SKC

Operating Instructions

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FULL DISCLOSURE

Wipes for Disclosing the Presence of Lead

The Full Disclosure® Kit includes wipes (conform to ASTM E1792), spray bottle of acetic acid, spray bottles of deionized water, vials of Disclosing Powder, waxed paper sheets, and pairs of disposable nitrile gloves (pictured above). The Full Disclosure Kit for Laboratory Analysis includes all the above items, sample collection vials, labels, and disposable templates.

Developed and patented* by the U.S. Center for Disease Control and Prevention (CDC) and National Institute of Occupational Safety and Health (NIOSH), Full Disclosure Lead Wipes† indicate the presence of lead quickly and easily by displaying a pink or red color when lead is present on skin, specifically hands, or surfaces. This indicates that further hand washing or surface cleaning is necessary to completely remove lead. **FULL DISCLOSURE** Lead Wipes can also be sent to a laboratory for quantitative analysis of lead content.

** U.S. Patent No. 6,248,593*
† Specified in NIOSH Method 9105

FULL DISCLOSURE

Sampling for Lead on Skin or Surfaces

Follow all steps of the instructions carefully.

Use the nitrile gloves provided in the kit when preparing the developing solution or handling wipes before and after sampling to avoid cross contamination. If performing successive wipe samples, use a new pair of clean gloves for each sample.

Handling, storage, and disposal instructions for all materials are on page 5.

Full Disclosure was designed to detect the presence of elemental lead and other easily solubilized lead compounds. The extraction solution will not solubilize all lead compounds. Full Disclosure is suitable for elemental lead, lead nitrate, lead sulfate, lead acetate, and lead oxides. Full Disclosure was not designed nor intended to detect lead chromates, alkyl lead (i.e., tetraethyllead [TEL] or tetramethyllead [TML]), or other less easily solubilized compounds of lead.

Full Disclosure is not suitable for the detection of lead in paint, paint chips, on painted surfaces, or embedded in material such as plastic.

1. Preparation:

- Chill the spray bottle of deionized water (labeled Developing Solution #3) in an ice bath or refrigerator to approximately 35 F (2 C). Do not freeze.

- While wearing gloves, tap **one** vial containing Disclosing Powder #1 to dislodge adhered particles from the walls of the vial. Pour the **entire** contents of the vial containing Disclosing Powder #1 into the spray bottle of chilled deionized water (labeled Developing Solution #3). Cap the bottle and shake until thoroughly mixed. **The solution will turn an orange color.**

*Pour **one** vial of Disclosing Powder #1 into Developing Solution #3 spray bottle.*

Shake well to mix.

- Mixed Developing Solution will remain active for several hours at room temperature and for 10 days in refrigeration. Once expired, discard solution, rinse and save spray nozzle. Use the additional bottle of deionized water with saved spray nozzle and additional vial of Disclosing Powder to mix a second batch of Developing Solution in the second bottle labeled "Developing Solution #3." Follow Preparation instructions.

2. Taking the Sample:

Wipe hands or skin for 30 seconds using one side of wipe.

- **On skin:**
  Open the wipe packet and unfold the wipe. Wipe both hands or a selected skin surface for 30 seconds using **only one side of the wipe**. Use normal hand washing pressure.

- **On surfaces:**
  With gloved hands, unfold the wipe. Using only one side of the wipe, thoroughly wipe a designated area of the surface using repeated horizontal motions. Wipe the same surface area again **using the same side of the wipe,** but wiping at a right angle to the first wiping motion. Wipes may also be used on irregular surfaces such as shoes or frames of glasses.

Wipe surface area horizontally, then vertically using one side of wipe.

Wipe safety glasses, phones, shoes, etc. thoroughly using one side of wipe.

When taking surface samples that are to be sent to a laboratory for analysis (Lab Analysis Kit) use a template to specify the sample area.

Use a template to specify sample area for samples to be sent to a lab.

Use a new pair of clean gloves for successive wipe samples.

3. Reading the Results:

- Spread the wipe, **sample (soiled) side facing up,** on a piece of pre-cut waxed paper.

Place wipe, sample side up, on waxed paper.

- Before using either spray bottle, prime by aiming the nozzle into a garbage can and depressing it until a fine spray appears.

- Using Extraction Solution #2, spray the area of the wipe with the greatest soiling by depressing the pump nozzle **at least 3 times**.

Aim at soiled wipe and depress nozzle 3 times.

- Using prepared Developing Solution #3, spray the same area of the wipe by depressing the pump nozzle **at least 2 times**.

Aim at soiled wipe and depress nozzle 2 times.

