

## Safe Handling of Powdered Ceramic Materials

These notes aim to give a brief explanation of the dangers of working with powdered ceramic materials and to offer some reassurance to potters who may be concerned at some stories of exaggerated risk and danger currently circulating.

### Respirable Silica Dust

Dust from powdered ceramic raw materials, glazes, slips and clay can cause health problems if not properly controlled. The Health and Safety Executive focuses in particular on respirable crystalline silica, (RCS) - very fine particles that are present in clays and glazes. Historically, RCS has been responsible for poor health on a huge scale, particularly in the ceramics industry where it caused silicosis. Nowadays, through legislation and education, air extraction and safe working practices, the risk has been radically reduced, if not eradicated, in the industry. For the studio potter and amateur potter, it is important to keep a sense of proportion: If the levels of dust in the studio are kept to a minimum, there will be little risk. Silicosis is a disease associated with heavy and long-term exposure. The NHS website defines silicosis as follows:

*“Silicosis is a long-term lung disease caused by inhaling large amounts of crystalline silica dust, usually over many years. Silicosis usually develops after being exposed to silica for 10-20 years, although it can sometimes develop after 5-10 years of exposure”.*

Silicosis is not the only risk associated with RCS: Fine dust can cause other respiratory problems, particularly for people with pre-existing breathing or lung problems, so it is important to be careful when handling ceramic powders and cleaning up after use.

It is not just clay dust - there are other ceramic materials that can be harmful, for example, copper, cobalt, barium carbonate, lithium carbonate, nickel oxide and manganese dioxide. As with silica, the danger of these materials, and others, comes from long term exposure. Sensible studio practices as listed below, will keep you safe.

### Tips for Healthy Potting

1. Always wet clean using a mop rather than a brush. This is probably the most effective measure you can take to suppress dust.
2. Do not smoke, eat or drink in the pottery, especially in glaze preparation areas.
3. Always wash hands after handling materials. Some clays can cause skin problems if hands are not thoroughly washed with soap. If you have sensitive skin, use a barrier cream before potting or an emollient afterwards, such as Potclays sku: 6895 Dermatronics cream.
4. Keep materials in their original packaging. This avoids creating dust when tipping into another container, and ensures the material is correctly labelled, preserving the batch number of the product for identification should any problems arise. If it is essential to transfer the material to another container, ensure that all the packaging information is copied, and include the date. Label the side of the container, not just the lid which could get swapped.

5. Mixing glaze or slip from powders generates dust, so ensure that the material is handled carefully and slowly to keep the dust down. It is less dusty to use a scoop, which allows you to lower the powder gently rather than dropping it into the container. Avoid sieving dry material, but if essential, use an atomiser to spray a fine mist of water which will help to suppress the dust.
6. Potclays recommends wearing a suitable face mask when handling ceramic powders. Choose one that conforms to recommendations such as:  
JSP Force 8 Half-mask with PressToCheck P3 R D Filters sku: 6898-04.
7. Ensure there is adequate ventilation in your studio -opening doors and windows will help, but an extract fan with a plentiful source of replacement air will actively move dust safely out to atmosphere.
8. Wash aprons and potting clothes regularly to avoid a build-up of clay which will become powdery on drying, spreading dust.
9. Clean up clay slop spillages while they are wet. Always wet-clean with a mop, and avoid brushing as this will create dust.
10. Fettling, scraping, sgraffito and similar activities will create dust - increase ventilation and wear a mask.
11. Spraying glazes can form aerosol mist that can be breathed in - ensure the spray booth filters are clean and the fan is not clogged and is working effectively.

For further advice please contact Potclays Technical Department on 01782 219816 or at [technical@potclays.co.uk](mailto:technical@potclays.co.uk).

**Disclaimer: Technical advice**

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