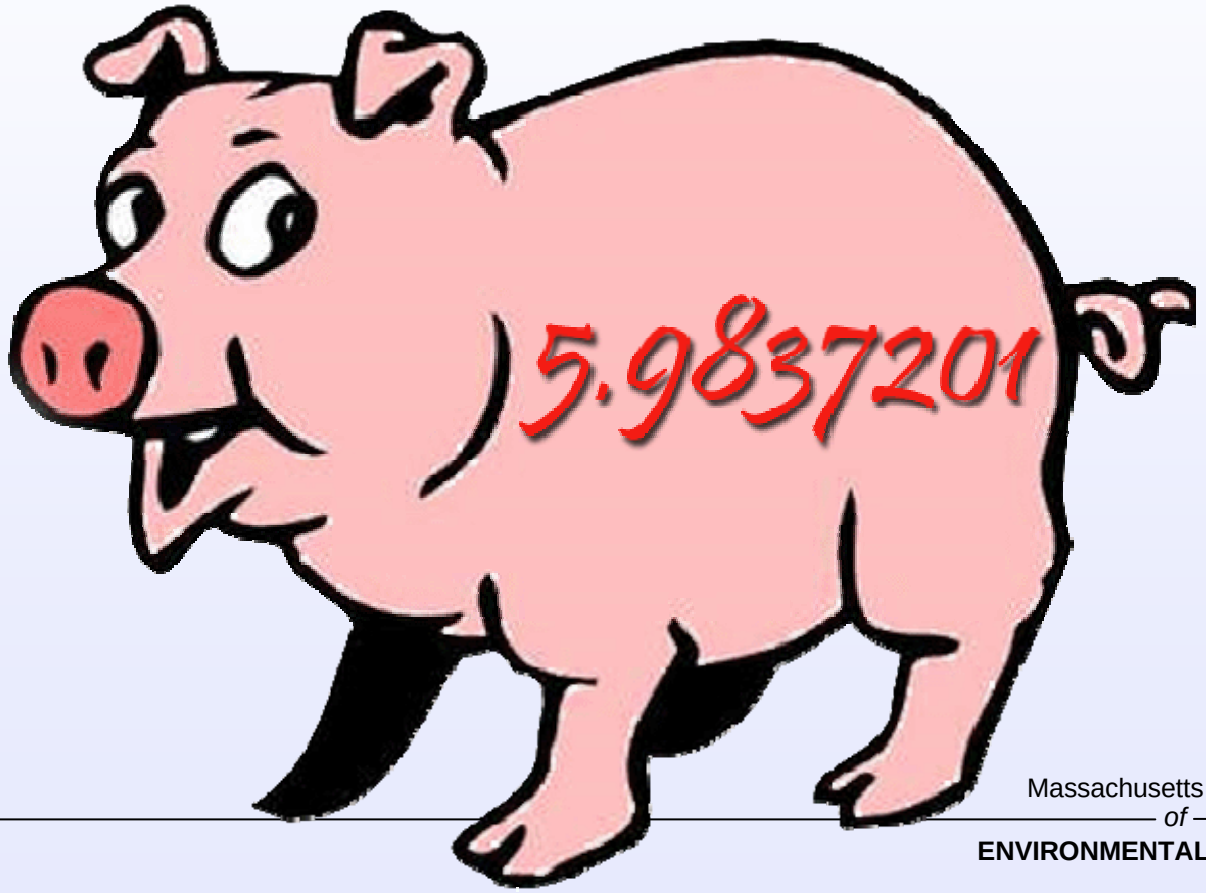
Sig Fig



Summary of Significant Figures Proposal

1. Use 2 Figures and Forget It

   or

2. Method 3: Use 1 SF with quick check of precision of toxicity values used, *and* use standard rounding rules on risk estimate

   or

3. Methods 1 & 2: Use 1 SF with case-specific analyis of QA/QC data, *and* round *up* for conservative EPC estimate

Comments

- Agree with 1 SF for Method 3
- Method 1 approach is “reasonable”… Lab data are reported to at least 2 SF
- Agree with MassDEP clarified view on the precision of laboratory measurement data

Comments: MCP Sufficiently Conservative

Use of arithmetic mean… toxicity factors…non-degradation… duration of exposure…drinking from single well…unchanging concentration over time…

Additional conservativeness of 1 SF or rounding up not necessary.

Comments

- DEP should address the conservativeness issue head-on rather than indirectly
- 1 SF used to address “whole person” (1-in-100,000) rather than a fraction of a person (1.25-in-100,000)
- Consistent approach across Methods would provide greater certainty

Comments

- Presentation of standards as one SF mandates 1 SF in calculations
- EPA uses 1 SF in risk estimates – MassDEP should be consistent
- ASTM Method is applicable only to summarizing environmental sampling data, not risk assessment calculations

Comments

- Accepting both absolute and rounding methods will result in inconsistencies
- Method 3 approach doesn't address issue of "risk range" up to 1.4
- DEP should "round up" for Method 3 as well

Comments

- “Round Up” inconsistent with ASTM and not a standard practice in environmental regulation
- “Short-term” solution raises questions about long-term resolution

Why a Difference in Method 1 vs Method 3 ?

- Method 1 uses EPCs directly with specific regulatory requirements for conservativeness.
- Method 3 uses un-rounded, conservative EPC to generate risk estimate (then appropriately rounded)
- Use of Method 1 has always included “buy in” to assumptions inherent in the Method. There is always the option to use Method 3

Conclusions

- Discussion of conservativeness should be holistic, not provision-by-provision
- Changes to regulations would provide clarity and consistency
- Public process surrounding any proposed reg change provides context for broader discussion of uncertainty & conservativeness

Until Then…

1. Use 2 Figures and Forget It

   or

2. Method 3: Use 1 SF with quick check of precision of toxicity values used, *and* use standard rounding rules on risk estimate

   or

3. Methods 1 & 2: Use 1 SF with case-specific analyis of QA/QC data, *and* round *up* for conservative EPC estimate