

**ARCHIVE:** Archived due to the 2014 rule revision. The TGC language was incorporated into rule. The rule revision eliminates the need for the TGC for the 2014 rules, but the TGC is still applicable under the 2009 rules.

**TITLE:** Requirements to Evaluate Leaching When Ground Water Exceeds Unrestricted Potable Use Standards

**DATE EFFECTIVE:** January 2006

**HISTORY:** Update of VA30007.06.003 - Revision was necessary to reflect changes in the rule citations that became effective in March 2009 and to clarify the technical content within the TGC document.

**KEYWORDS:** Leaching assessment, ground water response requirements, leach-based soil values

**RULE/AUTHORITY:** OAC 3745-300-07(F)(1); 3745-300-10(E)(2) through (E)(4)

**QUESTION:** Are there requirements to evaluate leaching to a ground water zone when it exceeds unrestricted potable use standards?

**ANSWER:** Yes, there are VAP rule requirements to evaluate leaching when unrestricted potable use standards (UPUS) are exceeded. Although it is commonly understood that the leaching pathway needs to be considered when UPUS are met, it is less commonly understood that the leaching pathway must also be considered when UPUS are exceeded. Depending on the ground water classification and whether source areas are located on or off property, several ground water response requirements require an evaluation of the leaching pathway. For example, when contamination is partially attributable to source areas located off-property for a Class A ground water zone without an urban setting designation (USD), OAC 3745-300-10(E)(4)(c)(ii) requires a leaching evaluation to determine whether chemicals of concern (COCs) leaching from on-property source areas will migrate off-property above UPUS. Other ground water response requirements that explicitly require an evaluation of leaching are included in:

- OAC 3745-300-10(E)(2)(b)(ii) and (c)(ii) - Critical Resource ground water without a USD;
- OAC 3745-300-10(E)(3)(b)(ii) and (c)(ii) - Critical Resource ground water with a USD; and
- OAC 3745-300-10(E)(4)(b)(ii) - Class A ground water without a

USD.

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In addition to these explicit rule requirements, there are situations where a leaching evaluation may be necessary to comply with various other ground water response requirements. For example, if UPUS must be met at the property boundary, source areas must be assessed to evaluate whether leaching of COCs and their fate and transport would cause UPUS to be exceeded at the property boundary. In this situation, leaching is evaluated not to protect the ground water on property from exceeding UPUS, but to ensure ground water above UPUS does not migrate beyond the property boundary.

The need to evaluate the leaching pathway even when it is not explicitly stated in the VAP rules comes from requirements in OAC 3745-300-07(F)(1), the pathway completeness determination. A Volunteer must determine which existing or reasonably anticipated pathways are complete while considering: (1) all sources, source areas, or affected media; (2) receptors and applicable points of compliance (POCs); and (3) transport mechanisms for a pathway (see OAC 3745-300-07(F)(1)(a)). Ground water response requirements in OAC 3745-300-10(E)(2) through (E)(6) describe among other things the POCs and the applicable standards that must be met at the various POCs. For example, a pathway completeness determination must consider whether the leaching of COCs from soil to ground water and the subsequent fate and transport to the appropriate POC will comply with applicable ground water response requirements.

**SUMMARY:**

VAP rules do require consideration of the leaching pathway when ground water exceeds UPUS. Explicit requirements for a leaching evaluation are included in the ground water response requirements for both critical resource ground water and Class A ground water when contamination is at least partially attributable to source areas located off-property. In addition, there are situations where a leaching evaluation may be necessary to comply with various other ground water response requirements. In these situations, a pathway completeness determination must consider whether the leaching of COCs from soil to ground water and its subsequent fate and transport to appropriate POCs will comply with applicable ground water response requirements.

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