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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III
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SUBJECT: Risk-Based Concentration Table

FROM: Eric W. Johnson, Chief
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TO: RBC Table Recipients

Attached is the EPA Region III Risk-Based Concentration (RBC) table, which we distribute periodically to all interested parties.

IMPORTANT MESSAGE

EPA Region III's Internet website now includes the RBC Table as a readable file for on-screen use and as "zipped" files in "Lotus" and "Excel". These can be found at **http://www.epa.gov/reg3hwmd/riskmenu.htm**. *(Once there, I suggest you set a bookmark to ease future access.) The cover memo and background information are also included in both formats.*

We encourage all RBC Table users with Internet access to obtain the table electronically rather than on paper. In this way, users can access the most current RBC table immediately in a form that can be used directly for comparisons with data or risk estimates. This distribution method also saves hundreds of pounds of paper per year and costs substantially less.

CONTENTS, USES, AND LIMITATIONS OF THE RBC TABLE

The Table contains reference doses and carcinogenic potency slopes (obtained from IRIS through September 1, 1997, HEAST through July 1997, the EPA-NCEA Superfund Health Risk Technical Support Center, and other EPA sources) for about 600 chemicals. These toxicity constants have been combined with "standard" exposure scenarios to calculate RBCs--chemical concentrations corresponding to fixed levels of risk (*i.e.*, a hazard quotient of one, or lifetime cancer risk of 10^{-6}, whichever occurs at a lower concentration) in water, air, fish tissue, and soil.

The RBC table formerly included soil screening levels (SSLs) for protection of groundwater and air. We have discontinued these to avoid conflicts with EPA/OSWER's SSL guidance document, now in general use. To consider intermedia transfers of contaminants at the screening stage of risk assessment, we suggest that you use this guidance (available from NTIS as document numbers 9355.4-1, PB95-965530, or EPA540/R-94/105).

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The Region III toxicologists use RBCs to screen sites not yet on the NPL, respond rapidly to citizen inquiries, and spot-check formal baseline risk assessments. The background materials provide the complete basis for all the calculations, with the intent of showing users exactly how the RBCs were developed. Simply put, RBCs are risk assessments run in reverse. For a single contaminant in a single medium, under standard default exposure assumptions, the RBC corresponds to the target risk or hazard quotient.

RBCs also have several important limitations. Specifically excluded from consideration are (1) transfers from soil to air and groundwater, and (2) cumulative risk from multiple contaminants or media. Also, the toxicity information in the table has been assembled by hand, and (despite extensive checking and years of use) may contain errors. It's advisable to cross-check before relying on any RfDs or CPSs in the table. If you find any errors, please send me a note.

Many users want to know if the risk-based concentrations can be used as valid no-action levels or cleanup levels, especially for soils. The answer is a bit complex. First, it is important to realize that the RBC table does not constitute regulation or guidance, and should not be viewed as a substitute for a site-specific risk assessment. For sites where:

1. A single medium is contaminated;
2. A single contaminant contributes nearly all of the health risk;
3. Volatilization or leaching of that contaminant from soil is expected not to be significant;
4. The exposure scenarios used in the RBC table are appropriate for the site;
5. The fixed risk levels used in the RBC table are appropriate for the site; and
6. Risk to ecological receptors is expected not to be significant;

the risk-based concentrations would probably be protective as no-action levels or cleanup goals. However, to the extent that a site deviates from this description, as most do, the RBCs would not necessarily be appropriate.

To summarize, the table should generally not be used to (1) set cleanup or no-action levels at CERCLA sites or RCRA Corrective Action sites, (2) substitute for EPA guidance for preparing baseline risk assessments, or (3) determine if a waste is hazardous under RCRA.