

Incorporating bioavailability into human health risk assessment

Friday 25 June 2010, CitiGate Melbourne, 270 Flinders Street, Melbourne VIC 3000 Australia.

When assessing the impact of an ingested chemical on human health risk assessment, the chemical's toxicity is influenced by the degree to which it is absorbed from the gastrointestinal tract into the body (i.e. its bioavailability). As oral reference doses and cancer slope factors are generally expressed in terms of ingested dose, rather than absorbed dose, the variability in absorption between different exposure media, chemical forms etc. may significantly influence risk calculations.

In Australia, NEPM health investigation levels are highly conservative and derived using a bioavailability default value of 100%. However, the assumption that 100% of the soil-borne contaminant is bioavailable may overestimate exposure thereby influencing risk calculations. As a result, assessment of contaminant bioavailability may help refine exposure modelling for human health risk assessment.

The Australian Remediation Industry Cluster (ARIC) has developed a 1 day masterclass to Incorporating Bioavailability into Human Health Risk Assessment. This event brings together the most current information on bioavailability, and synthesizes this information into a practical context that explains concepts and identifies types of data that need to be collected to assess bioavailability and incorporate it into human health risk assessment.

The masterclass also draws upon the experience of scientific and industry specialists to deliver presentations that demonstrate the use of bioavailability based risk assessments and how they have been able to increase regulator and community confidence in permitting greater levels of residual soil and or sediment contaminants to remain at sites.

Along with a copy of the presentations, all participants will also receive a copy of the CRC CARE guidance document: Contaminant bioavailability and bioaccessibility. The document has been developed as a resource on the assessment of bioavailability for use by human health and environmental health risk assessors and is expected to be included in the Assessment of Site Contamination NEPM.

Workshop speakers

Albert Juhasz (UniSA), Jack Ng (University of Queensland), Allan Rofe (Institute of Medical and Veterinary Science), Jackie Wright (Environmental Risk Sciences), Jean Meaklim (EPA Victoria) and Kristi Hanson (AECOM).

Workshop outline

8.30 - 9.00 am	Registration
9.00 - 10.00 am	Introduction and overview <ul style="list-style-type: none"> • Exposure pathways (inhalation, dermal, and ingestion) • Bioavailability and bioaccessibility definition and concepts • Bioavailability processes • Factors influencing contaminant bioavailability
10.00 - 10.30 am	Morning tea
Human health exposure assessment - This session will focus on how to generate bioavailability data required to calculate contaminant exposure. The main focus of this session will be on methodologies for assessing incidental soil ingestion and the release of contaminants from the soil matrix.	
10.30 - 11.10 am	Methods for the determination of contaminant bioavailability
11.10 - 11.50 am	Methods for the determination of contaminant bioaccessibility
11.50 - 12.30 pm	Correlation between <i>in vivo</i> relative bioavailability and <i>in vitro</i> bioaccessibility
12.30 - 1.30 pm	Lunch
1.30 - 3.00 pm	Human health risk assessment - This session will focus on how to interpret exposure data for inclusion in human health risk assessment. A collection of case studies from leading practitioners will be presented to highlight how bioavailability can be incorporated into risk assessment, how problems were overcome and how pitfalls can be avoided.
3.00 - 3.30 pm	Afternoon tea
3.30 - 4.00 pm	Regulator perspective: What evidence is appropriate?
4.00 - 4.50 pm	Current guidance (National and International) for best practice in bioavailability risk assessment. Participants to be lead through a decision framework for consideration of when and how bioavailability can be incorporated into the developed risk assessment framework.
4.50 - 5.00 pm	Summary and close

Please complete the registration form and forward together with your fee to:
Manager: Education and Technology Transfer
CRC CARE Pty Ltd
P.O. Box 486
Salisbury South, South Australia 5106
Telephone: (08) 8302 3937
Facsimile: (08) 8302 3124
Email: andrew.beveridge@crccare.com

ARIC is an initiative of CRC CARE

Registration Form and Tax Invoice* CRC CARE Pty Ltd ABN 97 113 908 044
*Upon completion of this form, including the relevant payment, this form will become a Tax Invoice.

Please register me for the following workshop:
Incorporating bioavailability into human health risk assessments

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FEES

CRC CARE Partners AUS \$450 inclusive of GST
 Non-partners AUS \$500 inclusive of GST

The fee includes attendance of the workshop, copy of the workshop notes and full catering for the duration of the workshop.

DELEGATE DETAILS (please print)

Date: _____

Title: _____ First Name: _____ Surname: _____

Email: _____

Position: _____ Organisation: _____

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METHOD OF PAYMENT (please tick)

Cheque (payable to CRC CARE Pty Ltd)

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Once payment has been processed/received, your booking will be confirmed by Email.

Fax the form to +61 8 8302 3124 or Email Andrew.Beveridge@crccare.com

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