

Dried Paint Sampling & Laboratory Submission

Introduction

Taking a sample of dried paint for laboratory analysis for the purpose of determining its lead content is described in ASNZS 4361.2-2017 Guide to hazardous paint management. For full instructions for dried paint sampling, please refer to ASNZS 4361.2-2017. ASNZS 4361.2-2017 contains the following definitions:

- Lead Paint: A paint film that contains **greater than 0.1% lead by mass** in the dry film
- Lead-free Paint: A paint film that contains **less than, or equal to, 0.1% lead by mass** in the dry film.

For each dried paint sample analysed by Hill Labs, a comment will be added to the laboratory report that highlights whether the paint sample is classified as Lead Paint or Lead-Free Paint, as per the ASNZS 4361.2-2017 definitions above.

An example of how this classification is reported on a Hill Labs report is below:

| Sample Type: Dried Paint | | | | | | |
|--------------------------|--------------|------------|-----------------|------------|------------|------------|
| Sample Name: | | | | | | |
| Lab Number: | | | | | | |
| Lead in paint | | | | | | |
| Total Recoverable Lead | mg/kg dry wt | 19,200 | 102 | 41,000 | 39,000 | 45,000 |
| Total Recoverable Lead | % w/w | 1.92 | 0.0102 | 4.1 | 3.9 | 4.5 |
| Paint classification | | Lead Paint | Lead-free Paint | Lead Paint | Lead Paint | Lead Paint |

Sampling Dried Paint

ASNZS 4361.2-2017 specifies that a dried paint sample consisting of a 50 mm x 50 mm square be removed using an appropriate tool (e.g. chisel or scraper), to expose the base substrate. All the paint scrapings are to be collected and placed in a sealed and marked container, preferably a small sealable plastic bag placed inside another bag (i.e. double bagged). Avoid including any base substrate (i.e. non-paint material) in the sample.

Note that samples submitted with base substrate will be reported as 'bulk material', not dried paint, and we will not be able to report a classification regarding the lead status of a 'bulk material' sample. See also: Issues Encountered with Analysis for Dried Paint, below.

For small surfaces, one sample may be adequate, but more samples are likely to be required if it is obvious that different paint systems have been used in different areas. For large, uniformly painted surface areas such as interior walls and ceilings of large rooms, composite samples should be taken from three separate locations in 10m² sections.

Laboratory Submission

Once the samples have been taken, an Environmental Analysis Request form should be downloaded (https://www.hill-labs.co.nz/media/hvpkyldh/23775v8_analysis-request-form-environmental-editable-format.pdf) and filled in. The form must then be printed out and couriered together with the dried paint samples to Hill Laboratories at 28 Duke Street, Hamilton, 3204.

Issues Encountered with Analysis of Dried Paint

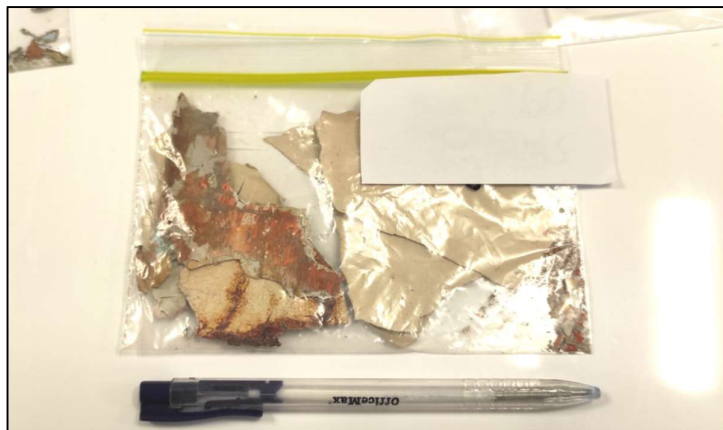
- Wood Chips (and other non-paint base substrates) effectively “dilute” the paint and any lead that may be found in the sample. Because the base substrate is extremely difficult to remove, it is not always possible to exclude it from the analysis. Because of this, we are unable to report a classification regarding the lead status of a paint for samples that include base substrate, as also mentioned above.
- Lightly scraping surfaces as to not damage the overall paint surface will produce insufficient samples in most cases. Depending on the layers of paint on the building this can also lead to falsely negative lead paint results. If destructive sampling is not acceptable, non-destructive analysis should be employed (e.g. XRF, noting that Hill Laboratories do not offer a XRF service).
- Lead paint is difficult to process and occasionally a repeat analysis is required. It is important to provide enough sample to allow the laboratory to complete a repeat analysis.

Example of the Correct Amount of Paint Supplied



Thick flakes of paint with no inclusion of base substrate (standard pen size for comparison).

Example of an Excessive Amount of Paint Supplied



While excessive amounts of paint supplied is preferable to an insufficient amount, it can provide complications for sub-sampling in the laboratory.

Example of a Poor Paint Sample



Paint flakes 1mm or less provided with lots of base substrate (non-paint) inclusions.

A sample that includes base substrate will be reported as a 'bulk material' sample.

Example of Insufficient amount of paint



A few very thin paint flakes. 2-3 times more paint would be required to be sufficient.