ABSTRACT

E-NOSE design that has a function to identify alcohol toxic gas exposure using MQ-3 sensor, and ammonia toxic gas using MQ-137 sensor. The decision system to identify toxic gas exposure uses fuzzy logic.

Measurement of alcohol and ammonia gas levels has units of PPM. From the test results with MQ-3 and MQ-137 sensors, high precision results were obtained with precision results at MQ-3 at 50% (98.25%), 60% (95.25%), and 70% (97.25%). At MQ-137 at 5% (94.93%), 15% (82.96%), 25% (82.75%). Measurement of alcohol gas concentration levels using concentration : 50%, 55%, 60%, 65%, and 70%, while ammonia gas uses concentration : 5%, 10%, 15%, 20%, 25%. The final results of the test after using the fuzy logic decision-making system get the results of toxic gas levels with unhealthy and even dangerous status. The difference in the average value of ppm on the MQ-3 sensor with the expected value has a value of 0.07. The difference in the average value of ppm on the MQ-137 sensor with the expected value has a value of 5.37.

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Keywords : MQ-3,MQ-137, E-Nose, Fuzzy logic