



**Asia-Pacific  
Economic Cooperation**

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**2015/SOM3/CD/WKSP/001**

## **Agenda**

Submitted by: Australia



**APEC**  
PHILIPPINES  
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**Workshop on Metals Risk Assessment  
Cebu, Philippines  
28-29 August 2015**



## AGENDA

### APEC Workshop on Metals Risk Assessment

Cebu, Philippines on 28-29<sup>th</sup> August 2015

#### August 28th

- 8:30 Welcome and overview of metals workshop: Ryan Mac Farlane (CD Co-Chair, Dr. Gredley, NICNAS and Dr. Wentzel, Exponent)
- 9:00 Unique aspects of metals and inorganic metals compounds in environmental and human health risk assessments (Dr. Wentzel, Exponent)
- Key topics of talk: risk diagram, overview metals and inorganic metal compounds risk issues, metal characteristics, environmental chemistry, essentiality, metal background, hazard classification

#### Environmental Assessment

##### Metals in water

- 9:30 Fate, transport, and aquatic chemistry of metals (Dr. Adams, Rio Tinto)
- Key topics of talk: aquatic chemistry of metals, background, measuring dissolved concentrations, sediment sampling for

Acid Volatile Sulfide (AVS); bioavailability, bioaccumulation;  
analytics for Biotic Ligand Model (BLM).

9:50 Aquatic toxicity of metals (Dr. Adams, Rio Tinto)

Key topics: standard methods, applicability to Asia-Pacific region, use of BLM, and AVS-SEM for aquatic criteria, environmental classification

10:10 **BREAK**

## Metals in Soil

10:30 Bioavailability issues for soil organisms (Dr. McLaughlin, CSIRO)

Key topics of talk: background, uptake in plants, biodilution, rare biomagnification, which metals are of primary concern, criteria

## Breakout Groups A & B parallel

11:10 Soil bioavailability issues group (Dr. McLaughlin, CSIRO): case study on: Australian guidance; normalization standards;

Aquatic Group (Dr. Adams, Rio Tinto and Dr. Huntsman-Mapila, NRCan): case studies: BLM water quality calculation; transformation/dissolution protocol (T/DP)

12:00 **LUNCH**

## Metals and Human Health

1:30 Risk assessment and hazard identification for metals (Dr. Dourson, University of Cincinnati)

Key topics of talk: comparison of hazard identification and dose-response; key issues for metals in human health risk occupational exposure; risk characterization

2:10 Approaches to exposure assessment for metals (Dr. Krewski, University of Ottawa)

Key topics of talk: overview of key human health pathways: ingestion, inhalation, drinking water; metals specific issues, the use of dosimetry models, ambient air aerosols.

2:50 **BREAK**

3:10 Bioelution-based approaches for metals (Dr. Oller, NIPERA)

Key topics of talk: Link between bioavailability and toxicity, general bioelution principles, consideration of bioavailability in classifications, precedents for use in regulations, advantages and limitations of bioelution-based approaches

3:50 Bioavailability adjustments in human health risk assessment for metal contaminated sites (Ms Lowney, Exponent)

Key topics of talk: soil ingestion process, relative oral bioavailability, controls on bioavailability of metals in soil, *in vivo/in vitro* soil methods

### **Breakout Groups A, B, & C parallel**

4:20 Group A (Dr. Dourson, University of Cincinnati): Human health case study: mercury exposure and essential metals;

Group B (Ms Lowney, Exponent): Human health case studies: lead risk assessment (IEUBK model) and arsenic in rice

Group C (Dr. Oller, NIPERA and Dr. Wickramaratna, NICNAS ) Human health case studies: MECLAS (Metals Classification)

tool for complex metal materials and Using bioaccessibility data for grouping metal compounds

5:30 **ADJOURN**

## August 29

### Regulatory Issues for Metals

8:30 Regulatory issues for metals in the Philippines, (Dr. Antonio, East Avenue Medical Center, Manila)

Key topics of talk: regulatory issues and research program on lead

9:00 OECD role in international acceptance of data (Dr. de Knecht, OECD)

Key topics of talk: metals regulatory guidance, data quality and availability, sources of data

### Criteria and Standards for Metals

9:30 Regulation of metals in aquatic systems (Dr. de Knecht, OECD)

Key topics of talk: Tiered approach for assessment (EU); Ecotox data and criteria values: utility for tropical / Asian systems; how to implement – case example, hazard classification (PBT)

10:00 **BREAK**

10:20 Regulation of metals in soils (Dr. McLaughlin, CSIRO)  
Key topics of talk: Sources of metals; development of soil criteria for ecological effects and applicability to APEC economies; wildlife toxicity and food chain effects

10:50 Human health criteria and standards (Dr. Dourson, University of Cincinnati)

Key topics of talk: dose – response to criteria, soil and drinking water standards/criteria; internet sources of risk assessment information, consideration of dosimetry and particle size when setting occupational exposure limits (OELs) or ambient air standards, livestock and food chain issues

### Closing Discussion

11:30 Discussion, next steps and complete survey on needs for further training tools (Dr. Gredley, NICNAS and Ms Lowney, Exponent)

12:00 **Adjourn**