World Academy of Science, Engineering and Technology
International Journal of Pharmacological and Pharmaceutical Sciences
Vol:11, No:12, 2017

Safe Limits Concentration of Ammonia at Work Environments through CD8 Expression in Rats

Authors : Abdul Rohim Tualeka, Erick Caravan K. Betekeneng, Ramdhoni Zuhro, Reko Triyono, M. Sahri

Abstract : It has been widely reported incidence caused by acute and chronic effects of exposure to ammonia in the working environment in Indonesia, but ammonia concentration was found to be below the threshold value. The purpose of this study was to determine the safety limit concentration of ammonia in the working environment through the expression of CD8 as a reference for determining the threshold value of ammonia in the working environment. This research was a laboratory experimental with post test only control group design using experimental animals as subjects experiment. From homogeneity test results indicated that the weight of white rats exposed and control groups had a homogeneous variant with a significant level of p (0.701) > α (0.05). Description of the average breathing rate is 0.0013 m^3/h. Average weight rats based group listed exposure is 0.1405 kg. From the calculation IRS CD8, CD8 highest score in the doses contained 0.0154, with the location of the highest dose of ammonia without any effect on the lungs of rats is 0.0154 mg/kg body weight of mice. Safe Human Dose (SHD) ammonia is 0.002 mg/kg body weight workers. The conclusion of this study is the safety limit concentration of ammonia gas in the working environment of 0,025 ppm.

Keywords : ammonia, CD8, rats, safe limits concentration
Conference Title : ICT 2017 : International Conference on Toxicology
Conference Location : Bangkok, Thailand
Conference Dates : December 18-19, 2017