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Generic exposure tools are currently widely used for chemical safety assessments under REACH. Several 1st tier exposure models such as ECETOC TRA, MEASE, EMKG-EXPO-TOOL, STOFFEN-MANAGER and RISKOFDERM are recommended by the European Chemicals Agency (ECHA) for estimating occupational exposure; however, none of these models have been extensively validated during their development. The German Federal Institute for Occupational Safety and Health, (BAuA) has therefore initiated and sponsored a comprehensive Evaluation of the Tier 1 Exposure Assessment Models (ETEAM). Carried out by the Institute of Occupational Medicine (IOM Edinburgh) and the Fraunhofer Institute for Toxicology (ITEM Hannover) the ETEAM project was intended to compare and contrast the different REACH Tier 1 exposure assessment models in terms of their validity, scope of application, functionality and user-friendliness.

The ETEAM conference will give a comprehensive overview of the study results and will provide guidance for model users, industry and regulators on the range of applicability of models across different exposure situations. In addition the results will assist registrants and authorities to assess whether or not an exposure scenario is safe and to estimate how conservative the exposure estimates are. Hence the ETEAM conference is aimed at all registrants, downstream users, consultants, authorities and researchers who are involved in the assessment of occupational exposure under the REACH regulation.

Organisation

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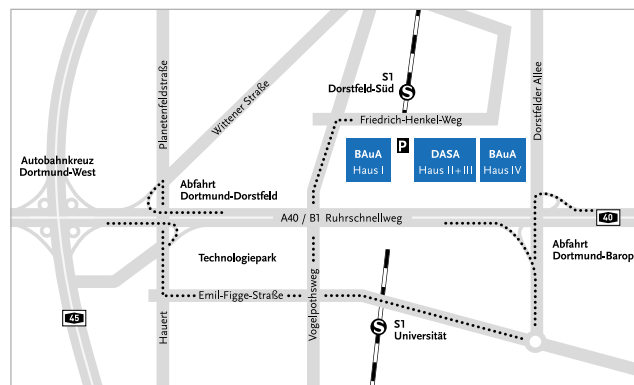
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Venue

BAuA Dortmund, Haus I
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How to find us:



The ETEAM Conference – Challenges and Perspectives of Tier 1 Exposure Assessment

25–26 March 2014
Dortmund

Occupational exposure models: a systematic translation into each other

David Vernez, Robin Riedmann

Occupational exposure models are frequently used for exposure assessment in the context of the European Union regulation on the Regulation, Evaluation, Authorization and Restriction of CHemicals (REACH). Two different models will usually produce different estimates with large uncertainties for the same exposure conditions. Generating a reliable risk profile for a chemical and interpreting the exposure estimate adequately is therefore somewhat a challenge. The selection of the modeling tool and entry parameters is therefore of essence.

Here, a translation of three models commonly used within the REACH framework is presented: ECETOC TRA v3, Stoffenmanager 5.0 and Advanced REACH Tool (ART) 1.5.

The translation is implemented in the mathematical modeling language Coloured Petri Nets (CPN Tools, University of Aarhus). Each exposure model was rebuilt in CPN Tools and then the translation was built into the program, connecting the models with each other. The workflow is as follows: First, one of the three models is chosen to assess an exposure estimate. Each decision or input parameter in the model is also translated to the corresponding decision in the other two models. The translation has been validated with measured exposure data. Occupational exposure data were obtained from Schweizerische Unvallversicherungsanstalt (SUVA). Only personal inhalation exposures related to either single or multiple activities were considered. In total, 700 measurements were available.

The new tool has several advantages: i) the ECETOC TRA, Stoffenmanager and ART occupational exposure models can be used in a single software, ii) the exposure estimate for all three models is given with a single set of exposure determinants, iii) the tool allows a systematic comparison of the exposure estimates. With the validated translation more confidence in the exposure estimate is gained and a weighting of model results may be advised. Examples will be given.

Conference

Date and Time

Conference Day One 25 March 2014, Tuesday: 1.00 pm – 5.40 pm, evening event 6.30 pm

Conference Day Two 26 March 2014, Wednesday: 9.00 am – 12.45 pm, DASA visit 1.00 pm

Please use the online registration form to register for the conference and indicate whether you plan to attend the evening event at Dortmund U and/or the DASA visit.

Venue

Lecture Hall of the Federal Institute for Occupational Safety and Health (BAuA) in Dortmund

Deadline for registrations

11th March 2014

Conference fee

The conference fee of 145 Euro includes: participation on both days of the conference, conference folder, lunch, refreshments during the breaks.

Social events*:

1. Get-together at the Restaurant of the Dortmund U. The Dortmund U shows artworks from 20th and 21st centuries www.dortmunder-u.de/en. Not included in the conference fee. Reservation required.
2. On the day following the conference, a visit to the Working World Exhibition (DASA) will be organised. Reservation required.

Conference attendance is certified with 2 VDSI advanced training points.

Program

TUESDAY, MARCH 25TH 2014*

- 12:00 Registration and light meal/coffee
- 13:00 **Welcome to BAuA**
Isabel Rothe, President of the BAuA
- Opening session**
Dr. Urs Schlüter, Facilitator
- ECHA's experience from evaluating or using information generated with Tier 1 exposure assessment tools**
Andrew Phillips, ECHA
- Industry views on Tier 1 exposure assessment**
Dook Noij, CEFIC
- Background and aims of the ETEAM Project**
Dr. Martin Tischer, BAuA
- 14:10 **Session I:**
Scientific background and user-friendliness of the models
Chair Dr. Rüdiger Pipke, BAuA Dortmund
- Conceptual Evaluation, Discussion**
Dr. Katrin Schröder, Fraunhofer ITEM
- Operational analysis User-friendliness, Discussion**
Judith Lamb, IOM
- 15:10 COFFEE BREAK AND POSTER VIEWING
- 15:40 **Between user reliability, Discussion**
Dr. Karen Galea, IOM
- Uncertainty analysis, Discussion**
Dr. Susanne Hesse, Fraunhofer ITEM
- 16:40 **Session II:**
Comparison of model estimates with measured data
Chair IFA, Dr. Dorothea Koppisch
- Characterisation of data basis, Discussion**
Judith Lamb, IOM
- Methodology of evaluation/statistical analysis, Discussion**
Dr. Martie van Tongeren, IOM
- 18:30 **Evening program** (Dortmunder U)

Program

WEDNESDAY, MARCH 26TH 2014*

- 9:00 **Session III:**
Results and recommendations
Chair Prof. Dr. John Cherrie, IOM
- Results of external validation exercise, Discussion**
Judith Lamb, IOM
- Implications from the results and practical recommendations for model users and developers, Discussion**
Dr. Martie van Tongeren, IOM
- 10:40 COFFEE BREAK AND POSTER VIEWING
- 11:10 **Closing session**
Chair Andreas Ahrens, ECHA
- Current activities on model development and validation**
Prof. Dr. John Cherrie, IOM
- Panel discussion including model owners: Challenges and actions (the way forward) for tier 1 exposure assessment**
Representatives of ECETOC, EBRC, BAuA, Stoffenmanager Consortium, IOM/Fraunhofer ITEM
- 12:30 **Epilogue**
Dr. Urs Schlüter, BAuA
- 12:45 **End of conference**
- 13:00 **DASA Guided tours**

* subject to change