

### The FirstDefender

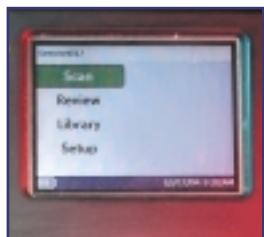
The rapid identification and safe remediation of potentially hazardous materials, such as clandestine drum dumping or leaky storage drums, is a concern to first responders and Hazmat technicians. Existing procedures and techniques to identify chemicals involve putting material onto an instrument, contacting the material and sending it to a lab for analysis, wasting time, often at a high expense.

**The First Defender is the only light-weight, rugged instrument for in-the-field identification of unknown solids and liquids.** The Defender allows accurate identification of unknown solids and liquids in less than fifteen seconds. It sets the standard for accuracy, applicability, durability, ruggedness and usability — exceeding everything available in today’s market. With Ahura’s novel technology, the First Defender will dramatically speed-up the identification process in the field, at a considerably lower cost.

#### VAST DATA BASE

**The First Defenders data base includes a broad array of dangerous materials and benign substances:**

- Toxic industrial chemicals
- Toxic industrial materials
- Drugs, Narcotics and precursor materials
- WMD nerve and blister agents
- Explosives
- Common chemicals and household materials



The First Defender can identify mixtures and the principal constituents. Biological hazards are of great concern and the First Defender will alert on the detection of a biological molecules.

While the First Defender is based on sophisticated chemistry and mathematical algorithms, you don’t need to be a chemist to operate it. With a simple

menu driven software you can learn to use it in a few minutes, assuring fast and accurate on-the-spot identification of unknowns samples. The software then links to the Ahura hazard guide using the NIOSH Guide as the source (where available) and other references for materials that are not in the NIOSH database. You can also add materials to the Defender library in just a few seconds.

#### RAPID ANALYSIS WITHOUT CONTACTING THE SUBSTANCE

The Defender has the capability of performing measurements directly on liquids, solids, or powders without touching the



sample. Therefore, the sample does not need to be moved or collected to perform rapid and accurate on-the-spot analysis. The Defender can be used to positively identify the material in question.

#### WHEN A LEAK IS DISCOVERED

The First Defender is the ideal tool to quickly identify spills in the field. Should an unknown liquid be dripping from an unmarked barrel, authorities can use the “point-and-shoot” mode, by pointing the instrument’s probe at the liquid on the ground. After two clicks and in less than 15 seconds, the Defender can make a measurement and identify the material without touching the substance and without risk of contamination. If the Defender is contaminated, it is waterproof and can be dunked in a bucket of bleach for decontamination. It performs in all environments; temperature, humidity/ rain, background lighting, without the need for sample preparation of consumables.

After the initial screening, material can be collected and deposited into a vial for more rigorous review within the Defender. There is a slot inside the unit that the sample vial will fit. Analysis can be done by the “sample vial” mode of operation, which allows the user to put the sample vial into the instrument and do the test on a table or bench.

#### IDENTIFICATION OF SAMPLES IN THE WARM ZONE

If your team has collected and triple bagged a sample in the hot zone, the sample can be sent through the decontamination line. The First Defender can provide instant analysis in the warm zone through multiple layers of plastic or glass without opening the bottles or bags. The instrument can be used in the point-and-shoot mode avoiding the exposure of the user or the spectrometer to the substance. Our unit is quite compatible with evidence collection and storage.



#### RUGGED AND RELIABLE

The First Defender meets military standards for shock and it is waterproof to allow easy decontamination. The Defender self-calibrates and requires no annual calibration. The unit has no warm-up time or alignment to be done when first switching on. At less than three pounds, the First Defender is self-contained, including computer and battery pack, providing more than five hours of continuous operation.