



**Fuel cells are sensible for contaminants like SMOG, salt, soot and other (air) pollutants in environmental air. Whether fuel cells are implemented in cars, (motor) bikes or other (transport) vehicles, it is necessary to investigate the influence of potentially harmful contaminants from the air on the fuel cells to predict stack lifetime. Kiwa Technology has the knowledge and facilities to carry out tests to examine the effect of different contaminants of the stack and fuel cell lifetime.**

#### **Laboratorium tests with contaminants in air**

In the laboratories of Kiwa Technology, the influence of specific contaminants on fuel cells, stacks and systems can be tested by exposing them to accurately regulated contaminated environments. The following parameters of the air can be adjusted to the needs for fuel cell stack testing:

- Air flow
- Air temperature
- Relative humidity
- Oxygen content

The following gaseous contaminants can be tested (separate or together blended into (combustion)air):

- H<sub>2</sub>S
- SO<sub>2</sub>
- Gaseous HCl
- NO, NO<sub>2</sub>
- NH<sub>3</sub>
- N<sub>2</sub>O
- CO
- CO<sub>2</sub>
- Unburned fuels (HC contaminations)

Besides gaseous contaminants, solid and liquid contaminant can also be applied to the test environment, depending on the requirements for fuel cell stack testing:

- NaOH
- Salt spray
- HCl
- Soot particles
- Other particles like dust