

ARCHIVE: Archived; revisions were made to clarify the technical content of this TGC. Please see the updated document VA30007.12.001 for further information.

TITLE: Soil and Sediment Sampling: Wet Weight versus Dry Weight

DATE EFFECTIVE: January 2004

HISTORY: Update of VA30007.04.002 - Revision was necessary to reflect changes in the rule citations that became effective in March 2009.

KEYWORDS: Data reporting; wet weight; dry weight; soil; sediment; sampling; risk assessment

RULE/ AUTHORITY: OAC 3745-300-07(F)(5)(b); OAC 3745-300-07(G); OAC 3745-300-09(F)(1); OAC 3745-300-09(F)(2)

QUESTION: When requesting soil or sediment data from a Voluntary Action Program (VAP) Certified Laboratory (CL), should the request call for the CL to report the data in wet weight or dry weight?

ANSWER: Soil and sediment samples can be reported by the VAP CL in either wet weight or dry weight. The manner in which the data are reported depends on the use of the data in the No Further Action (NFA) Letter issued by the Certified Professional under the VAP. This determination should be made and communicated to the CL prior to data analysis so that data can be appropriately reported.

If the soil and/or sediment data are to be used in a human health risk assessment, the data should be reported in dry weight. This is to ensure consistency between the reporting units for the contaminant levels in the environmental medium of concern (soil or sediment) and the exposure factor intake rates. Information on property-specific soil moisture and soil dry bulk density (generally provided by the CL when the data is reported in dry weight) is also necessary when modeling volatilization and migration to ground water, in accordance with OAC 3745-300-07(G): Use of Modeling. Furthermore, sediment is required to be sampled in accordance with Ohio EPA's "Sediment Sampling Guide and Methodologies", 2nd edition, November 2001 data <http://www.epa.state.oh.us/dsw/guidance/sedman2001.pdf>, as per OAC 3745-300-07(F)(5)(b).

If the soil data are to be used in an ecological risk assessment, Ohio

EPA recommends that the data are reported as dry weight. Although some of the intake factors in an ecological risk assessment are provided in wet weight, conversion factors are provided in the algorithms to account for this. Please see *Guidance for Conducting Ecological Risk Assessments, DERR-00-RR-031, February 2003, Revised April 2008* <http://www.epa.state.oh.us/derr/rules/RR-031.pdf>. If the data are provided as wet weight, the algorithms would need to be modified to reflect the fact that wet weight was used.

If the sediment data are to be used in an ecological risk assessment, the data must be reported in dry weight, as the contaminant levels need to be compared to sediment benchmarks that were derived on a dry weight basis. Furthermore, OAC 3745-300-07(F)(5)(b) requires that sediment be sampled in accordance with Ohio EPA's November 2001 Sediment Sampling Guidance, which in turn requires that sediment be reported in dry weight.

Contaminant levels in other biota such as fish, produce, beef or milk may be reported "as consumed" or "uncooked". These data should be converted to dry weight in the risk assessment to both ensure consistency between the contaminant levels and the intake rate and to appropriately utilize the risk assessment algorithms.

SUMMARY:

Under VAP rules, when requesting soil or sediment data from a CL, the CL should be asked to report the data as dry weight if the data are to be used for risk assessment purposes.

**OHIO EPA
CONTACT:**

For any questions concerning this issue, please contact the VAP Central Office at (614) 644-2924.