



Operating Instructions  
Phosgene Medi-Badge  
(Part Number: 382060)

**Introduction**

Phosgene is a colorless, highly toxic gas with an odor resembling moldy hay. It is an insidious poison. There is no immediate irritation even when fatal concentrations are inhaled. It may cause severe pulmonary edema (abnormal fluid buildup in the lungs) or pneumonia. Inhalation of high concentrations causes choking, coughing and painful breathing. OSHA PEL (permissible exposure limit) for phosgene is 0.1 ppm (averaged over an 8-hour work shift). NIOSH IDLH (immediately dangerous to life or health) exposure limit for phosgene is 2 ppm.

Phosgene is used in the manufacturing of numerous organic chemicals. It is also used in the production of glass, resins, dyes and plastics.

**Principle of Operation**

The SafeAir phosgene badge is a monitoring system designed to indicate the presence of phosgene. The SafeAir phosgene badge detects the presence of phosgene 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 phosgene reacts with a flat indicator layer.

**Physical Specifications:**

Dimensions	(74 ± 1 mm) x (41 ± 1 mm) x (1 mm)
Weight	1.5 g
Shelf life	1 year at 25°C
Color change	white to red

**Sampling Parameters:**

Exposure dose:	
Badge	10 ppm·min
Badge with color comparator	10 – 450 ppm·min
Maximum recommended sampling time	5 consecutive days
Minimum recommended sampling time	1 minute
Relative humidity range	20% - 100%
Face velocity range	5 - 168 cm/sec
Temperature range	13°C to 50°C
Light effect – UV (direct sunlight)	no effect
Light effect – visible	no effect
Known Interferences:	acyl halides, benzoyl chloride, cyanuric chloride, carbonyl bromide, chlorine monoxide and chloroformates

**Operating Instructions**

1. Allow the badge to warm to room temperature prior to removing the badge from its protective pouch.
2. Remove activation label prior to use.
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. **Between work shifts, store the badge in a sealed bag in a cool, dark environment.**
5. The exclamation mark appears within the triangle when phosgene is present. Please note that the exclamation mark will appear underneath the printed exposure dose (sensitivity).
6. A color comparator is available for use with this badge. To obtain the average concentration, divide the exposure dose (ppm·min) by the exposure time in minutes (min).

**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.

