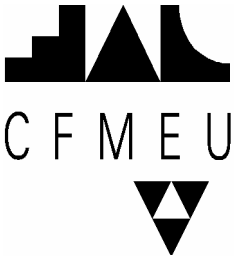
SENATE COMMUNITY AFFAIRS COMMITTEE

INQUIRY INTO WORKPLACE EXPOSURE TO TOXIC DUST

SUBMISSION OF THE
CONSTRUCTION, FORESTRY, MINING AND ENERGY UNION
CONSTRUCTION AND GENERAL DIVISION



5 JULY 2005

CRYSTALLINE SILICA

1. What is Crystalline Silica?

   Crystalline silica is a base component of soil, sand, granite and many other minerals. Cristabalite and Tridymite are two other forms of crystalline silica. All three forms may become respirable size particles when workers chip, cut, drill or grind objects that contain crystalline silica, or when they use materials containing crystalline silica for abrasive blasting (e.g. sand blasting).

2. Health Effects of Exposure to Crystalline Silica

   Exposure to crystalline silica can cause silicosis where respirable dust enters the lungs and causes the formation of scar tissue, thus reducing the ability of the lungs to take in oxygen. The three main types of silicosis are:

   - Chronic/classic silicosis, which is the most common type, occurs after 15-20 years of moderate to low exposure. Symptoms associated with chronic silicosis may or may not be obvious in its early stages; therefore screening of workers in high risk occupations is essential. As the disease progresses the worker may experience shortness of breath upon exercising. In the later stages the worker may experience extreme shortness of breath, chest pain or respiratory failure.

   - Accelerated silicosis, which can occur after 5-10 years of high exposure. Symptoms include severe shortness of breath, weakness and weight loss. The onset of symptoms takes longer than in acute silicosis.

   - Acute silicosis, which occurs after a few months or as long as two years following exposure to extremely high concentrations of respirable crystalline silica. Symptoms include severe disabling shortness of breath, weakness and weight loss, which often leads to death.

     SINCE 1997 SILICA HAS BEEN LISTED AS A CLASS ONE CARCINOGEN BY THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC).

3. Occupations Most Exposed to Crystalline Silica

Building and construction industry workers use and come into contact with materials containing crystalline silica at every stage of construction, from excavation to finishing trades. Areas of high exposure include :

- Excavation, where dust is created by drilling, chipping, jackhammering, etc;
- cutting to size of bricks, blocks, lightweight concrete panels, tiles, etc;
- sandblasting;
- grinding of floor slabs, granite for decorative purposes;
- concrete cutting and drilling;
- chasing out walls for electrical cabling;
- refractory bricklaying;
- demolition; and even
- sweeping concrete floor slabs.

4. Current Preventative Measures

There is a national standard for exposure to Crystalline Silica (0.1mg/m^3). Some State regulators have produced codes of practice for various tasks that may create silica dust. HOWEVER there is no compulsory monitoring of exposure levels or of adherence to codes.

5. Education Programs

Most regulators produce occasional warnings on exposure, but it is mainly through CFMEU awareness campaigns and leaflets that construction workers are alerted to the dangers of exposure to crystalline silica.

6. Accurate Diagnosis

The medical profession was for many years reluctant to accept white asbestos (Chrysotile) as a carcinogen or cause of lung disease. There is an urgent need for an effective education program to ensure this is not repeated with crystalline silica.

7. Availability Of Records

The transient nature of the construction industry, coupled with the possible delay in developing symptoms, is an impediment to the accurate compilation of statistics. Many workers move on to other industries and in some cases lung disease is attributed to other causes (e.g. smoking).

8. Access To Compensation

   Authorities such as the Dust Diseases Board of NSW are instrumental in gaining compensation for workers. However, they are able to help only if the worker approaches them.

9. Emerging Technology

   Workplace exposure to nanoparticles is being greatly increased by new methods of manufacture. The creation and use of synthetic nanoparticles raises entirely new issues of worker health and safety.

CONCLUSIONS

1. Health problems associated with exposure to crystalline silica are indisputable and can lead to an horrific death.

2. Although there are standards and codes, there is little if any enforcement.

3. Building and construction work methods create crystalline silica dust.

4. There is no compulsory screening of workers in high risk occupations, or registers of exposure, except those compiled by unions.

5. In some cases there is a risk of lung disease being incorrectly attributed to other causes.

6. There are not enough education programs run by regulators (unions play a far more active role).

7. There has been little or no research into the health effects of nanoparticles.

RECOMMENDATIONS

1. Regulators must enforce standards and codes in a nationally agreed co-ordinated program.

2. Regulators must keep a register of workers at risk of exposure to crystalline silica dust. This should also include screening (lung function x-ray).

3. The Australian Safety and Compensation Council (ASCC) must co-ordinate a tripartite crystalline silica awareness campaign aimed at employers, workers and the medical profession.

4. There is a definite question mark over nanoparticles and their potential health risks. The Commonwealth Government must fund research into the health effects of nanoparticles.

5. Years of inactivity exacerbated the death toll caused by asbestos. This must not be allowed to be repeated by exposure to crystalline silica and (as appears probable) nanoparticles.

6. This Senate Inquiry has the duty to recommend to the Government that funding should be made available to the ASCC to develop a code of practice for the safe use of crystalline silica, including national screening and exposure registers.

7. It is also essential that the inquiry calls on the Government to fund research into nanoparticles and other emerging technologies which may have adverse effects on health similar to those of crystalline silica.

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