Real-time monitoring of the oxygen concentration in waste gas plays a key role in explosion prevention. Using amperometric oxygen electrodes there is above all no need for complex and costly sample handling systems!

About the company

The Langelsheim plant in Germany is the largest and most diversified facility of the Chemetall Group. The product spectrum ranges from specialty chemicals for surface treatment of metals to ultra pure metals and metal compounds of cesium, barium, titanium and zirconium. Production at the Langelsheim site includes 20 facilities of different types and sizes from which the majority is under the German Federal Emission Control Act.

Identification of potential explosion hazards.

Complying with the “Technical Guidance for Air Quality Control” a new waste gas incinerator was built. As safety has top priority at all Chemetall sites, the unit was equipped with two METTLER TOLEDO oxygen analyzers which main purpose is to identify possible explosion hazards. When burning process off-gases, oxygen content in the feedstock must at all times be lower than 1 % by volume in order to rule out any risk of explosion or fire. Being intrinsically safe the oxygen electrodes were directly installed in two collector lines. With a lower range
limit of 0,1 vol.-%, any ingress of air is detected in the earliest stage. If the oxygen level exceeds the threshold value, nitrogen is automatically fed to the system thereby diluting the flow and keeping safety uncompromised. Since oxygen could only enter the system due to leakage at certain valves, the cause of the problem can be located easily and countermeasures can be taken rapidly.

**Ease of Maintenance**

In contrast to common alternative analytical methods for this application, the METTLER TOLEDO solution with InPro 6850 i G electrodes does not require any sample conditioning, despite a process temperature of up to 60 °C (140 °F) and pressures down to −100 mbarg! This has resulted in significantly lower installation costs and maintenance requirements. Calibration of the electrodes is carried out using normal air and is completed in a matter of minutes. The rugged design guarantees longevity, also under tough conditions.

With all components being certified for use in hazardous area, the system is very compact and allows for field mounting. The transmitter is even equipped with a flash memory card for audit trail purposes recording events with time and date and registering calibration data.

**Intelligence starts in the head**

With the ISM® technology (Intelligent Sensor Management), your oxygen measurement loop becomes more reliable and easy to use. Thanks to real-time diagnostics, the digital sensor monitors itself for potential signs of ageing.

**Basic features of InPro 6850 i G**

- Service in seconds with “Quick Disconnect” system
- Long life membrane
- Certified for use in hazardous area
- Measurement is not affected by moisture and most organic solvents

For more information: [www.mt.com/o2-gas](http://www.mt.com/o2-gas)