

M9 Paper



GENERAL DESCRIPTION:

M9 chemical detection papers were originally developed for the military to detect liquid nerve and blister agents. M9 Chemical Detection is used by ground forces and is placed on personnel and equipment to identify the presence of liquid chemical agent aerosols. It contains a suspension of an agent sensitive red indicator dye in a paper matrix. It will detect and turn pink, red, reddish brown or red-purple when exposed to liquid nerve agents and blister agents, but it does not identify the specific agent, nor does it detect any biological agents, such as anthrax.



TECHNICAL DESCRIPTION:

M9 Paper is actually a coated tape with a mylar-adhesive backing so it can be affixed to objects. It's packaged in a dispenser with a serrated edge to easily tear off sections for use. M9 contains a suspension of an agent-sensitive red indicator dye on the paper. The dye will turn pink, red, reddish-brown, or red-purple when exposed to a liquid agent. Agents do not react directly with the dyes in M8 paper, but rather, dyes react to the unique acidity of each of the agents to produce the color change in a manner similar to litmus paper. M9 Paper can detect agents, but not identify which agents are present. The tape that makes up M9 is 9.1 meters long and 5.1 centimeters wide. The self-adhesive paper attaches to most surfaces, and a moisture proof resealable bag is provided to store the dispenser after removal from its original packaging.

CONTACT INFORMATION

Tradeways
www.GasMasks.com

COST

- \$1/system
- \$1/analysis

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier
- ◐ Second Tier
- Third Tier
- ◑ Fourth Tier
- Bottom Tier

RANKINGS

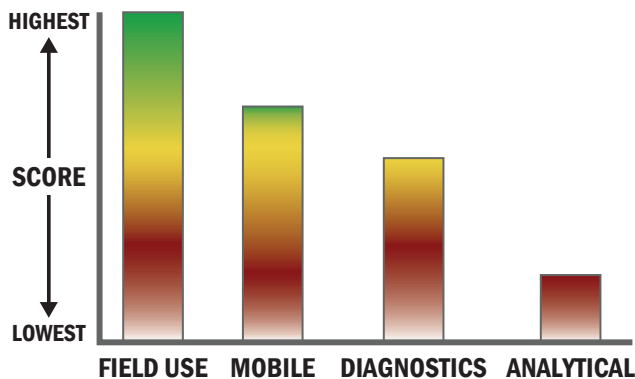
	Biological	Chemical	Radiological
FIELD USE System	N/A	◐	N/A
MOBILE Laboratory	N/A	◑	N/A
DIAGNOSTIC Laboratory	N/A	●	N/A
ANALYTICAL Laboratory	N/A	●	N/A

Survey Source

Open Source Information/Subject Matter Expert

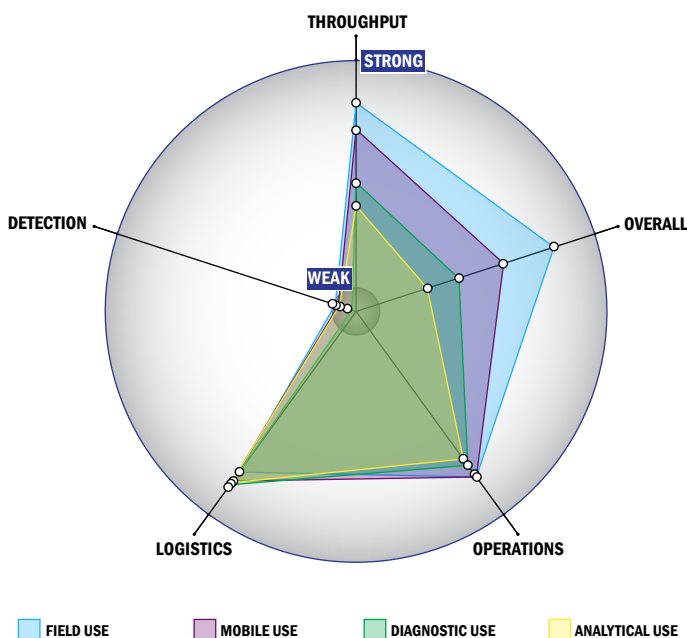
Scoring Analysis

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.



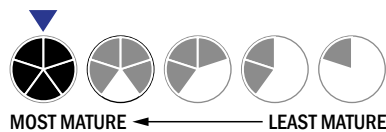
Evaluation Criteria

Throughput:

- Detection is instantaneous
- 1 sample, single test/ sample per run
- Less than 32 samples every 2 hour
- 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
- No steps 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)
- This system does not require consumable components
- Performance is not influenced by relative humidity
- Greater than 3 years shelf life
- This system or device is single use and does not have an expected life
- Results can be viewed in real-time
- The system is not capable of autonomy
- The system does not employ any software
- The system is single use or this question does not apply to this device

Detection:

- Not possible for the system to achieve clearance
- Not possible for the system to achieve approval
- Not possible for the system to achieve approval
- Poor specificity. System has a consistently high level of false alarms ($>10\%$)
- 1 ppm – 100 ppm
- Not possible to identify aerosolized chemical agent
- System can detect liquid chemical agent