# SAFESITE™

**HAZARDOUS GAS DETECTION SYSTEM**

HOMELAND SECURITY

# Hazardous Gas Detection System
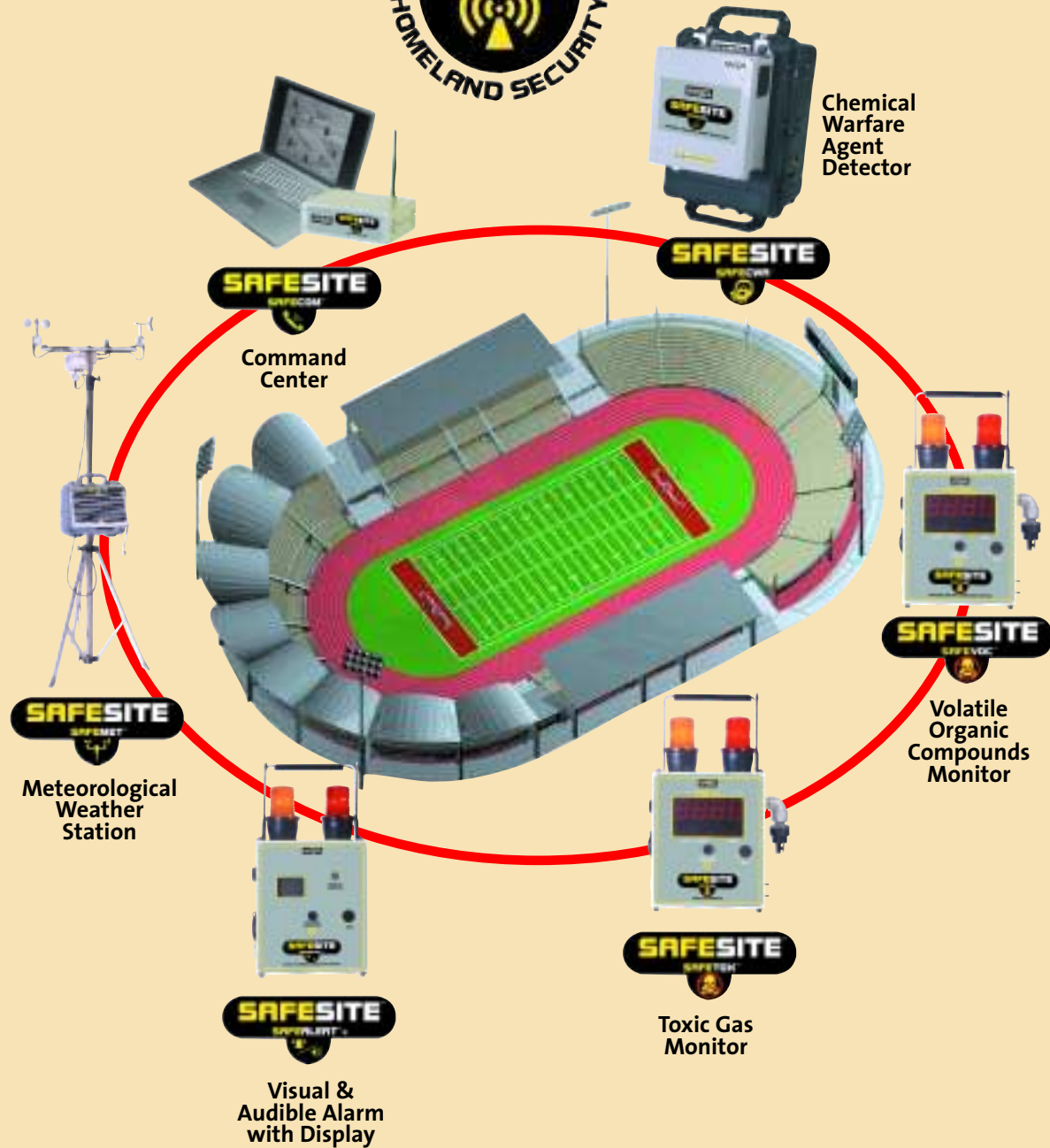[ for Homeland Security ]

**MSA**

**SAFESITE**™
HAZARDOUS GAS DETECTION SYSTEM
HOMELAND SECURITY

Chemical Warfare Agent Detector — SAFESITE SAFECWA

Command Center — SAFESITE SAFECOM

Volatile Organic Compounds Monitor — SAFESITE SAFEVOC

Meteorological Weather Station — SAFESITE SAFEMET

Toxic Gas Monitor — SAFESITE SAFETOX

Visual & Audible Alarm with Display — SAFESITE SAFEALERT

## SafeSite™ System Overview

The SafeSite Hazardous Gas Detection System detects and communicates the presence of Chemical Warfare Agents (CWAs) such as nerve and blister agents, volatile organic compounds (VOCs), and numerous toxic industrial chemicals (TICs) such as chlorine, ammonia, hydrogen cyanide and hydrogen chloride within a wireless network. The system can be transported and operated in a temporary location or integrated permanently into buildings or mass transportation systems. The SafeSite System's ability to detect chemical threats effectively helps first responders, law enforcement and government agents reduce the risk of chemical exposure and facilitate consequence management. With the ability to communicate live readings to the SafeSite's SafeCOM Command Center using wireless communication, the SafeSite System provides superior preventative- and counter-measure solutions for homeland security.

