

First Responder®

WHAT IS THE FIRST RESPONDER?

The First Responder is a new and innovative tool designed to aid in the suppression of fires and for use as a personal protection device for fire fighters in emergency egress or entrance situations. It is physically and functionally similar to a smoke grenade with the major difference that it delivers a highly effective aerosol fire suppression agent - **Stat-X**.

WHEN WOULD I TYPICALLY USE IT?

Scenario A—Firefighter arrives at the scene of an early stage fire. After assisting in getting people out and before additional resources arrive at the scene, toss **Stat-X** First Responders into the rooms which are involved with the fire. This will buy time for further rescue and for firefighters to lay hose.

Scenario B—Firefighters are concerned about potential flashover from a fire down a hall and water isn't yet available. Toss **Stat-X** First Responders ahead of the firefighters to eliminate many of the contributing factors of a flashover.

Scenario C—A firefighter is trapped or can't get to a victim due to an intense area of fire. Toss a **Stat-X** First Responder into the flame area for immediate fire suppression.

HOW BIG IS EACH UNIT?

The units are 1.1 kg (2.4 lbs), 8.1 cm in diameter (3-3/16th inches), and 17.75 cm high (7 inches).

CAN SOMETHING THAT SMALL ACTUALLY EXTINGUISH FIRES?

The **Stat-X** compound is the most effective fire extinguishing agent currently available – many times more effective (by mass) than conventional agents. The **Stat-X** First Responder contains the same compound used in our ULC listed fixed fire extinguishing units. However, due to the tremendous variability of conditions in a firefighting situation, the purpose of the First Responder is, first and foremost, for use as an extremely effective tool to suppress and limit the growth of fires until other traditional methods are available to put out the fire - any extinguishment is a bonus.

OVER HOW LARGE AN AREA CAN A UNIT SUPPRESS A FIRE?

This is, of course, subject to the class of materials involved, leakage, and other factors. Tests have shown significant suppression effects up to an 2.45 meter high 2.9 x 2.9 meter room - around 20 cubic meters. More units would be required for a larger volume or spaces with excessive leakage. The aerosol flows and spreads rapidly throughout the volume rapidly - in a manner similar to a gas. However, since the aerosol is buoyant, more is required in a high ceiling situation. The First Responder is most effective when thrown directly at or near the fire.

DOES IT EXPLODE LIKE A GRENADE?

No, the unit remains fully intact and sends out an aerosol stream in a circular discharge pattern around the base of the unit. Discharge time is around 20 seconds.

DOES IT DEplete THE OXYGEN IN THE ROOM?

No, there is no oxygen depletion or reduction. The First Responder stops fire by interfering with the chemistry underlying fire - not by changing the atmosphere.

WHAT HAPPENS IF SOMEONE IS TRAPPED IN THE ROOM?

The aerosol will be the least of their problems. While the aerosol may cause minor mucous membrane irritation at high concentrations (over 100g/m³) or if there is long exposure, the combustion products and heat of a fire can be, and often are, deadly. In a real world fire scenario the by-products and composition of the aerosol are insignificant relative to those of a fire. At a 100g/m³ density the gas products of the aerosol are many orders of magnitude less than that allowed for automobile airbag systems. However, the First Responder should not be thrown close to the victim as it emits a hot cloud of aerosol close to the unit.

IS THE UNIT PRESSURIZED?

The unit is NOT pressurized prior to activation. When activated, a controlled burning reaction of the solid aerosol forming compound inside the First Responder converts the solid to an aerosol composed of 30% carrier gases (primarily nitrogen and small amounts of water vapor) and 70% ultra-fine particulate (potassium compounds in the 1-2 micron range). The unit operates at relatively low pressure.



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FREQUENTLY ASKED QUESTIONS

WHAT IS THE COMPOUND MADE OF?

The compound is made of a patented mixture of Potassium Nitrate, Dicyandiamide, and an organic binder. This is the same compound used in the entire line of **Stat-X** UL Canada Listed products and is in use world-wide. The compound has been approved by the United States Environmental Protection Agency.

