



State of Nevada
Division of Environmental Protection

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Rev: 1.0
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DRY WIPE SAMPLING

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1.0 SCOPE AND APPLICATION

This standard operating procedure (SOP) outlines the recommended protocol and equipment for collection of a dry wipe sample to analyze potential surface contamination.

This method of sampling is appropriate for surfaces contaminated with non-volatile species of analytes. Sample size should be determined based upon detection limit desired and the amount of sample requested by the analytical laboratory. Typical sample size for this investigation is 95.72 square inches (in²). Based upon sampling location, the sample size may need modification due to area configuration but only 1 gauze pad will be used.

These are standard (i.e., typically applicable) operating procedures which may be varied or changed as required, dependent on site conditions, equipment limitations or limitations imposed by the procedure or other procedure limitations. In all instances, the ultimate procedures employed should be documented and associated with the final report.

Mention of trade names or commercial products does not constitute NDEP endorsement or recommendation for use.

2.0 METHOD SUMMARY

Since surface situations vary widely, no universal sampling method can be recommended. Rather, the method and implements used must be tailored to suit a specific sampling site. The sampling location should be selected based upon the potential for contamination. For this investigation, the recommended sampling locations are: tube television screens, the top and sides of a projection television, computer monitor screens, and similar surfaces that attract dust.

Dry wipe samples are collected from a measured surface to indicate surface contamination. While wearing a new pair of surgical gloves, open a sterile gauze pad and stroke firmly over the sample surface, vertically and horizontally, to ensure complete coverage. The pad is then transferred to the sample container, labeled and sent to the laboratory for analysis.



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3.0 SAMPLE PRESERVATION, CONTAINERS, HANDLING, AND STORAGE

Samples should be stored in a plastic bag, labeled, placed in a second plastic bag, and shipped to the laboratory performing the analysis. The laboratory will provide the shipping labels and containers. The amount of sample required has been determined in concert with the analytical laboratory.

4.0 INTERFERENCES AND POTENTIAL PROBLEMS

This method has few significant interferences or problems. Typical problems result from rough porous surfaces, which may be difficult to wipe.

5.0 EQUIPMENT/MATERIALS REQUIRED

Equipment required for performing wipe sampling is as follows:

- Clean plastic bags (zip lock)
- Pre-measured template
- Field data sheets
- Sample labels
- Disposable surgical gloves
- Sterile wrapped gauze pad (4 in. x 4 in.)
- Chain of Custody records



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6.0 PROCEDURES

Wipe sampling is accomplished by using a sterile gauze pad, wiping a pre-determined, pre-measured area. The sample is packaged in a plastic bag, labeled, double bagged and packed in shipping containers provided by the lab. Each gauze pad is used for only one wipe sample (Use second gauze pad to clean the rest of the surface, see 6.9 below)

- 6.1 Choose an appropriate sampling surface. Without contacting the surface measure off the designated area or use the pre-measured template (95.72 in²).
- 6.2 Record surface area to be wiped.
- 6.3 Don a new pair of disposable surgical gloves.
- 6.4 Open a new sterile package of gauze pads.
- 6.5 Wipe the marked surface area using firm strokes. Wipe vertically, then horizontally to insure complete surface coverage.
- 6.6 Place the gauze pad in a plastic bag.
- 6.7 Seal the plastic bag, attach the label and place in a second plastic bag (and place in container without ice).
- 6.8 Record all pertinent data on the field data sheets.
- 6.9 Using a new gauze pad, clean the remainder of the surface and dispose of template and cleaning gauze pad properly.
- 6.10 Complete the sampling analysis request form and chain of custody record (this can be done by the office staff).

7.0 CALCULATIONS

Results are usually provided in pCi/area, or other appropriate measurement. Calculations are typically done by the laboratory.



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8.0 QUALITY ASSURANCE/QUALITY CONTROL

The following general quality assurance procedures apply:

All data must be documented on standard chain of custody forms, field data sheets.

The following specific quality assurance activities apply to wipe samples:

For wipe samples, a blank sample should be collected at one out of every 20th sampling event. This consists of a sterile gauze pad placed in a sample container done in the home. The blank will help identify potential introduction of contaminants via the sampling methods, the pad, and the sample container.

Duplicate samples will be collected at one out of every 10th sampling event.

9.0 DATA VALIDATION

A review of the quality control samples will be conducted and the data utilized to qualify the environmental results.

10.0 HEALTH AND SAFETY

Health and Safety procedures as described and defined in the NDEP Health and Safety Plan (HASP) must be observed and implemented prior to dust sample collection. Chemical exposures are not anticipated, and physical or mechanical hazards are only those that would be found in any typical household environment.

11.0 REFERENCES

U.S. EPA Environmental Response Team, Standard Operating Procedures 2011, November 1994.

Health and Safety Plan, Prepared in Support of: CDC/NCEH Cross-sectional Exposure Assessment Study – Churchill County, Nevada. September 25, 2001.



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FIELD DATA SHEET
APPENDIX A

Site:	Samplers:
Date/Time:	
Sample Location:	

Sample ID Number:	Surface Type	Dimensions of Sample Area (template)	Total Area (in ²)
		Template	95.72



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Sketch/
General Comments: