

1. WHAT IS THE AGENTASE C1?

The Agentase C1 is an award-winning chemical agent detection kit that comes in a small carry pouch weighing less than one pound. Each kit contains six sensors. The sensors utilize enzyme-polymer technology to provide excellent trace level point detection for three major chemical warfare agent classes and three varieties of toxic industrial chemicals.

2. WHAT ARE ENZYMES?

Enzymes are natural complex proteins produced by living organisms. They act as biological catalysts to speed up chemical reactions, without being destroyed in the process. There are thousands of known enzymes, each performing one specific job. Many chemicals' toxicity can be traced to their ability to inhibit enzymes, which make them a good technology platform for field-based chemical threat detection. Enzyme-based detection devices are highly specific and extremely sensitive. They detect chemical agents using a cumulative exposure model, just as the human body does. They are sensitive to levels below what can affect the human body and, due to their selectivity, have very low false alarm rates. They have the ability to detect trace-level contamination where long-term exposure would cause harm to humans or loss of human life.

3. WHAT CHEMICALS DO THE AGENTASE C1 SENSORS DETECT?

The sensors can be used to conduct surface, solid and liquid interrogation of nerve (G&V series), blood (AC) and blister (HD) agents, acids, bases, aldehydes and oxidizers.

4. WHAT APPLICATIONS IS IT USED IN?

Enzyme-technology is multi-purpose and can be used for a number of applications including contamination mapping during incident response and military reconnaissance, evidence collection for law enforcement, and post-decontamination verification procedures.

5. HOW DO THE SENSORS WORK?

The sensors work similar to a glow stick. The sensor has a barrel containing an ampule that gets cracked. After the solution is released from the ampule, the user shakes the sensor to dissolve the dried chemicals. The barrel is then turned and pumped into the sponge located on at the end of the barrel. Once the sponge is saturated, the user removes the cap and applies the sponge directly to a surface for approximately 30 seconds to collect a sample. After sample collection, the sponge is re-capped. The user waits five minutes before reading the sensor. After five minutes, the tip of the sensor pen will change to one of two colors to indicate the absence or presence of a threat. Each pen contains a label that provides color codes for reading the change. The kit also contains a color code chart.

6. HOW MUCH TRAINING IS REQUIRED?

No special skills are required to operate the sensors. The kit is extremely user friendly and easy to use. Training can be accomplished in less than an hour. A training version of the kit is available with the identical form factor and response as the live agent version.

7. WHAT ARE THE BENEFITS TO USING THE AGENTASE C1?

Enzyme-based sensors provide accurate results in field environments. Unlike other field detection equipment, the Agentase C1 sensors have extremely low false positive and negative rates. Enzyme technology is also extremely sensitive with the ability to detect trace levels of hazards. The improved detection limits rival those of expensive handheld electronic testing devices. This makes the Agentase C1 an excellent detection technique to compliment other technologies as a validation tool. The response time is very fast and the color change is easy to interpret. The simplicity of this kit makes it user friendly for the entire first responder community.

8. WHAT IS THE DETECTION LIMIT OF THE SENSORS?

The enzyme sensors detect trace levels of hazards. The performance has been validated in 3rd party government tests. The sensitivity on surfaces is single micrograms (nerve agents), hundreds of micrograms (blister agents), tens of micrograms (blood agents) and tens of micrograms (TICs). Specific detection limits are subject to export restrictions and may only be disclosed to authorized parties in accordance with applicable U.S. export regulations.

9. WHY IS A SAMPLER KIT INCLUDED?

The sensors should not be used to directly sample or interrogate bulk compounds. Therefore, the Agentase C1 includes a sampling device for bulk unknown solids and liquids. The sampler is used to collect a sample and dispense a portion of the collected sample to each of the sensors. Use of the sampling device greatly improves surface compatibility and decreases environmental interferences.

10. HOW DOES THE SAMPLER KIT WORK?

The sampler kit consists of a sterile swab and a dispensable reservoir with a dilute buffer solution. Samples are collected and placed into the reservoir. The sample is then diluted by roughly 100-fold. Next, the contents are dispensed directly into the cap of the sensor for detection. One sampler kit carries sufficient volume for multiple sensors.

11. CAN I CHANGE WHAT IS INCLUDED IN MY KIT?

The sensors can be packaged individually, in packages of five, or as a set of six different sensors. The type of sensors is completely flexible based on customer requirements. Contact your local FLIR representative for specific details on configuration changes.

12. DO YOU SELL IN BULK QUANTITIES?

Yes. We also offer hospital readiness kits.

13. HOW DO I MAINTAIN CHAIN OF CUSTODY?

Each sensor can be barcoded.

14. WHAT ARE THE POWER REQUIREMENTS?

No power is required.

15. WHAT IS THE SHELF-LIFE?

2 years. The kit should be stored at room temperature and out of direct sunlight. Storage at elevated temperatures reduces shelf life. Time/temperature indicators are applied to the packaging to ensure proper storage conditions.

16. HOW MUCH DOES A SINGLE KIT COST?

Contact your local FLIR representative for pricing.

17. WHAT ARE THE SENSOR LIMITATIONS?

The sensors can be used in most environments. Wind, snow, rainfall, icing, hail, and lightning do not affect sensor performance. The sensor must be read in white light, as night vision impairs visibility of colorimetric responses.

18. WHAT OTHER COMPANIES MAKE ENZYME BASED DETECTION TECHNOLOGIES LIKE THIS?

There are no other products like the Agentase C1 on the market.