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Sentinel™ Dust Suppressant Solution is Now Available

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In order to have a safer work environment, OSHA has implemented a new ruling that limits the permissible exposure limit (PEL) for respirable silica dust to $50\mu\text{g}/\text{m}^3$ calculated as an 8-hour time weighted average (TWA).¹ This poses a new challenge for frac sand producers and users.

Hexion's Sentinel™ dust suppressant is an economical solution designed to reduce the amount of respirable silica to levels below the new OSHA and existing Canadian PELs. The unique chemical system traps fine dust particles and remains on the proppant during transportation and transfer.

The versatile application method allows users to apply the product at the sand mine, transload or at the frac location. Our Sentinel dust suppressant provides safety and compliance from the sand mine to the wellhead.

Technical Applications

- Liquid dust control agent
- Can be applied at the sand mine, transload or on frac location
- Can be applied at temperatures from -30°F to 200°F
- Is effective on all mesh size sands, including 100 mesh

Technical Advantages and Benefits

- Capable of reducing respirable silica dust below $25\mu\text{g}/\text{m}^3$ as an 8-hour TWA
- Sentinel dust suppressant mobile or stationary delivery system has a small footprint on location
- Unique chemistry is compatible with most frac fluids
- Will not decrease throughput at the sand mine
- Will not decrease sand offloading time when deployed at a transload or frac site
- Resistant to degradation during multiple proppant transfers

Both the Sentinel dust suppressant treated 100 mesh sand and uncoated 100 mesh sand were transferred to an open bin by a mobile conveyor. A vertical fall of approximately 25 feet generated respirable dust levels above the new OSHA PEL for uncoated 100 mesh sand. The 100 mesh sand treated by the Sentinel dust suppressant had all respirable dust measurements below the new OSHA PEL. It was analyzed in accordance with OSHA 1910.1053 appendix A.





Uncoated 100 Mesh Sand
Average Respirable Silica: 1,470 $\mu\text{g}/\text{m}^3$



Sentinel Dust Suppressant Treated 100 Mesh Sand
Average Respirable Silica: 16 $\mu\text{g}/\text{m}^3$

Please contact us at oilfield@hexion.com for more information regarding this new technology.