IDENTIFICATION OF PARTS

1. Dispensing Pipettes (droppers)
2. Test Tubes (3mL)
3. Holes to stand Test Tubes upright
4. Emery Board
5. Approximately 100 double-ended Cotton Swabs
6. Polythene Conical Beakers
7. Dilute Acetic Acid solution
8. Indicator Solution
9. User Guide

JAMES H.HEAL & CO. LTD. HALIFAX ENGLAND

LEAD DETECTION KIT – USER GUIDE

SCOPE

The Lead Detection Kit (794-550) is intended as a qualitative pre-screen test for lead. The qualitative method gives a positive or negative (yes or no) result and is suitable for hard surfaces, such as toys, and soft articles, such as textiles. The method is based on classical inorganic chemistry reactions which are well known in analytical chemistry laboratories.

CONTENTS OF KIT

Each Lead Detection Kit (stock code 794-550) contains the following items:

Description	*Quantity*
Dilute Acetic Acid 100ml	2
Indicator Solution 100ml	1
Dispensing Pipette (dropper)	2
Test Tubes	5
Polythene Conical Beakers	5
Double-ended Cotton Swabs	100 (approx)
Emery Board	1
User Guide	1

STORAGE

When not in use ensure the bottles are tightly closed and stored in a cool, dry and dark place.
Solutions are stable for two (2) years unopened. Solutions are stable for 6 to 12 months after opening depending on storage conditions.

HEALTH AND SAFETY

Do not get in eyes or on skin. May irritate eyes and skin. Do not swallow.
Do not mix Indicator Solution with strong acids – it will evolve toxic fumes. Do not breathe fumes.

FIRST AID TREATMENT

Indicator Solution contains sodium sulphuret.
If swallowed call a doctor immediately. Do not induce vomiting.
If in eyes, rinse well with water for 15 minutes.
If on skin, rinse well with water.

WARRANTY & LIABILITY

This test kit is not intended to replace a professional inspection by an accredited commercial laboratory. The Lead Test Kit will detect high levels of lead. No guarantees are intended or implied. James H. Heal & Co. Ltd assumes no liability for the misuse of the Lead Detection Kit or for the interpretation of the results by the user. This kit is intended only as a pre-screen test for lead.

PERFORMING A TEST

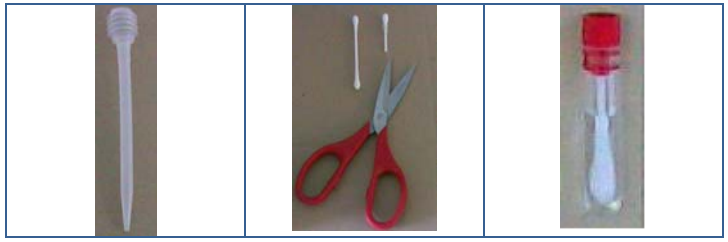
Test Precautions

Read the Health & Safety and First Aid Treatment sections above.
Perform all testing in a well ventilated area. If possible use a fume cupboard.
Avoid contact with Indicator Solution and Dilute Acetic Acid Solution.
Wash hands with soap and water before and after handling items to be tested for lead.
Dispose of used Cotton Swabs by rinsing in water and then disposing in normal refuse.
Used Dilute Acetic Acid Solution should be flushed to drain with water.
Rinse Dispensing Pipettes, Test Tubes, Polythene Conical Beakers and any other apparatus with water immediately after testing.
Interferences: copper, bismuth, iron, nickel, chromium, aluminium, zinc, magnesium and titanium.

Qualitative Method – Testing Soft Articles - Testing the Acid Extract (Leaching Test)

Specimens should be clean, free from dust and dry.
Place the specimen in a Polythene Conical Beaker (or other lead free container).
Note – the amount of specimen is not critical. Typically, approx 0.1g is sufficient.
Cover the specimen with Dilute Acetic Acid solution, then loosely cover the beaker.
Note – use a minimum of 5mL of Dilute Acetic Acid solution.
Leave for between 4 to 24 hours.

Using a Dispensing Pipette, take 2mL of the Dilute Acetic Acid extract and transfer into a Test Tube.
Cut a double-ended Cotton Swab in half using scissors.
Dip the tip of a Cotton Swab into the Indicator Solution.
Place the Cotton Swab in to the Test Tube containing the Acetic Acid extract.
Replace the red cap and shake gently once. Leave for 1 minute.



If the Cotton Swab tip or Dilute Acetic Acid extract shows yellow, brown or black then lead is present.
If any other colour is indicated by the test, it is not from lead.

An indication of the yellow brown and black colours which may be observed is given in the Colour Chart below.

Qualitative Method - Testing Surfaces

Surfaces should be clean, free from dust and dry.
If multiple layers or coated surfaces are suspected then cut through the surface with a scalpel until all the layers are exposed. Alternatively, rub the surface with an Emery Board to expose the layers. To avoid cross contamination, take care not to use the same area of the Emery Board for subsequent tests.
If the sample is to be preserved intact, then when possible test an area of the sample which is not normally visible (e.g., underneath).

Dip the tip of a Cotton Swab into the Indicator Solution.
Rub the prepared surface to be tested gently with the Cotton Swab tip for approximately 30 seconds.
If the surface or the Cotton Swab tip shows yellow, brown or black then lead is present.
If no colour change is observed then the test is negative.
If any other colour is indicated by the test, it is not from lead.

An indicator of the yellow brown and black colours which may be observed is given in the Colour Chart below.

Colour Chart	
	Faint yellow tint
	Light brown
	Medium brown
	Dark brown
	Black