- **Read the results immediately.** The presence of lead below the lower limit of visual identification is indicated in the sample area by a yellow to deep orange color. The presence of lead above the lower limit of visual identification is indicated in the sample area by a pink or red color. The color bloom appears within seconds and begins to fade quickly as the wipe dries. *For information on other compounds that may cause a color change, see Interferences on p. 7.*

Yellow
Lead below lower limit of visual identification is present (can also appear orange or deep orange)

Red
Lead above lower limit of visual identification is present (can also appear pink)

Lower Limit of Visual Identification: *18 µg of lead*

Handling, Storing, and Disposing of Full Disclosure Materials:

Disclosing Powder #1

Powdered potassium rhodizonate compound.

Storing: Keep vial tightly closed and store in a cool, dry place.

Handling: Wear chemical-resistant gloves (included in kit). Avoid contact with eyes, skin, and clothing. Do not inhale or ingest. Avoid prolonged or repeated exposure. Wash thoroughly after handling.

Disposing: Whatever cannot be saved for recovery or recycling should be disposed in an appropriate and approved waste disposal facility. Observe all federal, state, and local environmental regulations.

For more details, see Material Safety Data Sheet included in kit.

Extraction Solution #2

5% acetic acid and water solution.

Storing: Store in spray bottle at room temperature.

Handling: Non-toxic, however, avoid contact with eyes and mucous membranes and prolonged inhalation.

Disposing: Non-polluting; can be diluted with water and poured down a sink drain.

Developing Solution #3

Deionized water mixed with Disclosing Powder #1

Storing: After mixing, keep Developing Solution #3 cold [approx. 35 F (2 C)] whenever possible. In the field, keep the solution in a cooler and isolated from food.

Developing Solution #3 will remain active for several hours at room temperature and for 10 days if stored in a refrigerator. It is recommended that the solution be used as soon as possible. When it deactivates, it changes color from orange to pale yellow. If solution changes color from orange to pale yellow, discard (*see Disposing*) and mix fresh solution.

Handling and Disposing: *See Disclosing Powder #1 above or Material Safety Data Sheet for Disclosing Powder #1 included in kit.*

Full Disclosure Wipes After Testing

Storing: Do not store. Dispose of wipes as outlined below or insert into sample collection bottles and send to a laboratory for analysis.

Handling: Wear nitrile gloves to avoid contaminating the wipe.

Disposing: Dispose of used Full Disclosure wipes and any unused material observing all federal, state, and local environmental regulations.

Using Lab Analysis (Quantitative) Kit

1. Prepare the Developing Solution #3 and take a sample following the instructions for the Sampling for Lead on Skin and Surfaces on page 2.

   When sampling flat surfaces, use a template to maintain the size of the sample area. Disposable templates are included in the Quantitative Kit.

Use a template to specify sample area.

2. Fold the wipe, **sample (soiled) side facing in**, and place in the sample collection bottle. Identify the sample using the labels provided in the kit.

Insert in sample collection bottle and label.

3. Include 1 blank (unused wipe) for the laboratory for each lot of samples. Place the blank wipe into a clean container to prevent contamination of the wipe. Identify the blank using the labels provided in the kit.

4. Package samples, blanks, and all appropriate sample information and ship to an accredited laboratory for analysis

   Analysis (quantitative): Atomic absorption spectroscopy or electroanalysis according to NIOSH Analytical Method 7082, 7105, or 7701 modified for wipes.

   Lower Limit of Visual Identification (qualitative): 18 μg of lead

For a listing of analytical laboratories that analyze Full Disclosure Lead Wipes, go to www.skcinc.com or contact SKC Technical Support at skctech@skcinc.com.

For a performance report on Full Disclosure, view Publication No. 1485 at www.skcinc.com.

Interferences

Full Disclosure may also display a color reaction to the following compounds, if present:

- Silver
- Cadmium
- Barium
- Mercury
- Titanium

However, the reaction would only occur with higher concentrations of these compounds (less sensitivity than that of lead).

Silver, titanium, and mercury will cause a red hue (reddish-purple to hot pink) that is different from that displayed with lead. Tin shows an opaque white color at high concentrations. If it is suspected that these other elements are present, use other testing methods to determine their presence and concentration prior to using Full Disclosure for lead.

SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to http://www.skcinc.com/warranty.asp.

Description	Cat. No.
Full Disclosure Kit‡	**550-001**
Full Disclosure Kit‡ for Laboratory Analysis	**550-002**

Replacement Parts	
Wipes, conform to ASTM E1792, 10/pk	**550-022**
Disclosing Powder #1	**550-020**
Extraction Solution #2 in spray bottle	**550-021**
Deionized Water for Developing Solution #3 in spray bottle	**550-023**
Nitrile Gloves, 11/pr	**550-024**

‡ Limited shelf-life

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