

12/5/12 Preliminary Draft Comments for Deliberations of the
SAB Perchlorate Advisory Panel of EPA's draft 11/9/12 report
SAB Advice on Approaches to Derive a Maximum Contaminant Level Goal for Perchlorate
Please Do not Cite or Quote.

These comments are preliminary and do not represent SAB consensus comments nor EPA Policy.

**Proposed Discussion Topics for the 11/9/12 Draft Panel Report
for the 12/5/12 Teleconference Call
Science Advisory Board (SAB) Perchlorate Advisory Panel**

Purpose: This is a preliminary proposal for two key unresolved issues identified by Dr. Stephen Roberts, Chair of the SAB Perchlorate Advisory Panel, for discussion by the Members of the Panel during the December 5, 2012 SAB Panel teleconference call. This is related to the Panel's review of the Panel's November 9, 2012 draft report entitled *SAB Advice on Approaches to Derive a Maximum Contaminant Level Goal for Perchlorate*. This draft report has been posted onto the SAB's website at:
<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/ceceaa071cc61da985257a9300620f2f!OpenDocument&Date=2012-12-05>

Consistent Definition for Hypothyroxinemia

Biochemical definitions of maternal hypothyroxinemia are summarized in Moleti et al. (2011b). The authors cite ranges for low FT₄ (below the 10th percentile in pmol/liter), and upper TSH limits (ranging from 2.0- 4 mU/liter) to indicate isolated hypothyroxinemia and consideration for medical treatment.

Moleti, M., Trimarchi, F. & Vermiglio, F. (2011b): Doubts and Concerns about Isolated Maternal Hypothyroxinemia. *J Thyroid Res* 2011, 463029.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3134327/>

Insert this at Page 10 line 16

Hypothyroxinemia in this context consists of maternal serum fT₄ levels near the lower limits of the normal trimester specific reference ranges with serum TSH levels within the reference ranges.

Consistent Definition for Sensitive populations and Life Stages.

Insert this at Page 10 line 25 replacing the recommendation.

~~“The SAB recommends that the EPA consider the sensitive life stages of the pregnant and lactating woman and her fetus and infant in modeling levels of perchlorate exposure and effects.”~~

The SAB recommends that the EPA consider sensitive life stages in developing an MCLG for perchlorate. The SAB finds that pregnant and lactating hypothyroxinemic women should be considered as the sensitive population; this would replace pregnant women with clinical hypothyroidism as defined by the NRC (2005). The sensitive life stages are the fetus, neonates and infants of these women due to the potential effects on brain development and subsequent functional effects.