

## **Pneumoconiosis caused by dusts of silicates**

### **Definition of causal agent**

Commercially important silicates include:

3. the phyllosilicate clay minerals kaolin, montmorillonite (fuller's earth and bentonite) and hallyosite.
4. the non-clay phyllosilicates - talc, pyrophyllite, mica and vermiculite
5. the closely-associated minerals attapulgite (palygorskite), sepiolite and meerschaum.
6. orthosilicates ('olivines'), anhydrous aluminium silicates (andalusite, kyanite, sillimanite), woolastonite and the zeolites.

Non-asbestos silicates may be contaminated by silica or by (asbestiform) tremolite fibres.

#### ***Main occupational uses and sources of exposure:***

The silicates have a very wide range of commercial uses and exposure may occur during their extraction, crushing, drilling, grinding, polishing or other handling.

### **Toxic effects**

#### **☐ Pneumoconiosis**

- Some silicates appear, rarely, to be capable of inducing a relatively benign pneumoconiosis. They include kaolin, mica, fuller's earth and possibly talc.
- Most cases of pneumoconiosis arising in workers with exposure to silicates are more probably attributable to contaminating quartz or asbestos fibres.

*minimum intensity of exposure:* unknown (but variable)

*minimum duration of exposure:* two years

*maximum latent period:* none

#### **☐ Other pulmonary**

- Inhalation of talc can cause the development of foreign-body granulomas in the lung. These are rare and benign.
- Pleural plaques, mesothelioma and lung cancer in workers with exposure to silicates are attributable to inhalation of contaminating quartz or asbestos fibres.