

**ARCHIVE:** Archived due to the 2009 rule revision. Refer to VA30007.09.027 for the updated document.

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

**DATE EFFECTIVE:** January 2004

**HISTORY:** New addition to Technical Decision Compendium

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

**RULE/ AUTHORITY:** OAC 3745-300-07(F); OAC 3745-300-09(F)(2)(a); OAC 3745-300-09(F)(2)(b)

**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(F): Use of Modeling. Furthermore, sediment is required to be sampled in accordance with Ohio EPA's "Sediment Sampling Guide and Methodologies", 2<sup>nd</sup> edition, November 2001 data, as per OAC 3745-300-09(F)(2)(a).

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, <http://www.epa.state.oh.us/derr/policies/DI-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 (See OAC 3745-300-09(F)(2)(b)(i), OAC 3745-300-09(F)(2)(b)(ii) for sediment benchmarks). Furthermore, OAC 3745-300-09(F)(2)(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.