

Acute Inhalation Toxicity

Manganesedioxide

Methods

To confirm acute inhalation toxicity of manganesedioxide, 3 male and 3 female rats were nose-only exposed to manganesedioxide at 5 mg /L concentration for 4 hours. It was measured the concentration of manganesedioxide, particle size distribution and the chamber environment during the exposure time. Clinical signs and body weight changes were recorded for 14 days after the end of the exposure, and gross findings were observed after necropsy.

Results

The mean concentration of manganesedioxide was 4.887 ± 0.133 mg/L during the exposure time. The aerosol mass median aerodynamic diameter (MMAD) was $5.477 \mu\text{m}$, and the geometric standard deviation (GSD) was 2.2. It was not observed abnormal body weight changes and clinical signs in all animals. As a result of necropsy, enlargement and pale discoloration were observed in the lungs of 3 males and 2 females, and enlargement of tracheobronchial lymph node was observed in 3 males.

Manganese-
dioxide 4.887 ± 0.133
mg/L

MMAD

 5.477
 μm

GSD

2.2

Conclusion

GHS Classification - Acute toxicity (inhalation - dusts and mists) :
Unclassified ($\text{LC}_{50} > 5.0$ mg/L)

Laboratory



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