



## Operating Instructions Formaldehyde Badge (Part Number: 382011)

### Introduction

Formaldehyde is a colorless gas with a pungent, suffocating odor. It is a potent irritant to eyes, nose and throat. The most common effects of low level formaldehyde inhalation are eye, nose and upper respiratory irritation. Chronic symptoms of exposure are itching eyes, dry and sore throat, and possible difficulty in sleeping and unusual thirst after awakening. OSHA PEL (permissible exposure limit) for formaldehyde is 0.75 ppm (TWA). NIOSH REL (recommended exposure limit) is 0.016 ppm (TWA). NIOSH also recommends that formaldehyde be handled as a potential occupational carcinogen in the workplace.

Formaldehyde workplace exposure occurs because of its extensive use as an industrial chemical in the manufacturing of resins for adhesives, plastics, coatings and fabrics. Additional exposure to formaldehyde emissions comes from its use as a fumigant and sterilant. The major source of atmospheric discharge of formaldehyde is from combustion processes, specifically from the photo-oxidation of hydrocarbons in auto emissions.

### Principle of Operation

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

### Physical Specifications:

Dimensions	74 mm x 41 mm x 1 mm
Weight	1.5 g
Refrigerated shelf life	1 year
Color change	yellowish-brown to dark brown

### Sampling Parameters:

Exposure level	0.2 ppm-hr
Minimum detectable limit (8 hours)	0.025 ppm
Maximum recommended sampling time	16 hours
Minimum recommended sampling time	15 minutes
Relative humidity range	20% - 80%
Face velocity range	10 – 150 cm/sec
Temperature range	15°C - 35°C (59°F - 95°F)
Light effect – UV (direct sunlight)	no effect
Light effect – visible	no effect
Color stability	18 hours
Known Interferences	acrolein, cigarette smoke

### Operating Instructions

1. Allow the badge to warm to room temperature prior to removing the badge from its protective pouch.
2. Remove activation label before monitoring.
3. 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.
4. For area monitoring, attach the badge to a stand and mount in a centralized area with the front side exposed to the surrounding atmosphere.

### **WARRANTY EXCLUSIONS AND LIMITATION OF LIABILITY**

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

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



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