

# 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; 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; Butane depending on the data driven from different types of sensors