

ARCHIVE: Archived because revisions made to VAP rules in 2002 in OAC Chapter 3745-300 necessitate revisions to this guidance. However, this document is accurate under the 1996 VAP rules. Refer to VA30008.03.003 for the updated document.

TITLE: Cumulative Adjustment of Leach-Based Soil Values

DATE

EFFECTIVE: 1999

KEYWORDS: Cumulative risk, leach-based soil values, multiple chemical adjustment.

RULES: Rule citations relating to this issue: OAC 3745-300-09 (D)(3)(d); OAC 3745-300-08 (E)

QUESTION: Are leach-based soil values subject to a multiple chemical adjustment?

ANSWER: No. The leach-based soil values found in the guidance document, *Ohio EPA Derived Leach-Based Soil Values Using SESOIL*, October 1996, are all calculated from target groundwater concentrations based on generic Unrestricted Potable Use Standards (GUPUS) for ground water found in Table VII of Rule 3745-300-08. The majority of these GUPUS values are Safe Drinking Water Act (SWDA) Maximum Contaminant Levels (MCLs). The MCLs are not strictly risk-based values and therefore, are not subject to multiple chemical adjustments. Therefore, none of the derived leach-based soil values found in the above-mentioned guidance document are subject to multiple chemical adjustments.

Leach-based soil values may be used to demonstrate that leaching of contaminants from soil will not cause concentrations which exceed the GUPUS in ground water. Like the GUPUS values from which they were calculated, leach-based soil values, do not require multiple chemical adjustments. Risk-derived unrestricted potable-use ground water standards (RDUPUS) must be developed for chemicals of concern at a Property which do not have GUPUS values, and are calculated using the potable-use ground water assumptions contained in the guidance document, *Support Document for the Development of Generic Numerical Standards and Risk Assessment Procedures*, October, 1996. These RDUPUS values *must be* adjusted for multiple chemicals in accordance with OAC 3745-300-09 (D)(3)(d); this

multiple chemical adjustment is discussed in document VA30010.98.009 in this Technical Decision Compendium. This adjustment of the target ground water concentrations based on RDUPUS values would likely have a similar mathematical effect as adjusting the leach-based soil value for multiple chemicals. However, the recommended methodology to account for multiple chemicals is to adjust the target ground water concentrations *as appropriate* instead of trying to directly adjust the leach-based soil values for the presence of multiple chemicals. This issue is more fully discussed in VAP Groundwater FAQs #7 (*Appropriate Use of Multiple Chemical Adjustments for Risk-Derived Potable Use Standards*) and #8 (*Determining Which COCs Require Multiple Chemical Adjustment for the Protection of Ground Water Demonstration*).

For Property-specific leach-based soil values, multiple chemical adjustments, if appropriate, should be made to the **target ground water concentrations and not directly to the leach-based soil values**.

SUMMARY:

Leach-based soil values are not subject to multiple chemical adjustment. However, the target ground water concentration which is also referred to as the unrestricted potable use standard (UPUS) may require adjustment for the presence of multiple chemicals.

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