

# Abstract

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## **Discrimination between Butane and Propane in a Gas Mixture Using Semiconductor Gas Sensors and Neural Networks\**

One of the most important and crucial problems in the gas detection field is that there is a strong demand to detect Butane and Propane gases as pure gases, which are used in domestic applications as a fuel. However, both of them are extracted from natural gas mixed with each other. The paper describes the calibration of both gases in the pure case and also as a mixture between them at different temperatures using three different semiconductor sensors. It also presents a study of the efficiency of Feed forward Back Propagation Neural Network for the detection of gases using the Multi Layer Perceptron (MLP) method to separate between Propane and Butane depending on the data driven from different types of sensors