
From: Gray, Jennifer (DHHS)
Sent: Friday, October 16, 2015 4:12 PM
To: Sygo, Jim (DEQ); Dykema, Linda D. (DHHS)
Cc: Groetsch, Kory J. (DHHS); Flaga, Christine (DEQ); Wildfang, Eric (DEQ); Sills, Robert (DEQ); MacKenzie-Taylor, Deb (DEQ)
Subject: RE: DRAFT DELIBERATIVE; NOT SUBJECT TO FOIA - drinking water lead level
Attachments: draft deliberative TSG Subcommittee drinking water lead levels 10-16-2015.pdf

Linda and Jim,

Please find the executive summary version of the technical support document for use in evaluating school and daycare drinking water lead levels.

Thank you,
 Jennifer

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From: Gray, Jennifer (DHHS)
Sent: Friday, October 16, 2015 2:56 PM
To: Groetsch, Kory J. (DHHS); 'Flaga, Christine (DEQ) (FLAGAC@michigan.gov)'; 'Wildfang, Eric (DEQ) (WILDFANGE@michigan.gov)'; 'Sills, Robert (DEQ) (STILLSR@michigan.gov)'; 'MacKenzie-Taylor, Deb (DEQ) (MACKENZIE-TAYLORD@michigan.gov)'
Subject: RE: DRAFT DELIBERATIVE; NOT SUBJECT TO FOIA - final draft

All:

Thank you for your comments. Some people had word choice suggestions on the same items, I resolved those differences. The group consensus was okay with leaving a daily 50% from the drinking water "fountains". I added a couple of sentences describing this uncertainty.

Here is the draft deliberative version that will be sent to Linda and Jim at 4 pm.

Thanks,
 Jennifer

DRAFT – deliberative not subject to FOIA
TSG Subcommittee Report 10/16/2015

Justification of the drinking water “no corrective action” lead level for use in the Flint school and daycare
drinking water sample decision tree

The Michigan Department of Health and Human Services (MDHHS) requested that the Toxic Steering Group (TSG) provide endorsement of a health-based drinking water lead level that would require “no corrective action” to put back into service drinking water faucets and fountains used by Flint school and daycare children. Selection of the “corrective actions” was not included in the charge question and is not discussed in this document. A TSG subcommittee was convened to examine this issue. Subcommittee members included Deb Mackenzie-Taylor (Michigan Department of Environmental Quality [MDEQ]), Robert Sills (MDEQ), Eric Wildfang (MDEQ), Jennifer Gray (MDHHS), Christine Flaga (MDEQ), and Kory Groetsch (MDHHS).

Neither the Centers for Disease Control and Prevention’s Agency for Toxic Substances and Disease Registry (ATSDR) nor the U.S. Environmental Protection Agency (EPA) have derived toxicity endpoints (e.g. reference dose, minimal risk level) for lead to be used in risk assessments. Both agencies have stated that no blood lead level has been found to be safe and precautionary actions to reduce exposure to lead, such as running tapwater briefly before use, should always be followed. Due to the pharmacokinetic data and initial acceptable blood lead, the EPA developed a biokinetic model for evaluating lead exposure from multiple media. Lead levels in air, soil, house dust, diet, drinking water, and maternal blood are used to estimate geometric mean blood lead levels for a population of children and the probability that a child would be above a specified blood lead level¹. The model results are compared to an EPA population health protection goal for young children exposed to lead at residential properties of 5% or lower risk of a child having a blood level greater than the CDC reference value of 5 micrograms lead per deciliter blood ($\mu\text{g}/\text{dL}$)². The model, however, does not include inputs to account for direct paint chip ingestion and assumes that children are not exposed to elevated lead in soil and house dust from lead based paint.

Use of the EPA’s Integrated Exposure Uptake Biokinetic (IEUBK) Model

The EPA’s Integrated Exposure Uptake Biokinetic (IEUBK) Model for Lead in Children version 1.1 Build 11 was used to evaluate exposure to children one year old or younger and children seven years old or younger. Default values were retained unless otherwise noted below. See Table 2-1 in the “User’s Guide for the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK) Windows[®]” for the listing of all the default values³. Values selected that are more appropriate for a Michigan urban area, Flint, are described briefly below.

¹ The modeling output includes the percent of children in a population that are above a specified blood lead level, but that value can also be viewed as the probability (risk) that a certain child would be above the specified blood lead level.

² As stated on the EPA’s Lead at Superfund Sites: Frequent Questions from Risk Assessors on the Integrated Exposure Uptake Biokinetic (IEUBK) Model webpage, found at <http://www2.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-integrated-exposure-uptake#mean>.

³ The model itself and documentation, including the user’s guide for the model can be found at <http://www2.epa.gov/superfund/lead-superfund-sites-software-and-users-manuals>.