



Waste and Cleanup Risk Assessment

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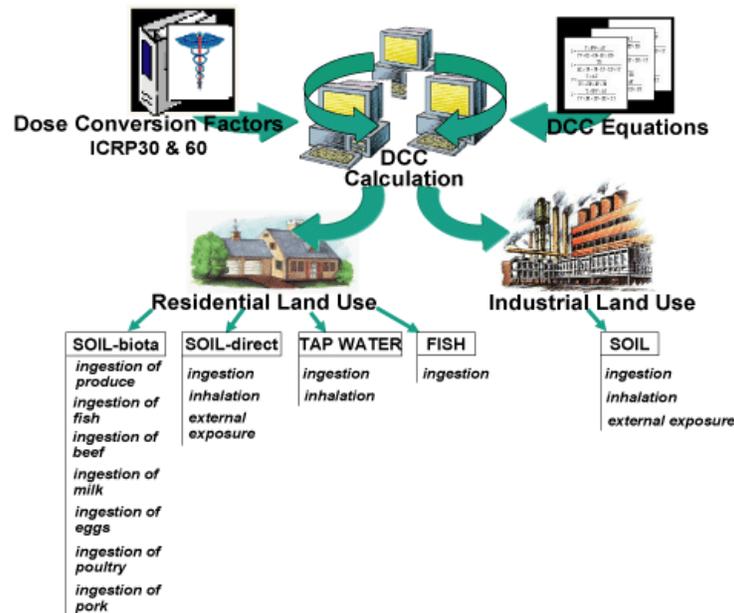
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Dose Compliance Concentrations for Radionuclides (DCC)

Topic for Key OSWER Radiati
Guidances and Reports

Note: CERCLA is NOT a Dose Based Program



Welcome

Welcome to the EPA's Superfund radioactive dose compliance concentrations (DCC) download and calculation website for demonstrating compliance with dose-based Applicable or Relevant and Appropriate Requirements (ARARs). Here you will find DCCs calculated using the dose conversion factors from both International Commission on Radiological Protection (ICRP) 30 and ICRP 60. This website does not address the calculation of DCCs for ARARs based on ICRP 2 dose conversion factors (e.g., 40 CFR 141.66(d), 10 CFR 61.41). In addition you are able to modify the input parameters to create site-specific DCCs to meet the needs of your site. To ensure proper application of the DCCs, please see further guidance on how to use the DCCs presented on this site located in the "User's Guide", "What's New", "FAQ", and "Download Area" links. Below is a general description of DCC use.

Introduction

The purpose of this database is to provide a DCC calculation tool to assist risk assessors, remedial project managers, and others involved with risk assessment and decision-making at CERCLA sites in developing DCCs.

The website was initially made available for use in a transmittal memo entitled "Distribution of OSWER Radionuclide ARAR Dose Compliance Concentrations (DCCs) for Superfund Electronic Calculator", January 28, 2004. <http://www.epa.gov/superfund/health/contaminants/radiation/pdfs/rad.pdf>

ARAR Dose Compliance Concentrations

Dose conversion factors (DCFs), or "dose coefficients", for a given radionuclide represent the dose equivalent per unit intake (i.e., ingestion or inhalation) or external exposure of that radionuclide. These DCFs are used to convert a radionuclide concentration in soil, air, water, or foodstuffs to a radiation dose. DCFs may be specified for specific body organs or tissues of interest, or as a weighted sum of individual organ dose, termed the effective dose equivalent. These DCFs may be multiplied by the total activity of each radionuclide inhaled or ingested per year, or the external exposure concentration to which a receptor may be exposed, to estimate the dose equivalent to the receptor.

CERCLA is NOT a Dose-Based Program.

It is EPA's recommendation that dose assessments should only be conducted under CERCLA where necessary to demonstrate ARAR compliance. Further, dose recommendations in guidance should generally not be used as to-be-considered material. For more information on issue, please see page 2 of memo from Stephen D. Luftig Director Office of Emergency and Remedial Response and Stephen D. Page, Director Office of Radiation and Indoor Air to Regions on December 17, 1999 transmitting [OSWER Radiation Risk Assessment Q & A's Final Guidance](#).

Also, EPA generally does not use ARARs greater than 15 mrem/yr to establish cleanup levels at CERCLA sites. Cleanup levels not based on an ARAR should be based on the carcinogenic risk range (generally 10^{-4} to 10^{-6} , with 10^{-6} as the point of departure and 1×10^{-6} used for PRGs. For further guidance on this issue, refer to question 32 on page 13 of "[Radiation Risk Assessment At CERCLA Sites: Q & A](#)" (EPA 540/R/99/006, December 1999).

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