ellona

DUSTKAIR

ALVEOLAR PARTICLES AND CRYSTALLINE SILICA

YOUR INDIVIDUAL AND CONNECTED DUST PORTABLE DETECTION SENSOR

AN ON-THE-GO DEVICE WITH INSTANT ALERTS

The fine particles released at construction sites represent a potential threat to the health of workers and the well-being of nearby residents. With dimensions frequently smaller than 2.5 micrometers, these particles infiltrate the respiratory system, giving rise to substantial health risks. Ensuring a secure work environment is imperative to safeguard the health of workers and maintain the quality of the surrounding air.

DUSTKAIR

A mobile dust device aimed at enhancing preventive measures
(Co-developed with UBY)

1. **A precise and patented identification method:** Using **spectrophotometry** and a **patented algorithm**, DUSTKAIR identifies fine particles, including the **alveolar fraction** (less than 5 micrometers) and the **thoracic fraction** (typically between 5 and 10 micrometers), targeting the most hazardous to health.

2. **Real-time measurements:** The portable DUSTKAIR technology enables constant monitoring, providing **an instantaneous assessment of workers' exposure** to fine particles (8-hour Time-Weighted Average).

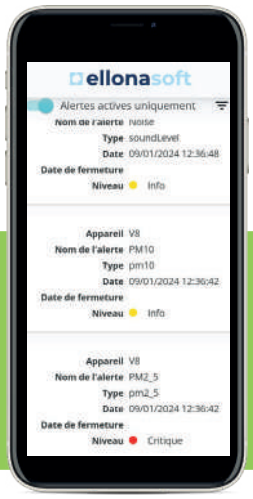
3. **A portable system:** Designed to be worn close to the respiratory pathways, DUSTKAIR consists of a capture module and a compact communication unit. The latter also contains **a rechargeable battery with a 10-hour autonomy**, ensuring complete coverage throughout a workday.

Regulation
since July 1, 2023

Exposure limit values:
Alveolar dust: 0.9 mg/m³
Silica alveolar dust: 0.1 mg/m³

Expected measures:
Probability of exposure
Intensity and level of exposure
Frequency of exposing actions
Cumulative duration of exposure periods
Total duration since the start of exposure

The ELLONASOFT platform performs real-time data analysis, generating automatic reports and instant alerts during exposure peaks
(Annual license included)



ADVANCED MONITORING OF FINE PARTICLES

DUSTKAIR: Your partner in safeguarding the health of workers in construction sites

ALL PARTICLES CONTAINING CRYSTALLINE SILICA

Accurate detection of the alveolar fraction (<5µm), including crystalline silica, and the thoracic fraction (between 5µm and 10µm)

PM 0.3 | PM 1 | PM 2.5 | PM 4 | PM 10

DUSTKAIR stands out with its robust and compact casing, ensuring the reliability of the device in rigorous working conditions

Modular and precise structure: The device consists of two interlinked parts connected by a flexible cable. The capture module, positioned closest to the respiratory pathways, ensures precise data collection. Simultaneously, the communication unit, portable on the belt, houses the battery.

Resilient materials: Robust materials ensure an extended lifespan, resistant to the impacts inherent in construction and quarry environments.

TECHNICAL SPECIFICATIONS

	Measure
Particle Range*	0.30 µm to 12.4 µm
Size Categorization	16 software compartments
Total flow rate	0.24 L/min
Particle counting rate	10,000 particles/second

** Based on a detection efficiency of 50% at 0.35 µm*

Size: 25 x 13 x 9 cm
Weight: 575 g (with battery)
Materials: ABS
Power supply: Rechargeable battery
Battery recharge time: 12h
Autonomy: 10h (on battery)
Communication: 3G/4G/WiFi/LTE-M/LoRa
Data logger: Local storage on SD card for up to 10 hours, with transmission upon reconnection

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