

# BERYLLIUM

## WORKER SAFETY

### Beryllium Worker Safety – Module 5

#### How much?

#### Transcript

**Narrator** Action! So when do you take action? If you're working with beryllium, how much beryllium requires additional protective action?

**Dr. David Michaels** We were using a standard that was implemented first in 1948... and it hadn't changed and certainly was out of date.

**Narrator** OSHA — the Occupational Safety and Health Administration sets exposure limits in the workplace, and set its exposure limit for beryllium at  $2\mu\text{g}/\text{m}^3$ .

What that means is any airborne beryllium averaged over an 8-hour workday was not to exceed 2 millionths of a gram within a cubic meter of air.

Another way to put it is like this. If you were to take a pencil point and grind it into extremely fine particles — and then spread those particles throughout a box the size of a football field six feet high—that would be the exposure limit for beryllium,  $2\mu\text{g}/\text{m}^3$ . At this concentration, particles would be spaced so widely apart that they couldn't be seen, tasted, or smelled.

But how good was this exposure limit? In September 1999 OSHA warned, "Our current permissible exposure limits for beryllium in the workplace now appear to be too high to prevent chronic beryllium disease."

The next question was, "What level is safe?"

# BERYLLIUM

## WORKER SAFETY

**Dr. David Michaels** The Department of Energy is very proud of the new beryllium standard. We reduced the level, which triggers protection by a factor of ten, at point two (0.2) micrograms rather than 2 micrograms per cubic meter.

**Narrator** What this means is that under the new Department of Energy Rule, protective action that would have happened at the OSHA exposure of  $2\mu\text{g}/\text{m}^3$ , will now happen at a much lower action level of  $0.2\mu\text{g}/\text{m}^3$ . That's 1/10th the concentration allowed for by the OSHA standard.

So if that same pencil point were ground into those same fine particles, they would be spread even thinner, throughout a football field box 60 feet high, that's 10 times the size of the previous standard's "box." For some people, it's not certain that exposure at any level is safe.

However, this lower action level will provide greater protection for DOE beryllium workers, by triggering additional monitoring, surveillance, respiratory protection, and other protective measures. And the important thing is to take action.

**Dr. David Michaels** We're very pleased that we got out in front of this as fast as we did. We should have done it a long time ago, but we did it now, and we're ahead of everybody else. We will do everything we can to stop this tragedy from recurring. They shouldn't have to choose between their work and their lungs.