

Dioxin Soil Policy Guideline Excerpts
BSC Meeting Minutes of November 18-19, 2004

Executive Summary

The BSC received a proposal from ATSDR to update the 1996 **Dioxin Soil Policy Guideline** (DSPG) to eliminate confusion about “screening” versus “action” levels and also to provide a consistent approach to evaluating dioxin in residential soils. After discussion, the BSC unanimously agreed by a formal vote to advise ATSDR to revise the DSPG based on comments made by the BSC members. The BSC further advised applying a risk communication perspective in pursuing the proposed policy changes.

Overview of the ATSDR Dioxin Soil Policy Guideline (DSPG)

Dr. Mark Johnson, of the NCEH/ATSDR Division of Regional Operations, explained that DSPG serves as guidance for public health assessors to evaluate the public health implications of exposure to dioxin and dioxin-like compounds in residential soils. DSPG applies to human exposure for direct ingestion of soil. ATSDR developed DSPG in response to EPA’s request in 1995 to evaluate the protectiveness of the Superfund policy for dioxin in residential soils. ATSDR established a workgroup and drafted an interim policy that was peer reviewed, announced in the *Federal Register*, released for public comment, and eventually published in peer-reviewed literature.

ATSDR based the 1996 DSPG on the screening level for soil dioxin of 50 ppt. Further actions are not recommended if the level is <50 ppt, but an evaluation of site-specific conditions is advised if the level is >50 ppt. These factors could include the climate, community concerns, background exposures, ingestion rates, pathways and bioavailability. A higher level of public health actions is recommended if the soil dioxin level is >1 ppb. These activities could include surveillance, research, community and physician education, health studies and exposure investigations.

Most international organizations agree with the minimum risk level (MRL) for dioxin in soil of 1 pg/kg/day, but ATSDR now acknowledges the need to revise DSPG. Methods to evaluate health hazards for dioxin in residential soils are inconsistent. The process to interpret the action level of 1 ppb is unclear and often confused with “residential soil cleanup” or a “public health hazard.” Public health activities are improperly linked to specific dioxin soil concentrations. Other exposure pathways are typically not considered in evaluations of dioxin soil concentrations and result in less comprehensive site assessments. ATSDR is now proposing to revise and update DSPG to eliminate confusion about “screening” versus “action” levels and also to provide a consistent approach to evaluating dioxin in residential soils.

Highlights of the draft DSPG are summarized as follows. The 50 ppt “screening level” for dioxin in residential soils will be retained, but the 1 ppb “action level” to evaluate public health hazards or initiate public health activities will be removed. The 1 ppb level will be referred to as an EPA “regulatory level” on which to base cleanup decisions. The policy will only apply to direct ingestion of soil, but evaluation of other site-specific exposure pathways will be recommended. The draft DSPG has been submitted to NCEH/ATSDR for internal review and clearance and also to EPA and state health departments for review and comment. The revised draft will be released for public comment and finalized.

The **BSC** extensively discussed the draft DSPG. Several members agreed that the current document lacked a sufficient description of the scientific underpinnings to support the change in guidance from CDC. Moreover, there was considerable agreement among the BSC that any change by CDC with respect to guidance regarding dioxin in soil was likely to have a significant impact on actions taken by state and federal agencies at any dioxin contaminated site. As a result, the DSPG should be very well described with transparent justification when the guidance is issued. Specific recommendations by the members to refine the draft DSPG are outlined below:

- Clearly communicate that the 50 ppt screening value is being retained. Strongly emphasize that the removal of 1 ppb as an “action level” is the only substantial change being proposed in the draft DSPG. Use this approach to ensure the new guidance is not misinterpreted as ATSDR’s recommendation to lower the action level.
- Add language to clarify the process of using non-detection limits and summing up TEQ values.
- Insert “residential” before “soil” in the title.
- Clarify the terminology for the public by changing “screening level” to “no public health hazard level” or “no evaluation needed level.”
- Substantially revise the draft DSPG before releasing the document for public comment. For example, the current version lacks clarity overall and will be confusing to both the scientific community and general public. An executive summary should be developed or a section should be added to the introduction to outline the purpose and objective of the document; clearly indicate changes from the previous and draft DSPGs; and describe ATSDR’s rationale for reaching these conclusions. The actual mathematical steps and exposure assumptions used to calculate the 50 ppt screening value and arrive at the 1 pg/kg/day MRL should be illustrated.
- Show the incremental dose for various contaminant exposures above background levels instead of using risk criteria for background chemicals.
- Form a BSC workgroup to assist ATSDR in refining and clarifying the draft DSPG.
- Add an introductory memorandum from Dr. Falk to clearly convey three key messages to the public. First, ATSDR has decided that

the action level of 1 ppb will no longer be in effect. Second, ATSDR encourages public health officials to investigate all sites with levels of 50 ppt TEQ dioxin-like chemicals to gain a better understanding of these sites. Third, ATSDR recommends standard and customary risk assessment calculations for sites that require additional evaluation to determine acceptability.

- Clearly distinguish between ATSDR's "action level" and EPA's "cleanup level" because the language from the two agencies appears to be in conflict and causes tremendous confusion in communities.
- Discuss the "estimated intake of 3 pg/kg/day (97% from diet)" at the beginning of the DSPG with the other levels to ensure the public places background exposures in the proper context.
- Show the incremental amount of dioxin from residential soils for both adults and children that is estimated to be added to the intake of 3 pg/kg/day from background exposure from the diet.
- Clearly communicate that the "updated" DSPG is actually a clarification of an existing policy.
- Revise DSPG based on the BSC's comments and present the new draft for a formal vote at the next meeting or during an interim conference call because the document is actually a change in policy.
- Address the potential concern that EPA may establish a new action level of 50 ppt if the current level of 1 ppb is entirely removed from DSPG rather than clarified.
- Ask ATSDR's risk communicators to translate DSPG into "plain language."

Consensus Recommendation:

- *The following approach to produce the next iteration of the draft DSPG is approved. ATSDR will revise the DSPG based on the BSC's comments. The document will be modified from a risk communication perspective prior to submission for policy processing.*

Future Agenda Items

- Further discussion on DSPG. Topics to include whether NCEH/ATSDR should assign a team to provide guidance to public health assessors in properly interpreting and applying field data in PHAs or if portions of the PHA Guidance Manual can be used in this effort.