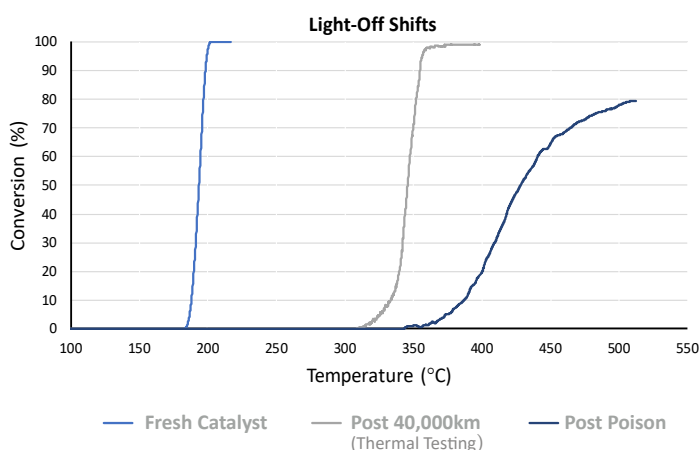


Characterisation tests are a key aspect in assessing aftertreatment systems performance after thermal ageing and poisoning:

- **Light-Off Test (Fast / Slow):** Assesses the aftertreatment system ability to convert harmful exhaust emissions (NO<sub>x</sub>, CO, THC)
- **Oxygen Storage Capacity Test (OSC) :** Determines the aftertreatment system ability to store and release oxygen which assists with conversion. This is the only performance metric monitored by the vehicle diagnostic
- **Lambda Sweep:** Assesses aftertreatment system performance over a range of lambda values (air/fuel ratio)
- **Space Velocity Sweep:** Assesses aftertreatment system performance over a range of flow rates

## Characterisation Test Results - Example

**Figure 1** highlights a typical shift in light-off performance for a catalyst which has experienced a poisoning process similar to that explained previously. The increase in light-off temperature indicated a decrease in performance.



**Figure 2** shows a typical OSC degradation plot. Post ageing both catalysts show a similar performance. Post poison, additive 2 is seen to have a greater effect on catalyst OSC performance.

