

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

**DATE EFFECTIVE:** December 2012

**HISTORY:** Update of VA30007.12.001 – Revision was necessary to reflect changes in the rule citations that became effective in August 2014.

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

**RULE/ AUTHORITY:** OAC 3745-300-07(F)(6)(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:** In order for certified data to be useful, soil and sediment samples must be reported by the VAP CL in dry weight. This requirement should be communicated to the CL prior to data analysis so that data can be appropriately reported.

Reporting of soil and/or sediment data for use in a human health risk assessment in dry weight is necessary 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, OAC 3745-300-07(F)(6)(b) requires sediment sampling in accordance with Ohio EPA's "Sediment Sampling Guide and Methodologies", which provides sampling protocol to obtain the dry weight data and supporting information needed for risk assessment. The 3rd edition of this sampling guide, updated March 2012, is found at <http://www.epa.ohio.gov/portals/35/guidance/sedman2012.pdf>.

Soil data for use in an ecological risk assessment conducted under OAC 3745-300-09(E) needs to be reported as dry weight to provide consistency with the ecological risk assessment algorithms. 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://epa.ohio.gov/portals/30/rules/RR-031.pdf>

Sediment data to be used in an ecological risk assessment 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. OAC 3745-300-07(F)(6)(b) requires that sediment be sampled in accordance with Ohio EPA's Sediment Sampling Guide and Methodologies, which in turn requires that sediment be reported in dry weight.

**SUMMARY:**

Under VAP rules, when requesting soil or sediment data from a CL, the CL must 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.