

# SAFE-T<sup>®</sup> SPRAY

Substance Activated Fast Evaluation Technology



**RAPTOR**  
DETECTION TECHNOLOGIES

## Explosives Sensing Spray



**Product ID:** 600 3 004

**Explosives:**

TNB, TNP, TNT, Tetryl, Urea Nitrate, Ammonium Nitrate

**Applications:**

- Homeland Security
- Transportation Security
- Buildings Access Control
- Military and Defense
- Stand-off IED Detection
- Environmental Monitoring and Control
- Forensic Applications
- Medical Applications

### Unique Technology

The core of Raptor Detection Technologies' Substance Activated Fast Evaluation Technology (SAFE-T<sup>®</sup>) is a patented detection method based on Molecularly Imprinted polymers (MIPs). This nanotechnology is capable of selectively sensing microscopic amounts of explosives or other molecules that are dangerous for humans and the environment, e.g. toxins, chemical agents, biological agents, pesticides, poisons, and explosives.

### SAFE-T<sup>®</sup> Polymers

The key to this nanotechnology is the preparation of the polymer. Each formulation of SAFE-T<sup>®</sup> polymer is specially imprinted with the molecular shape of the substance targeted for detection. This provides a receptor site that is highly specific because other molecules do not fit and, therefore, do not set off a detection indicator. Multiple SAFE-T<sup>®</sup> polymers are then combined into a single solution that has the capability to

detect all specific substances of interest. The SAFE-T<sup>®</sup> polymers are robust, stable and resistant to a wide range of humidity, temperature, and acidity and alkalinity factors. Additionally, SAFE-T<sup>®</sup> polymers are inexpensive, safe to produce and can be sprayed, printed or spin-coated into commercial devices for the detection of a wide range of substances, compounds and biological agents.

# SAFE-T<sup>®</sup> Spray

SAFE-T<sup>®</sup> Spray has been specially formulated to immediately detect explosives and provide a simple colorimetric indicator for the user.

## SAFE-T<sup>®</sup> Spray benefits:

- Works on a wide variety of explosives, precursors, and multi-agent explosives
- Detects trace amounts of substance
- Detects commercial and homemade explosives
- Can use in conjunction with blank wipes to collect and retain explosive particles for forensic analysis
- Works complementary to electronic systems
- Can use on all surfaces, including hands, plastics and fabrics
- Can use anywhere, anytime
- Can customize to meet specific customer needs
- Easy to use, reliable and convenient
- Non-toxic
- Low cost

# How to Use SAFE-T<sup>®</sup> Spray

SAFE-T<sup>®</sup> Spray provides a positive indicator only upon contact with explosives. For the best performance from the spray, the user should select areas to test that are most likely to be contaminated. These areas include:

- Hands
- High-touch locations
- Door and luggage handles
- Areas where explosives are likely to have been packed
- Areas on sealed packages where air might leak out
- Other suspicious areas

## Spray directions:

1. Remove cap from spray and ensure nozzle is pointed toward the area to be sprayed.
2. Hold spray approximately 8" from object and press pump head to deposit a measured amount on the

surface. Excessive amount of spray may result in diluting traces of explosives and decrease their visibility.

3. Examine area sprayed for color change after each spray.

4. If trace amounts of explosives are present, color changes will immediately appear and will grow more intense over time.

5. If no color changes develop over a few seconds, then no explosives are present on the sprayed area or the amount of explosives present is less than level of detection.



# Detected Explosive Compositions

- Amatol
- Ammonal
- Ammonium Nitrate (AN)
- AN AL
- AN charcoal
- AN sand
- ANNIE
- ANFO
- AN SUL
- Baranol
- Baratol
- CAN
- Comp B
- H6
- Kinepak
- Kinepak-Al
- Minol
- Octol
- Pentolite
- Picratol
- PTX-1
- PTX-2
- Tetrytol
- Torpex
- Tovex

# Key

Al: Aluminum  
ANFO: Ammonium nitrate fuel oil;  
(D) Diesel;  
(K) Kerosene;  
(M) Motor oil

CAN: Calcium ammonium nitrate  
SUL: Slury

Raptor Detection Technologies, LLC is engaged in ongoing research and development to expand its MIPs detection capabilities



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