Appealing Products, Inc. - Detectors

GENERAL DESCRIPTION:

The POISON DETECTORS use a single prepared sample of the food to detect INSTANTLY three classes of poisons, including about 30 of the poisons most used to kill people. The poisons are detected via a characteristic color change.

The EXPLOSIVES Detectors use a single sample of the suspect material or surface to detect INSTANTLY five classes of explosives, including aromatic nitro compounds, aliphatic nitro compounds, nitramines inorganic nitrates and precursors to homemade explosives. The explosives are detected via a characteristic color change.

The TOXIC GASES Detectors and DOSIMETERS use a nanofilm of chromogenic material which changes its color in relation to the exposure dose of the toxic gas. The color change can be read manually and compared to a color chart or electronically using a reader attached to a computer. The electronic reader may be stationary or wireless.

TECHNICAL DESCRIPTION:

All the detectors use thin micro or nano layers with chromogenes embedded or bonded to the later. The material to be detected causes a color change in the layer which is subsequently detected visually or electronically.

CONTACT INFORMATION

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COST

N/A

Tier Selection

Final tier assignment is based on overall product score.

Top Tier | Second Tier | Third Tier | Fourth Tier | Bottom Tier

RANKINGS

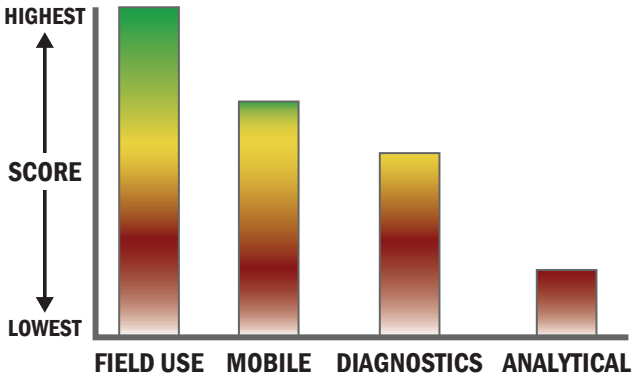
	Biological	Chemical	Radiological
FIELD USE System	N/A	Second Tier	N/A
MOBILE Laboratory	N/A	Top Tier	N/A
DIAGNOSTIC Laboratory	N/A	Top Tier	N/A
ANALYTICAL Laboratory	N/A	Second Tier	N/A

Survey Source

Vendor Supplied Information

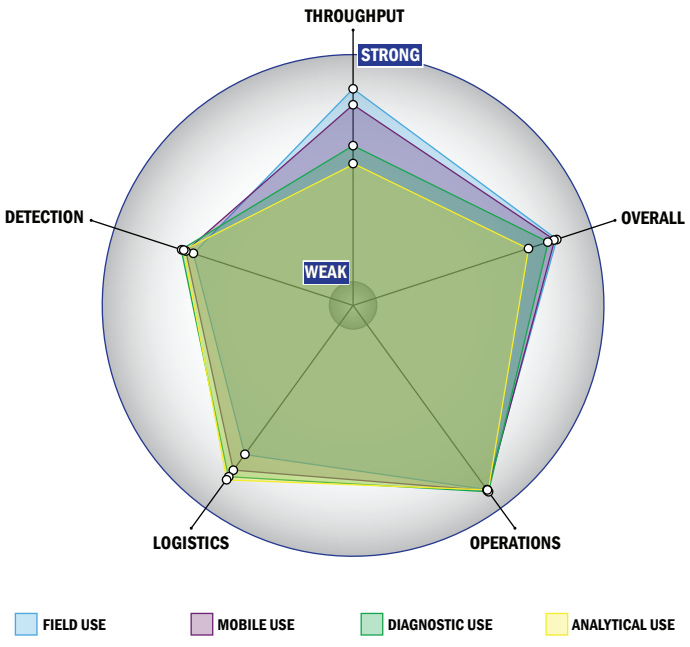
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



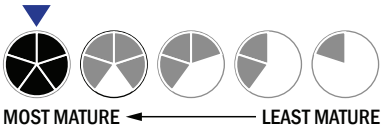
Evaluation Criteria

Throughput:

- Detection is instantaneous
- 1 sample, >10 tests/sample per run
- 349-96 samples every 2 hours
- The system or approach is not amenable to full or semi-automation
- Device or system is designed for a single use
- 0-1 solutions, buffer, eluents, and/or reagents
- 0 components
- No set-up of the system is required
- 1-2 steps are required for detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a soda can
- Less than 1 kg
- This system is not capable of transmitting data
- There is no electrical requirement



Operations:

- Can be used from < -21°C to > 42°C (All temperatures)
- Components must be stored at room temperature (27°C)
- Performance is not influenced by relative humidity
- Between 1 to 3 years shelf life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system software is closed and not available for modification
- The system hardware is open but modification requires licensing

Detection:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Less than 50 µL
- Poor specificity. System has a consistently high level of false alarms (>10%)
- < $1x10^{-6}$ mg/m^3
- < 1 ppb
- System currently can identify aerosolized chemical agent
- System currently can identify liquid chemical agent