

Update to the ATSDR Policy Guideline for Dioxins and Dioxin-Like Compounds in Residential Soil

Purpose

The Agency for Toxic Substances and Disease Registry (ATSDR) is updating its *Policy Guideline for Dioxins and Dioxin-Like Compounds in Residential Soil*.

The primary objective of this update is to ensure that ATSDR health assessors evaluate dioxin levels that exceed the ATSDR established screening level of 0.05 ppb as described in the ATSDR Public Health Assessment Guidance Manual (PHAGM) (ATSDR 2005). The 0.05 ppb value should be used as the comparison value when following the PHAGM. The comparison value is not a threshold for toxicity and should not be used to predict adverse health effects (ATSDR 2005).

This update replaces Appendix B in the Toxicological Profile for Chlorinated Dibenzo-*p*-dioxins (CDDs) (December, 1998). It does not reflect a change in ATSDR's scientific assessment on dioxin toxicity or a change in the ATSDR Minimal Risk Level (MRL). The update does not change the assessment of risk associated with dioxin soil levels up to 1 ppb, the level used by EPA as a preliminary remediation goal for residential soils (EPA 1998).

History of the Dioxin Policy Guideline

In 1998, ATSDR adopted a Policy Guideline for Dioxin and Dioxin-like Compounds (ATSDR, 1998). The policy was developed to guide health assessors in evaluating the public health implications of dioxin and dioxin-like compounds (including 2,3,7,8-tetrachlorodibenzo-*p*-dioxin and other structurally related halogenated aromatic hydrocarbons) in residential soils near or on hazardous waste sites. The guideline established three levels as criteria for comparing dioxin levels in residential soil:

- a **screening level**,
- an **evaluation level**, and
- an **action level**.

The guideline also recommended specific considerations for public health actions within each of these levels.

Since the release of the Policy Guidance, ATSDR has issued the PHAGM. ATSDR would like to ensure that health assessors use the screening level as the appropriate comparison value for following the PHAGM, rather than the "action level" described in the earlier version of this policy guidance. This does not reflect a change in dioxin science; it is simply a reiteration to

ensure that the appropriate value is used as a starting point when following the procedures described in the PHAGM.

If health assessors follow the PHAGM, the evaluation and action levels values, as set in 1999, are no longer necessary.

Changes Being Made to the ATSDR Policy Guideline for Dioxins and Dioxin-Like Compounds in Residential Soil

The specific changes to the policy guideline, the reason for those changes, and the expected impact of those changes are summarized in the following table:

Change	Reason for Change	Impact of Change
Elimination of the “evaluation level” and the “action level”	Confusion about interpretation of the evaluation and action levels was a barrier to a more consistent evaluation of exposure to dioxin in residential soils.	This change brings the guidelines up-to-date with ATSDR’s PHAGM which uses only screening levels
Strengthened emphasis on exposure pathway analysis beyond direct soil contact	Dietary sources and indirect exposure pathways may make a significant contribution to dioxin exposure.	Assessing both direct and indirect exposure pathways should result in a more comprehensive evaluation of exposure conditions at residential sites with dioxin contamination.

Summary

This policy update replaces Appendix B in the Toxicological Profile for Chlorinated Dibenzo-p-dioxins (CDDs) (December, 1998). ATSDR will no longer refer to an Action Level for dioxin in these evaluations. The 0.05 ppb screening level is retained as an initial comparison value for health assessments. The update does not change the assessment of health hazards associated with dioxin exposure, as summarized in the 1998 ATSDR Toxicological Profile and in the derivation of the Minimum Risk Level (MRL). The policy update impacts site-specific health assessments evaluating exposure to dioxin directly from residential soils. The update ensures consistency in the methodology ATSDR uses for site-specific evaluations of health risks for all chemicals.

EPA’s preliminary remediation goal for dioxin in soil has not changed and remains at 1 ppb. ATSDR does not establish clean-up goals or preliminary remediation goals, but ATSDR believes that health risks associated with levels of dioxins in soil below 1 ppb would be low under most scenarios where the primary exposure pathway is incidental ingestion through direct exposure to soil. Additional measures to minimize exposure to dioxins may be necessary when dioxin from soil can enter the food chain pathway.

References

ATSDR. 1998. Toxicological profile for Chlorinated Dibenzo-p-Dioxins. US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, Atlanta, GA.

ATSDR. 2005. Public health assessment guidance manual. US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, Atlanta, GA.

EPA. 1998. Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites. Washington, DC: US Environmental Protection Agency. OSWER Directive 9200.4-26; April 13, 1998.