

Identification is a critical challenge in the evaluation and mitigation of potential chemical threats. With Thermo Scientific TruDefender analyzers, hazmat teams, law enforcement, military and other first responders can obtain reliable chemical identification, including complex mixtures, in seconds.

## Thermo Scientific TruDefender FT and TruDefender FTi

Handheld FTIR for Unknown Chemical and Explosives Identification

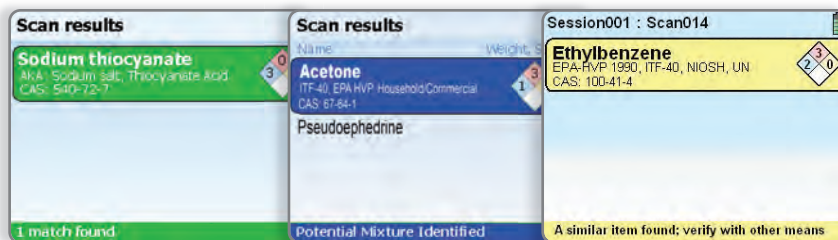


Thermo Scientific TruDefender analyzers are rugged, handheld FTIR systems for rapid, field-based identification of unknown chemicals including explosives, narcotics, toxic industrial chemicals and precursors. They bring the power of FTIR directly into the hazard zone, enabling the responder to analyze—and act—faster than ever before. The TruDefender® FTi instrument adds to this core functionality by providing a direct link to incident command or reachback support through embedded mobile phone technology.

Lightweight and easy to use, TruDefender devices were built to meet the needs of first responders. They are ergonomically designed for use in Level A gear and rugged enough to withstand the rigors of field use.



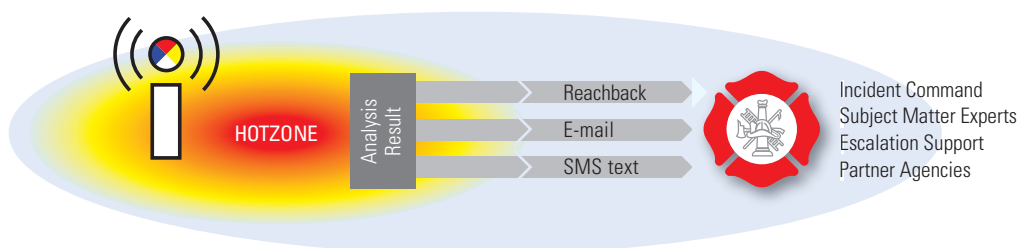
- **Fast, accurate identification.** Returns results in seconds. Onboard hazard database provides full safety and treatment information.
- **Embedded mobile phone technology.** Send results via e-mail or SMS text directly from the hotzone with the TruDefender FTi model.
- **Easy to use.** Intuitive, menu-driven interface for fast training and proficiency.
- **Built for field use.** Certified to MIL-STD 810G for ruggedness including drop, shock, vibration and operation in extreme temperatures.
- **Automatic mixture analysis.** Enhances substance identification capability and eliminates the need for spectral subtraction.
- **Easy maintenance.** Requires no scheduled maintenance, calibration, warm up or mirror alignment, and uses no consumables.



**Clear analysis results require no user interpretation.**

## Integrated Mobile Phone Technology

With the TruDefender FTi instrument, users are able to send comprehensive analysis results, including chemical name, CAS number and spectra, directly from the hotzone to incident command or Thermo Scientific reachback support. The information is sent wirelessly via e-mail or SMS text directly to a mobile device or computer. Contacts are easily administered directly on the instrument or through our customer support website. This capability reduces transcription errors and communication challenges, ensuring that an incident commander has the required information to appropriately respond to a threat as quickly as possible. This leads to better protection for the responder and the community.



## Field-Proven Complementary Technologies

FTIR spectroscopy and Raman spectroscopy, the underlying technologies in the TruDefender and FirstDefender® product families, are highly precise and selective optical techniques, each offering distinct advantages in specific applications. The company's safety and security products include the AhuraFD™ (flagship FirstDefender), FirstDefender RM, FirstDefender RMX, TruDefender FT and TruDefender FTi analyzers for solid and liquid chemical identification; and the TruDefender FTG analyzer for headspace gas identification.

## Thermo Scientific TruDefender FT and TruDefender FTi

Specifications	TruDefender FT	TruDefender FTi
<b>Weight</b>	2.9 lb (1.3kg)	3.40 lb (1.54kg)
<b>Size</b>	7.7 x 4.4 x 2.1 in (19.6 x 11.2 x 5.3cm)	7.7 x 4.4 x 2.4 in (19.6 x 11.2 x 6.1cm)
<b>Spectral Range</b>	4,000cm <sup>-1</sup> to 650cm <sup>-1</sup>	
<b>Spectral Resolution</b>	4cm <sup>-1</sup>	
<b>Collection Optics</b>	Solid Diamond Crystal ATR	
<b>Operating Frequencies</b>	N/A	Quad band GSM - 850MHz, 900MHz, 1800MHz, 1900MHz
<b>Survivability</b>	Independently tested for MIL-STD-810G and IP67 certification	
<b>Data Export Formats</b>	SPC file (for use in standard spectroscopic software), text file, or JPEG report	SPC file, text file or JPEG report; downloadable or send via SMS text, e-mail or direct to reachback
<b>Battery</b>	Removable and rechargeable lithium ion battery or 123a (eg SureFire™) batteries; >4 hours operation	
<b>External Power Supply</b>	Wall plug transformer 100-240 VAC 50/60 Hz	
<b>Operating Temperature</b>	-4 °F to 104 °F (-20 °C to +40 °C)	
<b>Language Configurations (Optional)</b>	English, Arabic, Chinese and Japanese	English

Complete MIL-STD-810G test results available upon request.

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