

## BLD4900 'ON-SITE' Chemical Analysis of Salts deposited on walls

### INTRODUCTION

Certain nitrates and chlorides are deposited by evaporation of soil-water (rising damp) on the surface of walls. A meaningful analysis can therefore be carried out provided a wall has not been disturbed for several years.

### HOW TO PROCEED

**WARNING: Do not swallow tablets or solutions.**

Collect samples from **surface** at *upper margin* of the damp area:

**Wallpaper:** Remove a piece 50mm<sup>2</sup>.

**Plaster:** Scrape wall surface not deeper than 3mm.

1. Place wallpaper piece or level spoonful of plaster (only use spoon supplied) in the container marked 60cc
2. Fill vial marked 60cc with distilled water up to 60cc mark
3. Shake mixture continuously for 30-40 seconds and allow to settle for one minute
4. Pour off some of the liquid into the vial marked 10cc, up to the 10cc mark
5. Use the 10cc vial for the nitrate test. Use the remaining 50cc solution (in the 60cc vial) for the chloride test

### Test Method for Nitrate

1. To the 10cc vial add one Nitrate No. 1 tablet and allow tablet to dissolve.  
Solution colour will now be yellow
2. Add one Nitrate No. 2 tablet and shake for 30 seconds
3. Allow solution to stand for five minutes
4. Observe colour

**Yellow:** No nitrates present.

**Brown:** Traces of nitrate present.

**Red:** Nitrates present in significant quantities.

### Test Method for Chloride

1. To the 50cc solution (in the 60cc vial) add one Chloride tablet and shake the container until tablet dissolves
2. Observe colour

**Brown:** No chlorides present.

**Yellow:** Chlorides present.

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### INTERPRETATION OF RESULTS

The diagnosis of the origin of salts should not be made on the presence of salt alone, but considering other information available such as the moisture distribution within the building. A high reading of nitrates may signify that evaporation of soil water has continued for a long time. Soil salts are hygroscopic.

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