



## Third Party Documentation of the Performance of LeadCheck Swabs

- 1. NIST Study, May 2000.** *Spot Test Kits for Detecting Lead in Household Paint: A Laboratory Evaluation. (NISTIR 6398).* For this study, HUD funded NIST (the National Institute of Standards and Technology) to "determine the reliability of spot test kits for detecting the presence of lead in household paint when tests were conducted by certified lead inspectors or risk assessors." The full NIST study can be downloaded from either [www.nist.gov](http://www.nist.gov) or [www.hud.gov](http://www.hud.gov) by simply typing "NISTIR 6398" in the search window on the home page of either site.
- 2. FDA Laboratory Information Bulletin.** *Identification of Lead Solder on a Metal Can Seam* (No. 4041, July, 1996, Volume 12, Number 7.) In 1995 the U.S. Food and Drug Administration (FDA) amended its food additive regulations to prohibit the use of lead solder in the manufacture of cans used for packaging foods [(1995) 60 (June 27), 33106-33109; 21 CFR 189.240)]. This FDA Laboratory Bulletin reports the development of a protocol for detecting lead alloy solder on a metal food can using a chemical spot kit.
- 3. MRI-Quantech Study, 1995.** *(A Field Test of Lead-based Paint Testing Technologies. Summary and Technical Report – EPA 747-R-95-002a&b).* The data section of this huge study includes "Operating Characteristic Curves" for LeadCheck Swabs on wood and brick, for example, that prove LeadCheck's reliability. In both of these performance curves, the probability of obtaining a positive result at the action level (1 mg/cm<sup>2</sup>) is nearly one, that is, close to ideal behavior as defined by EPA in 1993 (*Identification of Performance Parameters for Test Kit Measurement of Lead in Paint (EPA600R-93/129)*). Clearly, these MRI-QuanTech "operating characteristic curves" demonstrate that LeadCheck Swabs perform reliably and accurately to detect lead paint hazards. Yet in spite of the apparent good performance by LeadCheck Swabs and others, this data was overlooked when the EPA claimed that Chemical Spot Test Kits are not reliable for testing lead-based paint, a conclusion that was not supported by the data!
- 4. Lead Test Kits, OSHA, September 1994.** This study identified LeadCheck Swabs as "capable of identifying lead at the levels given in the Lead Exposure Reduction Act (October 29, 1992) and the Department of Housing and Urban Development (HUD) Interim Guidelines (September 1990, revised May 1991)..... "With the LeadCheck tests, cutting into the paint to expose all layers will make it possible to determine if any layer has an amount of lead greater than that allowed in the HUD requirements."
- 5. Evaluation of Lead Test Kits, Consumer Product Safety Commission (CPSC), September 1994.** Released to manufacturers, but not to the public, this limited study identified LeadCheck Swabs as one of the top performing chemical spot test kits.
- 6. A Comparative Test and Evaluation of Lead-based Paint Test Kits.** (*Masters Thesis by Lynn Hill, Air Force Institute of Technology, 1993.*) LeadCheck Swabs was the only kit tested that gave a performance curve for lead chromate paint. The inflection point was around 0.3 – 0.4% lead. A positive result was obtained nearly 100% of the time on paint that was 0.5% lead and greater.

7. **Chemical Lead Paint Inspection Methodology as an Alternative to Existing Inspection Procedures (Pinto Protocol)**, (October 1993, Wonder Makers, Inc., Kalamazoo, MI.) During the screening of 63 homes for lead-based paint, 692 paint samples were collected and tested with LeadCheck Swabs. Of these, 301 samples were found to be positive. Quality control analysis by Laboratory AA of paint chips indicated that a few "positives" were just below 0.5% and one negative was above 0.5%. Retesting of that negative result with LeadCheck Swabs revealed an operator error: LeadCheck gave a positive result on retesting.

8. **EMG Group:** In 1993, the EMG Group tested 400 homes with LeadCheck Swabs and AA Laboratory tests on paint chips taken from the same sites where LeadCheck tests were performed. They found "absolutely consistent results" both positive and negative with LeadCheck Swabs and AA results.

### **ASTM CONSENSUS STANDARDS FOR CHEMICAL SPOT TEST KITS**

Over the past several years, ASTM Subcommittee E06.23 on Lead Hazards Associated with Buildings has promulgated two consensus standards for qualitative chemical spot test kits:

**E 1753** Standard Practice for the Use of Qualitative Chemical Spot Test Kits for Detection of Lead in Paint Films.

**E1828** Standard Practice for Evaluating the Performance Characteristics of Qualitative Chemical Spot Test Kits for Lead in Paint.