

CHEMTEQ[®]

ChemWipe
Cadmium II Compounds
Wipe for Surfaces
High Sensitivity
(PN: 310)

Manual



CHEMTEQ[®]

600 West 24th Street, Suite B
Norfolk, Virginia 23517, USA
Tel: 757-622-2223
Toll-free: 855-CHEMTEQ (855-243-6837)
sales@chemteq.net
www.chemteq.net



1. Application

The Cadmium ChemWipe PN: 310 is a colorimetric surface wipe designed to provide real-time indication of the presence of trace amounts of cadmium II compounds on surfaces. The unique design of the Cadmium ChemWipe provides uniform color change formation enabling the user to quantify cadmium contamination using the cadmium color comparator (PN: 310-6000).

2. Specifications

2.1. Overall Specification

- | | |
|--|--|
| a. Weight: | 0.5g (0.02oz) |
| b. Dimensions: | 8.5mm (0.33in), Φ : 32mm (1¼" in) |
| c. Operating temperature: | 4°C to 60°C (39°F to 140°F) |
| d. Operating humidity: | 5% RH to 95%RH |
| e. Minimum detectable limit: | 2µg |
| f. Detection range (color comparator): | 2µg to 1600µg |
| g. Color change: | light orange to orange-brown to brown |
| h. Color stability: | 10 minutes |
| i. Storage temperature: | 4°C to 25°C, (39°F to 77°F) |
| j. Shelf life: | 1 year |

2.2. Cross interferences and limitations

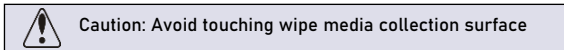
The Cadmium ChemWipe was tested individually on surfaces containing 0 and 100µg of Cd²⁺. There is no known impact to detectability or color change due to the presence of foreign substances within the quantities given in the table below. The presence of Cu²⁺ begins to interfere with the ChemWipe at quantities greater than 2mg by masking the color change to blue. No other interferences are known.

Foreign substances in mg or %					
Al ³⁺	25	Mn ²⁺	50	NaCl	1%
Ca ²⁺	1000	NH ⁴⁺	100	NaNO ₃	10%
Cu ²⁺	1	Ni ²⁺	0.2	Na ₂ SO ₄	100
Fe ³⁺	1	Pb ²⁺	100	Zn ²⁺	1
Mg ²⁺	1000	PO ₄ ³⁻	100		

Note: The cumulative impact of the presence of multiple substances was not evaluated; these potential effects cannot be excluded.

3. Operating Instructions

- Use gloves and protective glasses when handling mercury.
- Ensure that packaging pouch is intact.
- Open packaging pouch by tearing off the top part from one of side notches.
- Remove wipe from packaging pouch.



- Hold the ChemWipe from the round handle (Figure 1) and swipe the target surface (Figure 2). If you are dealing with rough or irregular surface, wet the bottom surface with 3 to 4 drops of water and swipe the target surface immediately as shown in Figure 2.
- Add 3 drops of developing solution.
- Allow three minutes for color development. Formation of reddish brown or brown color on the ChemWipe indicates the presence of at least 2µg of cadmium.

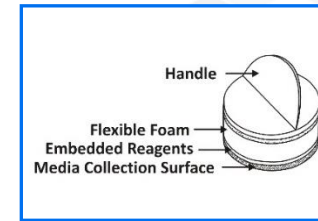


Figure 1



Figure 2

- Use the color comparator (Figure 3) to quantify the mass of cadmium collected on the wipe:
 - Insert the protective sleeve into the top left corner of the color comparator (Figure 4).
 - Place the wipe upside down on the protective sleeve (Figure 5).
 - Turn the bottom color wheel to match colors. The color formed on the wipe is directly proportional to the mass of cadmium collected on the wipe.
 - To compensate for any dark substance or dirt collected with the sample, turn the top gray scale wheel to achieve exact color match.



Figure 3



Figure 4

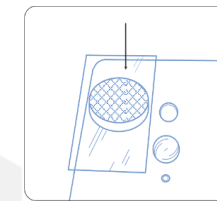


Figure 5