

# Protecting Refineries from Multiple Hazards

## Keeping a SafeEye on your safety

In refineries, many processes and equipment can create serious hazards. For example, gas and vapor leaks from crude desalting, thermal cracking, cooking, and isomerization constitute fire risks in the presence of sources of ignition like heaters or exchangers. Some of these processes also produce wastewater streams (sour waters), which contain lethal concentrations of dissolved hydrogen sulfide and ammonia gases in the form of ionic ammonium hydrosulfide.

Other hazards in refineries include the accumulation of explosive concentrations of catalytic dust, the generation of hydrogen due to gas leaks, escapes of hydrogen sulfide that can harm personnel or the environment, or too much oxygen that penetrates the sweetening process causing a fire due to static electricity in the settler.

These many dangers demand field-proven, rapid, effective flame detection and continuous combustible and toxic gases monitoring anywhere in a refinery environment.



## Challenges

Many areas in refineries can become extremely hazardous due to gas leaks and fires, for example:

- Production areas
- Storage hangars and utilities
- Offices and control rooms
- Turbine enclosures
- Storage tanks (in the refinery)

- Separate storage tanks farms and filling stations (for crude or distillate automotive tankers or railcars)

In these flammable environments, detectors must be able to detect flame, toxic and combustible gases, functioning optimally under challenging environmental conditions, including extreme temperatures and harsh winds.

## Solutions

Spectrex provides wide range of highly sensitive, fast-response detectors that ensure comprehensive protection at all times in any area of a refinery.



**40/40 series flame detectors** - field-proven, reliable detectors that ensure the most comprehensive protection against hydrocarbon-based fuel and gas fires, gas and vapor leaks, and metal and inorganic fires.



**Quasar 900** - open-path detection system that provides innovative continuous IR technology monitoring for combustible hydrocarbon gases at very low concentrations, ensuring reliable and accurate protection.



**SafEye Quasar 950 open-path H<sub>2</sub>S gas detector** - open-path toxic gas detectors for hydrogen sulfide, which is pervasive in refineries. The detectors provide extremely reliable gas detection in all weather conditions.

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