

Comments for MTCA Rulemaking 2018 – Beth Rochette, WA Dept of Ecology, NWP, Richland

Method A Arsenic

Table 740-1 arsenic, footnote b states “Cleanup level based on direct contact using Equation 740-2 and protection of ground water for drinking water using the procedures in WAC 173-340-747(4), adjusted for natural background for soil.” However, Equation 740-1 gives an arsenic value of 0.67 mg/kg (carcinogen), equation 747-1 with a Cw value of 5 µg/L gives 2.92 mg/kg, and the statewide background value from San Juan (1994) is 7.0 mg/kg [90th percentile]. None of these result in a value as high as 20 mg/kg. Footnote b for Table 740-1 should be restated to indicate the basis for the 20 mg/kg, which has been mistaken for the statewide background value.

Databases for risk assessment

Section -708(7)(b) and (8)(a) through (c) should be updated to make reference to OSWER Directive 9285.7-53 and the hierarchy of toxicity databases given in the OSWER directive. Consider modifying the language so that they do not state that IRIS “shall” be used.

Metal Kd values

Table 747-3 should be modified to include a lower Kd value for Cr (VI). This is a major contaminant at the Hanford site and its Kd at Hanford is roughly 0 mg/kg (see PNNL-13895, Hanford contaminant distribution coefficient database and users guide), since the soils are generally coarse-grained and alkaline. Since -747(4)(c)(ii) states that the values in Table 747-3 “shall” be used, it is difficult to make a case that a lower site-specific Kd value should be used instead. Field data, however, have shown that hexavalent chromium at Hanford, which was associated with acidic forms of Cr (VI), migrates relatively rapidly to the water table, confirming the very low Kd for Cr(VI) at Hanford.

Alternate fate and transport models

Section-747(8) should require that all underlying equations used in alternate models be provided to the department, along with descriptions of any post-processing of the model results that influences the site-specific cleanup level.

Ecological risk

Can section -7490(1)(b) be modified to indicate that terrestrial ecological protection is equally important as human health protection, or is the view of the department that it is not? As it is now it reads as though cleanups should only be conducted to protect human health. There are circumstances where an ecological protection concentration is lower than a human health value. In that case, shouldn't the ultimate cleanup level be based on the ecological protection value?

Can section -7490(3)(b)(ii) regarding industrial systems be expanded to include cases where land that is zoned or designated as industrial will intentionally be revegetated as part of remediation? These areas probably will require a site-specific TEE; but section -7493(2)(a)(i) indicates that industrial areas will only require evaluation of wildlife protection. Also, plants and soil biota (ants for example) in these ecological systems can also bring contamination from depth to the surface by plants, affecting entire ecosystems.

Section -7493(2)(a)(i) makes reference to section -708(2)(b), which does not exist. This should be corrected. It may need to reference -703(2)(b).