



*NaDos 4.0 Naphthalene vapor detector/dosimeter*

## NaDos 4.0 Detector

- Personal Exposure Monitor (PEM)
- High specificity naphthalene vapor detector & data logger,
- High sensitivity ( $<40\mu\text{g}/\text{m}^3$ ),
- Fully integrated including embedded microprocessor for control & data processing, display, & battery,
- GPS position & time data stamp during logging.

### Naphthalene Dosimeter (NaDos)

The NaDos 4.0 detector is a personal exposure monitor (PEM) which detects, identifies, quantifies and records in near-real-time trace amounts of naphthalene vapors in the breathing zone of the wearer.

Application is for use by fuel handlers, burn-pit operators, asphalt or fracking operations, paint shops, and locations where hazardous gasoline or diesel range organic vapors expose workers. It is also useful in studies of health related issues due to inhalation of burn products from fires or tobacco smoking.

The NaDos 4.0 detector is a miniature, intrinsically safe, non-contact, reagentless, near-real-time sensor capable of detecting trace levels of naphthalene at ppb, or  $\mu\text{g}/\text{m}^3$ . The NaDos detector is fully integrated with on board embedded microprocessor for both controlling and operating the sensor, but also for processing data to form vapor identity & concentration results, stores, and communicates data along with both a time and spatial position stamp (GPS). In addition, it has an on-board battery for over 10 hours of full time operation and 120 hours of standby operation.

The NaDos sensor differs from photoionization detectors (PIDs) and flame ionization detectors (FIDs) in that the NaDos provides not only high sensitivity but also a high level of specificity in detection of naphthalene vapor. In addition, NaDos is more sensitive than a PID, FID, or IMS. The NaDos employs patented\* deep UV excited optical detection methods and a rapidly refreshable vapor concentrator together with chemometric algorithms to identify the concentration of naphthalene present.

\*U.S. Patent No. 8,759,791, Issued June 24, 2014

### Features

- **Wearable detector**
- **Cell phone compatible**
- **Detection time:**  $< 10$  s
- **Sample rate:**  $> 3/\text{min}$
- **Time & GPS stamped data**
- **Size:** 3" W x 2.7" H x 6" D
- **Weight:**  $< 2$  lbs
- **Battery lifetime:**
  - Standby 120 Hrs
  - Full power 10 Hrs
- **Safety:** Intrinsically safe

