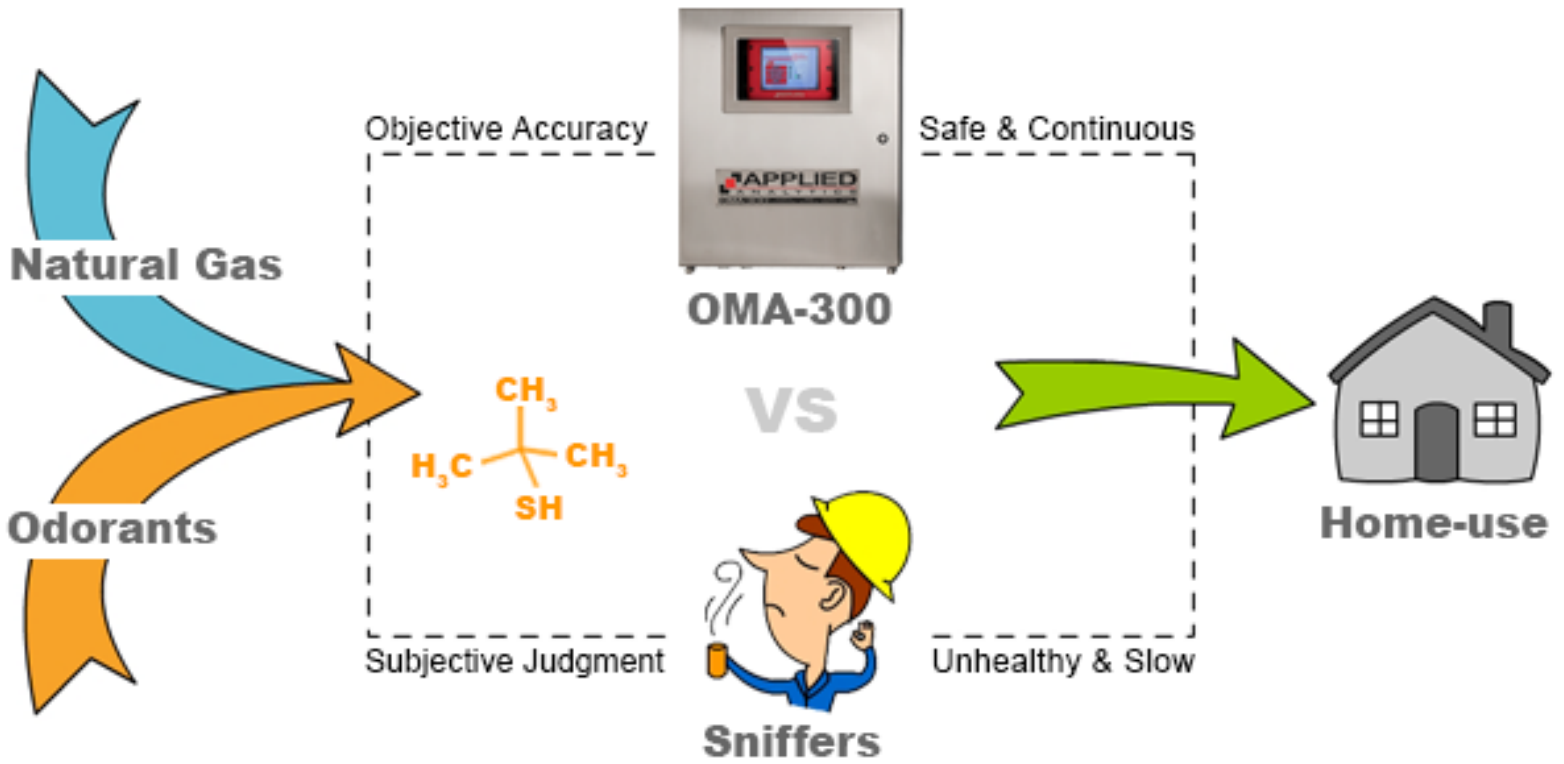


# Natural Gas & The Smell of Safety



## Why measure odorant level in natural gas?

Unlike modern industrial zones, where safety regulations demand constant monitoring of ambient gases, people in residential areas typically have only one recourse for detecting natural gas buildup: their noses.

On its own, natural gas is technically odorless. The distinctive smell is artificially added solely for the purpose of human detection: US law, for example, requires that all natural gas be detectable by a human with a normal sense of smell when the gas concentration exceeds 1/5 of its lower explosive limit (LEL), i.e. well below the threshold at which natural gas can ignite in air.

To odorize the natural gas, distribution companies inject chemical odorants (typically blends of mercaptans) into their pipeline system. This injection is a sensitive procedure: too little odorant makes the gas unsafe for distribution, but too much odorant makes the product overly unpleasant and wastes resources.

In order to monitor the odorant level in natural gas, distributors have traditionally dispatched designated “sniffers” – humans who sniff gas samples and assess odor rating at a specific pipeline sampling point. Aside from being an unhealthy practice, this method is imperfect because sniffers are subjective; humans can have inconsistent olfactory response due to diet, sickness, or developed tolerance. Even the most objective sniffers will be thwarted by chemical phenomena in the pipeline such as adsorption or odorant fading/masking.

## InThe future of odorant analysis

With safety regulations growing increasingly stringent, many pipeline operators are turning to modern analytical methods to supplement or replace the human sniffer method. Using dispersive UV-Vis absorbance spectrophotometry, the OMA-300 measures the concentration of up to 5 odorant species simultaneously in a continuously drawn natural gas sample.

Critical advantages of the OMA over human sniffing include (1) objective analysis normalized regularly by Automatic Zero; (2) 24-hour analysis for rich trend data; (3) fast response to sudden changes in odorant level; (4) reduced exposure of humans to toxic samples; (5) reduced cost of operation by slashing travel time and workload of human sniffers.

## The safety of OMA

Watch this [video demo](#) which explains why the OMA is the world’s safest online analyzer for toxic sulfur compounds such as the species monitored in odorant analysis.

## More information

1. [Application Note](#)
2. [OMA Series](#)

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