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## Introduction

Integrating state-of-the-art technology with an uncomplicated graphical user interface permits critical and wide-ranging data to be quickly converted to practical information for rapid decision-making in the event of a terrorist attack. The SafeSite Hazardous Gas Detection System integrates multiple chemical sensing technologies with wireless communication to provide easy-to-understand gas detection measurements to first responders, law enforcement, government agents and building and facility managers to help warn and respond to chemical weapons of mass destruction. Information displayed at a remote site may be used to evaluate a situation and aid users in making decisions to reduce damage and to mitigate further danger during an attack.

The SafeSite System provides the advantage of customizing the system to meet the requirements of each individual site. Each component of the system can operate individually or be integrated into the entire system. Additional types of measuring devices can be incorporated into the SafeSite System, giving users the flexibility to expand the system, allowing them to have all the statistical inputs needed to take action. All devices come as transportable stand alone units which can be battery or line powered. The SafeSite System is designed and supported by MSA for the reliability and ease-of-use you expect.

### Applications

- Emergency response
- Public events
- Building protection
- Mass transportation centers
- Perimeter monitoring
- Hazardous response

### Hazards

- Nerve and blister agents
- Volatile organic compounds
- Toxic industrial gases (Cl2, NH3, HCN, HCl)

The following features describe how this system can benefit you:

## SAFESITE SAFECWA™

### Chemical Warfare Agent Detector

The **SafeCWA™** Detector simultaneously detects nerve and blister agents. The unit categorizes whether the agent is a nerve or blister agent. Surface Acoustic Wavelength (SAW) technology provides selective analysis to avoid false alarms. SafeSite's SafeCWA unit offers high selectivity of CWA agents, preventing misleading warnings and precluding unnecessary panic and chaos. If there is a CWA present, a qualitative signal will be conveyed to the remote SafeCOM Command Center and SafeALERT Alarm devices in addition to the unit's discreet display. Stable measurements assure users of protected environments, giving them the confidence they require. The unit is stored in a transportable enclosure and easily mounts onto the enclosure for quick assembly and operation.

## SAFESITE SAFEVOC™

### Volatile Organic Compound Monitor

The **SafeVOC™** Monitor detects numerous potentially hazardous volatile organic compounds (VOCs) covering multiple chemicals such as benzene, toluene, vinyl chloride, arsine, propylene oxide, xylene and many others. The SafeSite VOC unit uses a Photo Ionization Detector (PID) to allow responders to detect low levels of these potentially toxic chemicals before they become a major threat. With its ability to monitor for a large array of substances and indicate if a chemical is present, the SafeVOC Monitor provides knowledge of a hazard to users via a wireless signal. A large LED display, sizeable strobe and loud alarms indicate alarm conditions to clearly communicate the presence or threat of a hazardous environment. Responders can elect to turn off all remote alarms except for the SafeCOM Command Center location.

## Toxic Gas Monitor

The **SafeTOX™** Toxic Gas Monitor detects toxic industrial chemicals (TICs) such as ammonia, chlorine, hydrogen cyanide or hydrogen chloride. Combustible gas or oxygen sensors are also available. The SafeTOX unit allows responders to detect low levels of these potentially toxic chemicals before they become a major threat. A large LED display, sizeable strobe and loud alarms indicate alarm conditions to clearly communicate the presence or threat of a hazardous environment. Responders can elect to turn off all remote alarms except for the SafeCOM Command Center location.

## Visual and Audible Alarm with Display

The **SafeALERT™** and **SafeALERT™ Plus** Alarm units give responders remote alarm signals at designated locations around the monitored site. The SafeALERT provides audible and visual alarms along with fault indications via a loud horn and strobe light. The SafeALERT Plus Alarm adds an LCD display to provide actual gas concentrations from the measuring devices. SafeALERT and SafeALERT Plus Alarms operate independently of the SafeCOM Command Center, allowing for effective system alarm capability for those who elect not to make use of the SafeCOM Command Center.

*SafeSite Systems can accommodate any combination and number of SafeSite components. With no limit to the number of devices you can choose, the SafeSite System can meet your unique hazardous gas detection requirements without restrictions.*

## Command Center

The **SafeCOM™** Command Center incorporates an uncomplicated graphical user interface for responders to effortlessly interface with the critical and wide-ranging data collected from the SafeCWA, SafeVOC, and SafeTOX units, and any other selected system devices. A customized screen illustrates the site at hand and conveys live readings of all system devices through wireless communication. The information can be viewed simultaneously by another user's pc within close proximity allowing the sharing of information to facilitate important decision-making. Utilizing uncomplicated images to provide straightforward facts helps users focus on relevant data for interpretation. All information is encrypted for security and datalogged files can be stored for record keeping or future analysis.

