SAFEBAIR®
SYSTEM

Operating Instructions
Hydrogen Sulfide Monitor
(Part Number: 382015)

Introduction
Hydrogen sulfide is a colorless gas with a strong odor resembling rotten eggs. Continuous exposure to low concentrations (15 - 20 ppm) generally causes irritation to the mucous membranes. It may also cause headaches and dizziness. High concentrations (200 - 300 ppm) can result in respiratory arrest leading to unconsciousness. Exposure for more than 30 minutes at concentrations as high as 700 ppm has been fatal. Continuous inhalation of low concentrations may cause loss of the sense of smell which makes the detection of its presence by odor ineffective. OSHA PEL (permissible exposure limit) for hydrogen sulfide is 20 ppm (TWA). NIOSH REL (recommended exposure limit) for hydrogen sulfide is 10 ppm (TWA).

Hydrogen sulfide is a widely spread pollutant. It is emitted as a byproduct in many industries such as oil refineries, production of sulfuric acid, leather, gelatin, artificial silk and sugar. As a product of normal biodegradation of bioproducts, hydrogen sulfide is spread in waste water treatment locations.

Principle of Operation
The SafeAir hydrogen sulfide badge is a monitoring system designed to indicate the presence of hydrogen sulfide at concentrations below the permissible exposure limit. The SafeAir hydrogen sulfide badge detects the presence of hydrogen sulfide by forming a color change in the shape of an exclamation mark inside the triangle. This indication is produced by a color-forming reaction which occurs when hydrogen sulfide reacts with a flat indicator layer.

Physical Specifications:
- Dimensions: (74 ± 1 mm) x (41 ± 1 mm) x (1 mm)
- Weight: 1.5 g
- Refrigerated shelf life: 2 years
- Color change: pale blue to gray

Sampling Parameters:
- Exposure level: 2.0 ppm hr
- Minimum detectable limit (8 hours): 0.25 ppm
- Maximum recommended sampling time: 48 hours
- Minimum recommended sampling time: 15 minutes
- Relative humidity range: 15% - 90%
- Face velocity range: 10 – 150 cm/sec
- Temperature range: 50°F - 104°F
- Light effect – UV (direct sunlight): no effect
- Light effect – visible: no effect
- Color stability: 6 days
- Known Interferences: No interferences are known.

Operating Instructions
1. Allow the badge to warm to room temperature prior to removing the badge from its protective pouch.
2. For personnel monitoring, attach the badge near the user’s breathing zone (i.e. the collar) with the front side exposed to the surrounding atmosphere.
3. For area monitoring, attach the badge to a stand and mount in a centralized area with the front side exposed to the surrounding atmosphere.
4. The exclamation mark appears within the triangle when hydrogen sulfide is present. Please note that the exclamation mark will appear underneath the printed exposure dose (sensitivity).

WARRANTY EXCLUSIONS AND LIMITATION OF LIABILITY

IF THE USER DOES NOT ACCEPT THE FOLLOWING TERMS, THE USER SHOULD NOT USE THE SAFEBAIR BADGES.

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Warning: Keep out of reach of children, if ingested seek medical attention immediately.

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