



Waste and Cleanup Risk Assessment

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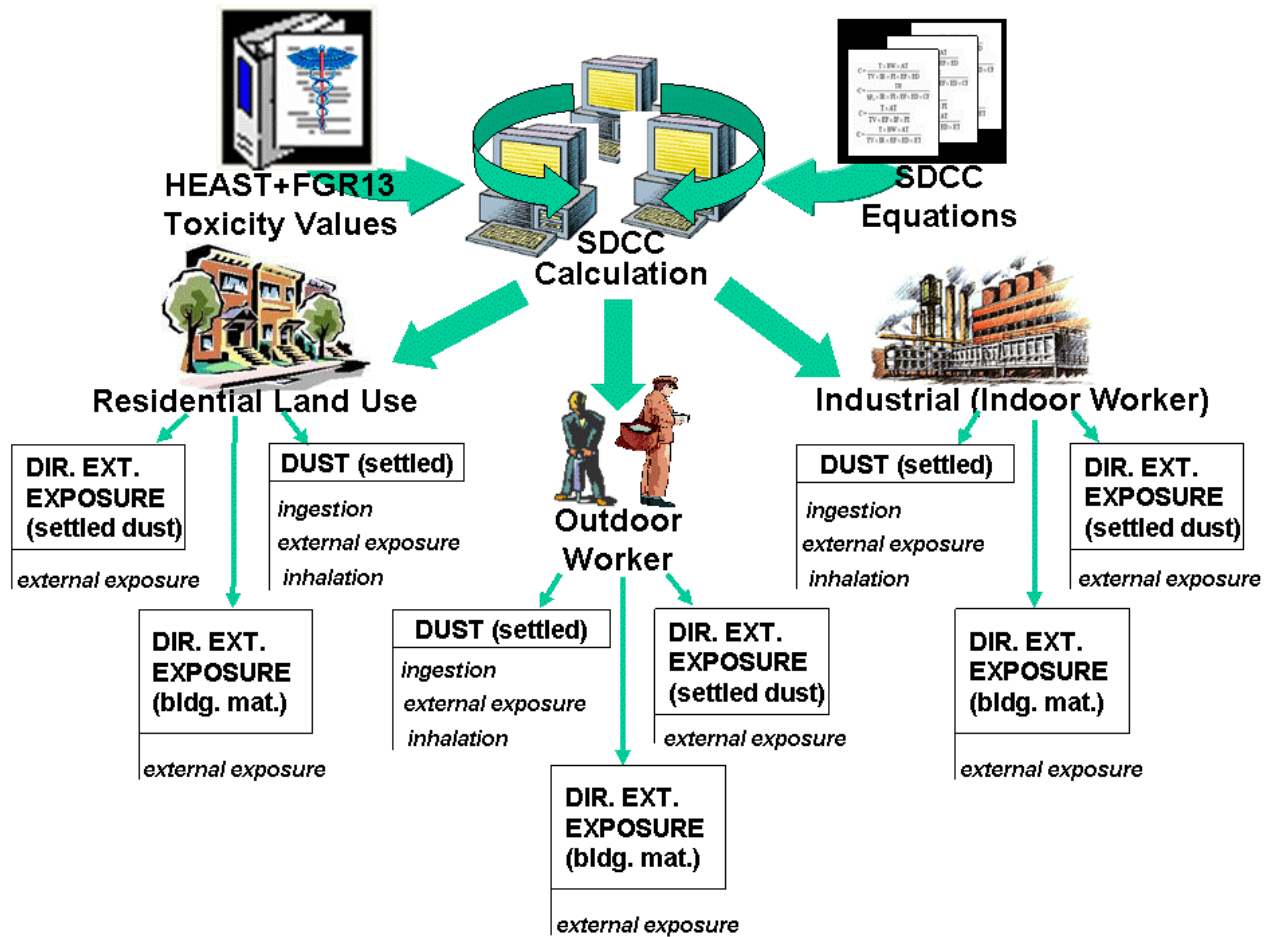
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**Dose Compliance Concentrations for Radionuclides in Outdoor Surfaces**

Topic for Key OSWER Radiati  
Guidances and Reports

**Note: CERCLA is NOT a Dose Based Program**



**Welcome**

Welcome to the "Dose Compliance Concentrations for Radionuclides in Outdoor Surfaces (SDCC) for Superfund" download and calculation website. The recommended SDCCs on this website are dose levels for contaminated outdoor hard surfaces such as building slabs, outside building walls, sidewalks and roads.

This tool presents recommended dose-based SDCCs calculated using default input parameters and the latest dose conversion factors. In addition, you are able to modify the input parameters to create site-specific SDCCs to meet the needs of your site, considering factors related to the underlying exposure scenarios, pathways and routes. To learn more about the use of these recommended SDCCs, please see further guidance located in the "User's Guide", "What's New", "FAQ", and "Download Area" links. Below is a general description of how SDCCs can be used for situations involving radionuclides.

## **Introduction**

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The primary purpose of this recommended SDCC calculation tool is to assist risk assessors, remedial project managers, and others involved with dose assessment and decision-making at sites with contaminated outdoor hard surfaces.

The [Dose Compliance Concentrations for Radionuclides](#) electronic calculator website may be used to determine doses for radioactively contaminated soil and water. The suggested standardized SDCCs are based on default exposure parameters and incorporate exposure factors that present RME conditions. This recommended database tool presents SDCCs in both activity per area and mass per area units. Dose conversion factors used are from EPA.

### **ARAR Dose Compliance Concentrations**

Dose conversion factors (DCFs), or "dose coefficients", for a given radionuclide generally represent the dose equivalent per unit intake (i.e., ingestion or inhalation) or external exposure of that radionuclide. These DCFs normally 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 generally are appropriate under CERCLA only where necessary to demonstrate ARAR compliance. Further, dose recommendations in guidance generally should not be used as to-be-considered material. For more information on this 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, in establishing cleanup levels at CERCLA sites, EPA generally does not consider ARARs greater than 15 mrem/yr to be sufficiently protective. Cleanup levels to ensure protectiveness that are not based on an ARAR normally should be based on the carcinogenic risk range (generally  $10^{-4}$  to  $10^{-6}$ , with  $10^{-6}$  as the point of departure and  $1 \times 10^{-6}$  used for [SPRGs](#)). 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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