



MIPEX C3H8 SENSOR CALIBRATION MANUAL FOR ETHANOL – TECHNICAL NOTE 104

CALIBRATION TO ETHANOL

OVERVIEW

The propane sensor shows cross-sensitivity to various hydrocarbon gases. For accurate measurement, calibrate the sensor using the **ethanol as target gas**.

CALIBRATION

To set the sensor's linear sensitivity coefficient:

1. Before calibration, the sensor must be zeroed. To do this, apply zero gas (nitrogen) until the sensor readings stabilize. Then send the zero2 command.

2. Apply the ethanol.

*Note: maintain gas exposure at each concentration **until the sensor readings stabilize**.*

3. Execute the calibration command:

Use the following command format via the sensor communication interface:

<CALB AAAA>

where AAAA = applied ethanol concentration in % vol × 100.

(for example, at an applied ethanol concentration of 1.01% vol., AAAA = 0101)

CALIBRATION CHECK

1. 2. 3. Apply half of the target gas concentration to the sensor.
2. Apply zero gas (nitrogen) to the sensor.
3. Verify if readings from step 1 and step 2 match expected values.

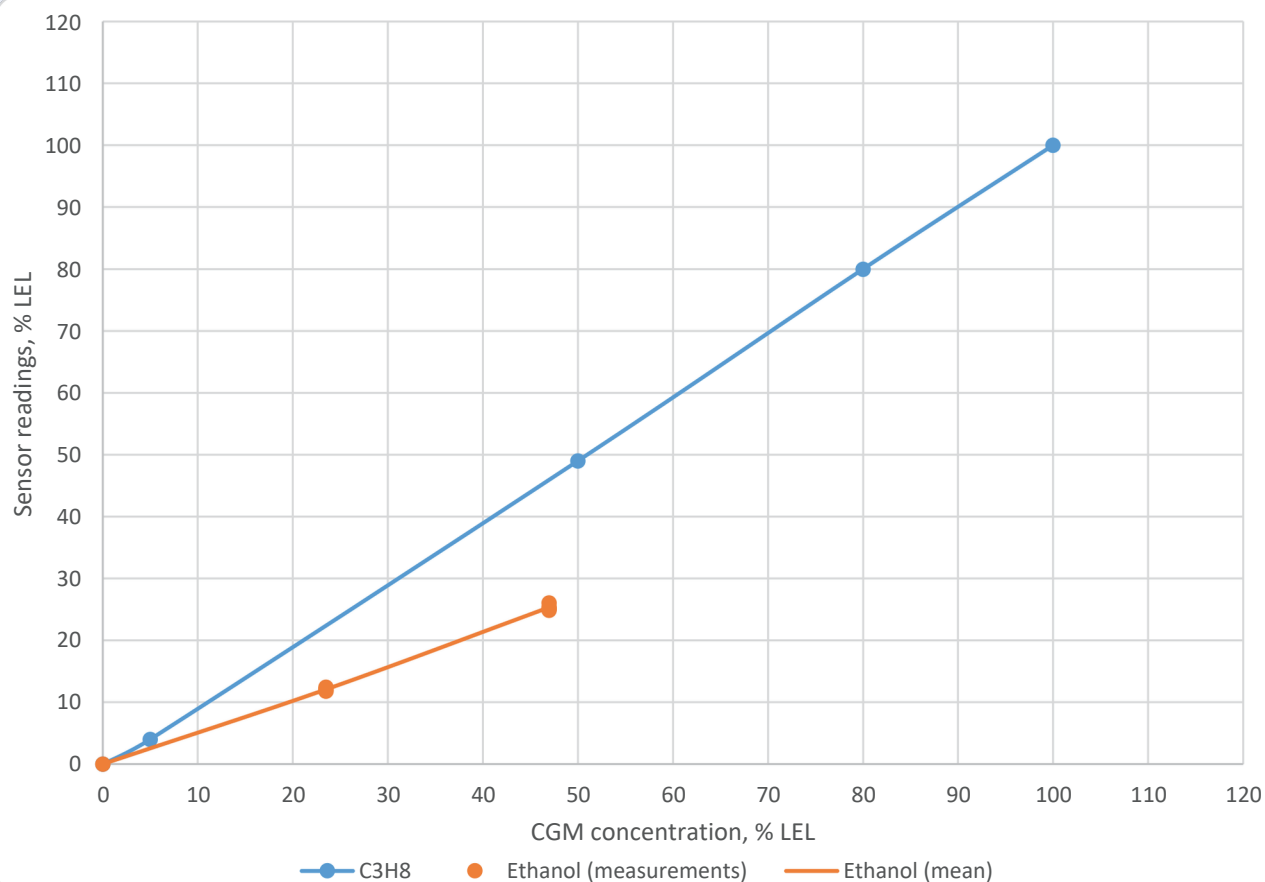




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Cross-sensitivity of the propane sensor (calibrated to C_3H_8) to ethanol, based on experimental data.

Chemical Nomenclature	Chemical Formula	Cross-coefficient*
Ethanol	C2H5OH	2.01

**The cross-coefficient is an approximate value. To get the exact value, a physical calibration is required.*