



Technical Support Working Group
Combating Terrorism Technology Support Office
Technology Brief

Food Security Test Kit

General Description

The two nominal objectives of the Food Security Test Kit developed under this effort were to quickly and accurately detect poisons in food which can cause an Immediate Danger to Health and Life, (IDHL), and to give a presumptive indication of the nature of the poison to help in the forensic aspects of the poisoning as well as assist medical staff in treating victims. The nominal detection sensitivity is 50 % of the dose equivalent to that which a small person weighting 50 Kg will ingest if they were to eat a "typical" serving of food. In reality, the detectors are 30-160 times more sensitive than this threshold but were designed not to create a false positive due to environmental levels of the toxins.



The test kit will detect a number of poisons. For specifics, contact techtrans@tswg.gov

In developing the test kit, the performance was optimized using hundreds of food and cooking methods to confirm reliable performance under a variety of operating conditions. The user instructions were tested and optimized based on trials with two groups of users: Non-technical civilians and DoD operators. A training DVD was developed with detailed instructions relative to the preparation of the samples and conducting the tests. The performance of the test kit was validated by an independent laboratory under TSWG sponsorship.

The main features of the test kit are:

- Total sample preparation time: For solids and pastes: Less than 2 minutes. For liquids- zero time.
- Total analysis time: 5-12 minutes, typically 7-8 minutes.
- No materials were found that provide false positive results.
- Certain poisons react with food components and produce less toxic or non-toxic products. The non-toxic materials will not be detected.
- The kit is available in various configurations covering specific classes of poisons and can be purchased with or without the training DVD.
- Kit package dimensions are: 40 cm x 25 cm x 15 cm.
- Weight is less than 1 lb.
- Training classes are offered by the developer.

Contact:

Col. James A. Ball, USAF-Ret.
Technology Transition Management Analyst
Technical Support Working Group
Combating Terrorism Technology Support Office
Phone: 703-405-7247
Email: Ballj@tswg.gov
Web Site: www.tswg.gov