SAFEAIR

Operating Instructions
Hydrazine Dual Level Badge
(Part Number: 382020)

Introduction

Hydrazine is a colorless liquid with a penetrating odor resembling that of ammonia. It is extremely destructive to the tissues of the mucous membranes and upper respiratory tract. Symptoms of exposure may include coughing, wheezing, laryngitis, and shortness of breath, headache, nausea and vomiting. OSHA exposure limit for hydrazine is 1 ppm (TWA). NIOSH exposure limit for hydrazine is 0.03 ppm (2 hour ceiling). NIOSH recommends that hydrazine be handled as a potential occupational carcinogen in the workplace.

Hydrazine is used predominantly as a fuel for rocket and jet engines and in the manufacturing of pharmaceuticals. Hydrazine salts are used in refining and as corrosion inhibitors.

Principle of Operation

The SafeAir hydrazine dual level badge is a monitoring system designed to indicate the presence of hydrazine at concentrations below the permissible exposure limit. The SafeAir hydrazine dual level badge detects the presence of hydrazine by forming a color change in the shape of a half triangle. This indication is produced by a color-forming reaction which occurs when hydrazine reacts with a flat indicator layer. A color change may appear on the front and/or the back side of the badge, depending upon the exposure dose.

Physical Specifications:

Dimensions	74 mm x 41 mm x 1 mm
Weight	1.5 g
Refrigerated shelf life	1 year
Color change	orange to maroon

Sampling Parameters:	**Front**	**Back**
Exposure dose:	8 ppb•hr	4 ppb•hr
Minimum detectable limit (8 hours)	1 ppb	0.5 ppb
Maximum recommended sampling time	2 days	2 days
Minimum recommended sampling time	5 minutes	5 minutes
Relative humidity range	23% - 83%	23% - 83%
Face velocity range	5 – 168 cm/sec	5 – 168 cm/sec
Temperature range	15°C - 35°C (60°F - 95°)	15°C - 35°C (60°F - 95°F)
Light effect – UV (direct sunlight)	no effect	no effect
Light effect – visible	no effect	no effect
Color stability	4 weeks	4 weeks

Known Interferences: Methyl hydrazine and high concentrations of aromatic amines

Operating Instructions

1. Prior to opening and removing a badge from its inner silver pouch, allow the badges to warm to room temperature. Store the remaining badges in the inner silver pouch zip-closed inside the white outer pouch.
   Once the silver pouch is opened, the remaining badges must be used within 30 days.
2. Allow the badge to warm to room temperature prior to removing the badge from its protective pouch.
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.
5. The half triangle will appear on the back-side of the badge when hydrazine is present at or above 4 ppb·hr. The half triangle will appear on the front-side of the badge when hydrazine is present at or above 8 ppb·hr.

WARRANTY EXCLUSIONS AND LIMITATION OF LIABILITY

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

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

MORPHIX TECHNOLOGIES

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