

manufactured in Switzerland by Swiss Blasting A.G.¹⁵ Microtaggant[®] Identification Particles were used in explosives during a test program run by the Aerospace Corporation for the ATF in the late 1970s, have been used by the Swiss in more than 50,000 tons of explosives over the last 12 years, and are used in a number of other commercial, anti-theft, and property identification applications. Microtrace, Inc., reported current efforts to develop enhanced taggants for pre-blast detection, post-blast identification, and post-blast location of the particles.

SRI International

SRI International has proposed the use of upconverting phosphors—a class of man-made, spherical particle materials that absorb radiation (such as from laser excitation) at a specific wavelength and then emit radiation, via luminescence, at a shorter wavelength. The concept has been proposed for both pre- and post-blast detection of explosives and has been successfully tested by SRI on a small-scale explosive charge. A larger-scale test is planned.

Tri-Valley Research

Tri-Valley Research proposed using rare-earth (lanthanide) element mixtures to tag explosives for identification. Detection and analysis of these ingredients in explosives would be via x-ray fluorescence spectroscopy.

Vendor Information Still to Be Reviewed

In addition, the committee has received, and begun reviewing, information from a number of other taggant vendors, including the following:

- Centrus Plasma Technologies, Inc.
- MICOT Corporation
- Micro Dot Security Systems Incorporated
- Missouri Scientific
- Natura, Inc.
- Science Applications International Corporation
- Security Features, Inc.
- Tracer Detection Technology Corporation
- University of Missouri-Rolla
- University of Strathclyde, Scotland
- Urenco Nederland B.V., the Netherlands

The committee will continue to evaluate taggant concepts as the study proceeds.

¹⁵ Department of the Treasury. 1995. Proceedings of the International Explosives Symposium. Fairfax, Va.: Government Printing Office.