## Meteorological Weather Station

The **SafeMET™** Station monitors local meteorological conditions such as wind speed and direction, temperature, relative humidity and barometric pressure alerting responders to the weather conditions which may affect a terrorist attack. Monitoring wind speed and direction can help predict the route in which a chemical substance may advance, permitting appropriate risk-reducing measures to be taken. Weather conditions can be communicated via wireless transmission to the SafeCOM Command Center.

## RF Signal Strength Tester

**SafeTEST™** RF Signal Strength Tester handheld units ensure correct setup of the SafeSITE Network. The SafeTEST Unit confirms the devices deployed in the SafeSITE Wireless System are properly located for optimized wireless communication.

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*MSA... Providing effective hazardous gas detection solutions to help prevent, respond to, and recover from a terrorist attack.*

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# SafeSite Product Overview

| | | SAFESITE SafeCWA (Chemical Warfare Agent Detector) | SAFESITE SafeVOC (Volatile Organic Compound Monitor) | SAFESITE SafeTOX (Trace Gas Monitor) | SAFESITE SafeALERT (Visual & Audible Alarm with Display) | SAFESITE SafeCOM (Command Center) | SAFESITE SafeMET (Meteorological Weather Station) | SAFESITE SafeTEST (RF Signal Strength Tester) |
|---|---|---|---|---|---|---|---|---|
| **Gas Type** | Nerve: GA (Tabun), GB (Sarin), GD (Soman), GF, VX; Blister: HD (Sulfur Mustard), HN-3 (Nitrogen Mustard) | | Trace levels of Volatile Organic Compounds (VOCs) | $CL_2$ (Chlorine) $NH_3$ (Ammonia) HCN (Hydrogen Cyanide) HCL (Hydrogen Chloride) | not applicable | not applicable | not applicable | not applicable |
| **Sensor Technology** | | Surface Acoustic Wave (SAW) | Photoionization Detector (PID) | Electrochemical | not applicable | not applicable | not applicable | not applicable |
| **Sensor Range** | | not applicable | 0-200 ppm 0-1500 ppm | $Cl_2$: 0-5.0 ppm $NH_3$: 0-50 ppm HCN: 0-50 ppm HCl: 0-100 ppm | not applicable | not applicable | not applicable | not applicable |
| **Minimum Detectability** | | Nerve Agents (G): 0.3 mg/m$^3$ or 0.04 ppm; Blister Agents (H): 1.0 mg/m$^3$ or 0.14 ppm | 1 ppm | $Cl_2$: 0.2 ppm $NH_3$: 2 ppm HCN: 2 ppm HCl: 2 ppm | not applicable | not applicable | not applicable | not applicable |
| **Resolution** | | not applicable | 0-200 ppm: 0.1 ppm 0-1500 ppm: 1 ppm | $Cl_2$: 0.1 ppm $NH_3$: 1 ppm HCN: 1 ppm HCl: 1 ppm | not applicable | not applicable | not applicable | not applicable |
| **Display Type** | | Qualitative; Go/No Go Indicator | Quantitative LED Display | Quantitative LED Display | LCD display on Plus version only. | not applicable | not applicable | Receiver: LCD Transmitter: not applicable |
| **Alarm Indicator** | | Internal LEDs | Red Alarm Strobe and Horn | Red Alarm Strobe and Horn | Red Alarm Strobe and Horn on both versions. | 2 programmable relays | not applicable | Receiver: not applicable Transmitter: not applicable |
| **AC Power** | | 110-120 VAC 50/60 Hz | 110-120 VAC 50/60 Hz | 110-120 VAC 50/60 Hz | 110-120 VAC 50/60 Hz | 110-120 VAC 50/60 Hz | 110-120 VAC & Solar | 9-volt battery |
| **Battery Runtime (room temperature)** | | 12 hours | 12 hours | 12 hours | 12 hours | 12 hours | >12 hours | 12 hours |
| **Dimensions** | | 31.5"X 22.875"X 18.875" in case | 19.5"x6"x12" | 19.5"x6"x12" | 19.5"x6"x10" | 18.5"x15.25"x6.875" | 6' high for sensors; 3' diameter for tripod | Receiver: 5"x3"x12" w/antenna Transmitter:5"x3"x12" w/antenna |
| **Weight** | | 114 lbs. (on wheels) | 21 lbs. | 21 lbs. | 18 lbs. | 32 lbs. | 30 lbs. | Receiver: 1.5 lbs. Transmitter: 1.25 lbs. |
| **Part Number** | | 10050110 | 0-200 ppm: 10050136 0-1500 ppm: 10050137 | $NH_3$: 10050132 $Cl_2$: 10050133 HCl: 10050134 HCN: 10050135 | SafeALERT Plus: 10050108 SafeALERT: 10050109 | 10050107 | 10050131 | Receiver: 10050104 Transmitter: 10050105 |

Offices and representatives worldwide
For further information:

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