

ARCHIVE: Archived because revisions made to VAP rules in 2002 in OAC Chapter 3745-300 render this guidance unnecessary. However, this document is accurate under the 1996 VAP rules.

TITLE: VOC Standards for Commercial versus Industrial Properties

DATE

EFFECTIVE: 2000

KEYWORDS: Generic direct contact standards, commercial land use, industrial land use

RULES: VAP rule related to this issue: OAC 3745-300-08

QUESTION: Why are the generic direct contact standards for SVOCs and non organics lower on properties where industrial land use is proposed than the SVOC and non organic standards at commercial properties?

ANSWER: The generic standards for industrial and commercial use contained in Tables II and III of Rule 3745-300-08, as well as the Supplemental Generic Cleanup Values (SGCVs) the VAP distributes as guidance, are rather similar. The direct contact soil standards in Tables II, III, and IV of Rule 3745-300-08, as well as the SGCVs, are all risk-based standards based on a traditional risk assessment "intake model." The standards for commercial or industrial land use are often the same, sometimes just slightly different, and when different, the industrial values are usually somewhat lower than the commercial values. This is a result of the exposure factor distributions selected for the derivation of standards for the industrial and commercial land use categories, which assumed a greater range of work hours in the commercial scenario than in the industrial (e.g., the commercial scenario allowed for part-time and seasonal workers). These assumptions resulted in lower intakes at the 90th percentile of the output distribution of commercial workers than the 90th percentile intake in the industrial scenario, particularly *via* the inhalation and soil ingestion pathways, and resulted in higher standards for the commercial versus industrial land use.

It is also important to note that the direct contact soil standards for PCBs and lead in Tables V and VI of Rule 3745-300-08 have commercial standards significantly lower than the industrial. This is because neither the PCB nor lead standards are based on the traditional "intake model" of risk-based standards. The PCB direct

contact standards in Table V are based upon on an interpretation of the Toxic Substances Control Act (TSCA) guidance. The lead standards in Table VI are based upon variations of physiologically-based pharmacokinetic (PBPK) modeling, the commercial standard based upon a simple mathematical adjustment of the PBPK-based residential lead standard to account for reduced childhood exposures at commercial properties, and the industrial lead standards based upon a direct application of a PBPK model to protect the fetus in an industrial worker. Thus the standards for lead and PCBs do not exhibit the same pattern as do those for all other chemicals in Tables III and IV of Rule 3745-300-08.

SUMMARY:

The generic standards for commercial or industrial land use are often the same, sometimes just slightly different, and when different, the industrial values are usually somewhat lower than the commercial values. This is a result of the exposure factor distributions selected for the derivation of standards for the industrial and commercial land use categories, which assumed a greater range of work hours in the commercial scenario than in the industrial (*e.g.*, the commercial scenario allowed for part-time and seasonal workers). These assumptions resulted in lower intakes at the 90th percentile of the output distribution of commercial workers than the 90th percentile intake in the industrial scenario, particularly *via* the inhalation and soil ingestion pathways, and resulted in higher standards for the commercial versus industrial land use.

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