods necessary to protect the safety and health of workers (incorporated by reference in § 851.23(b)).

Applicable Regulations:

- 1) 10 CFR 851.23, *Safety and health standards*
- 2) 29 CFR 1926.1153, *Respirable crystalline silica standard*

Additional Information:

None

Concurrence:

| CONTRIBUTOR | NAME (Office) | DATE |
|-------------------|-------------------------|------------|
| Preparer: | Maurice Haygood (AU-11) | 03/27/2019 |
| Reviewer: | Robin Keeler (AU-11) | 03/27/2019 |
| Field Office POC: | None | None |
| HQ POC: | Thomas McDermott (OS) | 03/27/2019 |

Approval:

Approved March 28, 2019 by James R. Dillard, Director, Worker Safety and Health Policy and received non-substantive, but significant editorial enhancements to improve readability during triennial review on May 13, 2024.

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