

Module 11, Advanced Toxicology

A deeper dive into the world of toxicology or how chemicals impact humans and why

For dates and venues, please visit: [CHCS Training](#)

This module is an advanced training day in toxicology that follows on from [Module 5](#). At the basic level, we learnt that standard test data can provide us with classification end points. At the advanced level we will also learn the basics of human risk assessment such as how to derive a DNEL/DMEL. An advanced level of understanding in toxicology is required when it comes to understand the toxicological mechanisms leading to different toxicological end points. We also learn about the latest achievements in toxicological testing (*in chemico*, *in vitro* and *in silico* methods).

SDS writers reading data most often deal with data from animal studies, but on occasion data from humans that have been exposed (case studies). What kind of challenges are brought forward in handling data from humans and how is data from animals 'translated' into what is true for humans?

This module is aimed at those with a reasonable technical understanding of toxicology, chemistry and chemical supply classification.

To ensure the most effective training with optimum involvement in participative exercises, there will be a limit of 14 on the number of students. Attendance on this series of modules will ensure that your SDSs meet the increasing expectations of both your customers and the regulators.

What you will learn

This module follows on from [Module 5](#) and builds on basic principles by considering chronic toxicity studies and end points (CMR) in more depth. It will also help those reading data to interpret whenever there is a toxicological concern regarding findings in the literature.

- Hazard versus risk
- Basic derivation of DNEL (derived no-effect level) including allometric scaling
- The challenge of handling numerous data, including data from human exposure
- Adverse outcome pathway (AOP)
- Basic introduction to Q(SAR), computer models
- Where to find the data – about sourcing of data from the literature and assessing quality

SAMPLE PROGRAMME

Session 1

- Welcome, introduction to the presentation software and the training
- Introduction, 'hazard and risk', dose-response relationship

Session 2

- Toxicokinetics, biotransformation, allometric scaling, DNEL derivation

Session 3

- Health hazards (CLP), data sources, use of 'human data', *in vitro* testing

Session 4

- Sensitisation in more depth
- Adverse outcome pathway for skin sensitisation
- Respiratory sensitisation testing strategy

Session 5

- Introduction of example substance
- Target organs with exercises

Session 6

- Mutagenicity, mutagenicity testing strategy, carcinogenicity including potency (T25), reproductive toxicity

Session 7

- QSAR/SAR, read-across, grouping
- Sourcing of data



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Other Modules

The derivation of safe levels and limits for health, such as DNELs, will be covered in more detail in [Module 20, The Extended SDS](#). The area of exposure scenarios and risk characterisation will be covered in [Module 53, Chemical Safety Assessment](#). For details of all courses and dates please see www.chcs.org.uk/chemical-hazards-training.

Module Tutor

This module will be presented by toxicologist Annette Dock. Annette has over twenty-five years' experience in chemical regulation and assisting companies with compliance. Annette has worked for central authorities in Sweden (National Food Agency, Swedish Work Environment Authority and Swedish Chemicals Agency) before setting up her own business working as an independent consultant.

Module Deputy

Lennart Dock is a toxicologist and worked at Karolinska institutet before joining the Swedish Chemicals Agency. He has mainly worked with risk assessment, GHS and international training in chemicals management.

Module Presentation

We will deliver this training using an online system, which we have used successfully for other CHCS events and training. There is no charge to delegates for using the software. The licence cost is borne by CHCS.

The sessions will run live, and delegates can interact with the tutor and other delegates using their device microphone. The tutor will use a PowerPoint presentation, just as they would in face-to-face training.

We will provide you with copies of the presentation and all other supporting documentation in advance of the training, by email. We will provide you with a document giving more details about using the software plus some tips for getting the best out of the day.

Comments From Past Delegates

"Fantastic development of information presented in Basic Toxicology. Interesting and knowledgeable presenters with great background. Supplementary information with exercise incredibly useful."

"Good pace and structure of training. Very helpful to my company's needs."

"Complex topics were well explained and make sense"

"The exercise really made me understand how difficult it is to evaluate tox data, but gave me a certain understanding at the same time"

Reserving A Place

You can reserve a place at this course, online by visiting [Chemical Hazards Training](#), finding the next occurrence of the course and completing the on-line booking form. Courses are only available to CHCS Members. If you are not an existing member and would like to join, again, the process is simple and you can complete our online Membership Registration form at: [Join Us](#).

Courses are £285 (+VAT). However, we offer a **discounted price** of only £260 (+VAT) which expires 6 weeks before the date of the course. Please see the online event for more details.

Please note these Conditions

Delegates can be substituted at any time, subject to payment of a membership fee if applicable. However, once booked, the full fee is payable. As this is a limited space training event, refunds can only be made if CHCS is notified in advance, **and** is able to successfully re-offer the place to another delegate.

CHCS reserves the right to alter or cancel the programme due to circumstances beyond our control, including insufficient interest. If CHCS cancels, then refunds will be made. For registrations made within 5 weeks of the course date, we only accept payment by Card.