

## Are you concerned about the risks posed by aerosols?

**Proengin's FPD technology offers unparalleled detection capabilities for aerosol-based chemical threats, safeguarding the military, hazmat units, first responders, and special forces.**

Aerosol-based chemical threats pose significant risks due to their small size and ability to remain suspended in the air for extended periods. Aerosols non-detection risks are significant, which makes them a preferred method of delivery for chemical attacks.

Aerosol-based chemical threats include a wide range of toxic substances such as **nerve agents, blister agents, choking agents, and blood agents**. The increasing prevalence of aerosol chemical attacks makes it crucial for first responders and military personnel to have access to advanced detection technologies like PROENGIN's hydrogen flame spectrometry (FPD). This will enable **fast and universal detection** of these threats, which are difficult to detect with other technologies.

What makes FPD technology so effective at detecting aerosols?

FPD technology's capability to detect aerosol threats comes from its approach to analyzing the light spectrum through a hydrogen flame. When an atmospheric fraction is burned in a hydrogen flame, the heat decomposes molecules or particles, and the constituent atoms produce light. Each atom emits a characteristic color, which is analyzed by an optical system. The signal is processed in real-time and allows the detection of chemical agents **containing molecules of phosphorus, sulfur, arsenic, and nitrogen, irrespective of their physical state** (gaseous, solid, liquid, or aerosol). FPD technology's extreme sensitivity can detect dangerous chemical threats at concentrations up to **500 times lower than their lethal dose**.

One of the big advantages of FPD technology enabled detectors is contrary to traditional gas detection solutions (PID, IMS, etc.), our detectors can detect aerosols even in trace amounts. The detectors are also designed to withstand extreme temperatures and humidity. This makes it a reliable and advanced solution for the military, hazmat, EMS, and law enforcement markets.

### About PROENGIN:

Proengin is a technology leader, serving military and civilian customers worldwide with CBRNe threat management solutions and services. Proengin's solutions respond to the current context of growing threats, the return of high-intensity conflicts, and growing industrial risks with increasingly numerous and diversified chemical agents (4th generation chemical agents, pharmaceutical derivatives, etc.). For many years, Proengin solutions have been used in all areas of military operations by teams dedicated to CBRN threats as well as first responder teams (hazmat, EMS, law enforcement) responding to industrial incidents such as the Lubrizol industrial chemical disaster in 2019 (France). Proengin system solutions also protect critical and sensitive

infrastructure, such as the new Frégate de défense et d'intervention (FDI) and European Council headquarters.

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