

Title *

Exposure assessment in a factory of barium sulfate particles

Abstract *

Barium sulfate is used widely as a component of oil well drilling fluid, radiocontrast agent, pigment or paper brightener. Barium sulfate is also used as a filler for plastics to increase the density of the polymer as well as increasing acid and alkali resistance and opacity. The present study investigated exposure level of barium sulfate particles in a factory.

There were processes of breaking and packing barium sulfate particles in the factory. Personal cascade impactor samplers (PCIS) were attached to the workers in breaking area, packing area, room for maintenance, warehouse and stock area. The number concentration of particles was measured with optical particle counter (OPC), condensation particle counter (CPC) as well as scanning mobility particle sizer spectrometer (SMPS).

The result of PCIS showed that the mass concentrations of particles were 0.4 to 1.9 mg/m³ in breaking areas, 78 to 98 mg/m³ in packing areas, 0.03 mg/m³ in maintenance room, 0.004 mg/m³ in warehouse, 0.99 mg/m³ in stock area and 0.05 mg/m³ outside of the factory.

The exposure level is expected to be the highest in the workers engaged in packing process in the factory handling barium sulfate.

Permission to publish *



Check this box to give us permission to publish your abstract on a flash drive/USB Stick for distribution to all delegates if it is accepted for presentation

Affiliations and Authors *

Author Information

Sahoko Ichihara

Affiliations

Jichi Medical University, Shimotsuke, Japan

Author Information

Zhenlie Huang

Affiliations

Guangdong Province Hospital for Occupational Disease Prevention and Treatment, Guangzhou, China

Author Information

Gaku Ichihara (Presenting)

Affiliations

Tokyo University of Science, Noda, Japan

Author Information

Yuji Fujitani

Affiliations

National Institute for Environmental Studies, Tsukuba, Japan

Author Information

Seishiro Hirano

Affiliations

National Institute for Environmental Studies, Tsukuba, Japan

Author Information

Sakie Takeuchi

Affiliations

Tokyo University of Science, Noda, Japan

Author Information

Akiho Hirano

Affiliations

Tokyo University of Science, Noda, Japan

Author Information

Hanlin Huang

Affiliations

Guangdong Province Hospital for Women and Children Healthcare, Guangzhou, China