I HEAR A SLIGHT RATTLING FROM THE UNIT WHEN SHAKEN, IS THIS NORMAL?

Yes, there is a cooling bed inside the unit composed of loosely packed spherical cooling material to allow for aerosol flow while at the same time providing a cooling mechanism. This is normal.

HOW LONG IS THE AEROSOL EFFECTIVE FOR?

The aerosol has a long hang time providing extended protection - up to an hour in a truly sealed, confined space with no airflow. However, in real world deployments the aerosol will typically escape through doors, windows, or other openings. But as long as the aerosol cloud is present, it will continue to provide suppression.

CAN I USE MORE THAN ONE?

Absolutely! Each fire situation is unique and conditions may warrant the use of multiple units. If human exposure is not a concern, there is no downside to the use of additional units.

WHAT IS THE SHELF LIFE?

Stat-X units have a shelf life of over 10 years when stored at temperatures of -54°C (-65°F) to +54°C (+130°F).

CAN I GET SOME FOR MY HOME?

No. The **Stat-X** First Responder unit remains hot after use and sends out a stream of hot gases in the immediate vicinity (2 foot radius) of the unit during discharge. In **Stat-X** fixed units additional coolant is used to reduce the exit temperature to low levels, but the coolant has been reduced in the First Responder - to reduce weight and facilitate an effective handheld unit. This is for professional use only in the presence of actual fire conditions.

WHAT ABOUT OUTDOOR FIRES?

The aerosol dissipates rapidly outside due to its ultra-fine particle size. Unlike an ammonium phosphate extinguisher there is no coating effect, nor is there a cooling effect like water, so while there may be a short term reduction in flame, a conventional extinguisher would be better. The aerosol is most effective when used in a relatively closed space.

WHAT HAPPENS IF IT'S EXPOSED TO FLAME OR I'M CARRYING IT IN AN INTENSE FIRE SITUATION?

The compound inside the unit is insulated and has a very high auto ignition temperature of 300°C (572°F). In full scale bonfire testing it takes several minutes of exposure to intense heat before the First Responder activates and operates normally. In the real world it is highly unlikely that a firefighter could endure, for a sufficient period of time, temperatures high enough to activate the unit.

CAN I REINSERT THE PIN IF I'VE HELD THE SPOON DOWN AND DECIDED NOT TO THROW IT?

We would not recommend attempting this.

HOW COME I'VE NEVER HEARD OF THIS BEFORE?

The First Responder is truly a new innovation. It has taken more than 2 years to get from proto-type to a finished product and the first live demo samples are being shipped July 1, 2006 with commercial product shipping projected for September, 2006. There are no similar products.

OK, BUT HOW COME I NEVER HEARD OF FIREAWAY OR Stat-X BEFORE EITHER, OR THIS WHOLE CLASS OF CONDENSED AEROSOLS?

This technology has only been deployed in scale over the past 5 years and Aero-X AG is the leading supplier of condensed aerosols in Switzerland. Recently the **Stat-X** products achieved the UL-Listing. While ULC (Underwriters Laboratories Canada - a wholly owned subsidiary of UL) has tested and listed our products to UL 2127, Underwriters Laboratories in the US is only now moving forward on condensed aerosol technology following the recently adopted NFPA 2010 standard. In Switzerland several installations have already been realized in various applications. Worldwide, however, there are thousands of installations of condensed aerosol systems. **Stat-X** is the most advanced, tested, and reliable product in this revolutionary new class of extinguishing systems. The First Responder applies this technology to fire fighting in a unique way made possible by the superior efficacy of the **Stat-X** formulation.



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FREQUENTLY ASKED QUESTIONS

HOW ARE THEY SOLD?

They are packaged in a kit of 4 in a divided storage box. Each unit is protected by a clear plastic sleeve.

HOW CAN MY DEPARTMENT ORDER SOME OR HAVE YOU COME AND DEMONSTRATE THEM AT A LIVE FIRE DEMO?

Contact us at info@aero-x.ch or call us at +41 43 521 25 50