

Title:

Derivation of Risk Based Wipe Surface Screening Levels for Industrial Scenarios

Name of Authors:

Lisa M. May, USUHS; Bonnie Gaborek, USACHPPM EHRAP; Tony Pitrat, USACHPPM
EHRAP

Affiliations:

Uniformed Services University of the Health Sciences, Department of Preventive Medicine and
Biometrics, 4301 Jones Bridge Road, Room A-1044, Bethesda, MD 20814-4799,
lmay@usuhs.mil; US Army Center for Health Promotion and Preventive Medicine,
Environmental Health Risk Assessment Program, 5158 Blackhawk Road, Building E-1675,
Room 108, Aberdeen Proving Ground,

Abstract:

Lisa M. May, Uniformed Services University of the Health Sciences, Department of Preventive
Medicine and Biometrics, 4301 Jones Bridge Road, Room A-1044, Bethesda, MD 20814-4799

The environmental characterization of building interiors and other surfaces has generally been performed with wipe-sampling because it is a non-destructive technique. There is no consensus, however, as to the interpretation of the results of wipe-sampling. Specifically, there is not a standardized method to determine if chemicals found at sampled levels pose a threat to human health. A methodology was developed, based on acceptable health risk levels, to derive screening levels for evaluating wipe-sampling results pertaining to industrial scenarios. The methodology was based on the United States Environmental Protection Agency (USEPA) Region IX Preliminary Remediation Goal (PRG) approach; a multi-exposure methodology

commonly used for evaluating soil concentrations. PRGs are the USEPA determined health based goals for soil preliminary remediation efforts. Probabilistic techniques were used to conduct a sensitivity analysis of the methodology to determine which variables drive the ultimate screening levels. Discrete values were then selected based on standard industrial scenarios common to the US Army. The wipe surface screening levels reported are for use as preliminary guidelines which help to determine whether further sampling or cleanup are necessary. The levels are not meant as cleanup or compliance criteria.