OSHRI

Occupational Safety and Health Research Institute

90-day (subchronic) Inhalation Toxicity of 1,2-Dichlorobenzene in B6C3F1 Mice

Methods

Ten male and ten female B6C3F1 mice were exposed to 1,2-Dichlorobenzene vapors for 13-weeks (6 h/day, 5 days/week) at concentration of 0, 30, 60, and 120 ppm. The exposure of test substance and housing animals were carried out in whole-body inhalation chambers, and the range of environmental conditions was maintained in accordance with the test guidelines. Clinical sings, body weight changes, hematology, blood biochemistry, organ weights, and histopathological findings were observed.

Results

The test substance concentrations in the chambers were 30.04±1.06, 59.88±1.92, and 122.79±13.68 ppm. No death or substance-related clinical signs and food consumptions were observed during the test period. Decreased body weight changes or decreasing tendency were observed in all groups. No substance-related organ weight changes, hematology, and clinical chemistry examinations were observed. The dystrophic mineralization of the liver was observed in high dose group (120 ppm) in male mice. Also, Eosinophilic globules, basal cell hyperplasia, and respiratory metaplasia in the nasal cavity were observed in low, middle, and high dose group (30, 60, and 120 ppm) of male mice, and atrophy, glands dilatation, eosinophilic globules, basal cell hyperplasia and respiratory metaplasia (except high dose group) in the nasal cavity of were observed in low, middle, and high dose group (30, 60, and 120 ppm) of female mice.

1,2-Dichlorobenzene

30.04±1.06, 59.88±1.92 & 122.79±13.68 ppm

Conclusion

Based on the findings, the no-observed-adverse-effect level (NOAEL) was determined to be less than 30 ppm in B6C3F1 Mice.

Laboratory

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