

Minutes: EDA-EMERGE Specialized Course 10:

“Science-based policy support with regard to emerging pollutants”

Venue: Istituto Superiore di Sanità, Viale Regina Elena 299, 00161, Rome, Italy

Organizer: Dr. Bernd Gawlik

Date: 04.12.2014

Time: 9h00 – 13h00

Course description:

The SC10 was a half-day EDA-EMERGE training course on science-based policy support with regard to emerging pollutants. Said training course linked scientific results and policy developments with regard to the detection and assessment of emerging pollutants in surface and drinking waters in the EU.

Therefore, the course included lectures on topics such as monitoring of emerging pollutants within the EU, priority substances, emerging pollutants in drinking water, toxicological assessment of chemical pollutants in drinking water, cyanobacteria as water contaminant.

This amounted to a minimum total academic involvement of 4h hours (0.125 ECTS) for the participants.

AGENDA

Thursday, 04.12.2014		
Time	Title	Lecturer
8:30	Registration	
9:30	Welcome ISS	L. Musmeci (Head of Dept. Environment)
9:45	Monitoring of emerging pollutants in the European Union	B. Gawlik (JRC-European Commission)
10:30	The watch-list of the Directive 2013/39/UE on priority substances: selection criteria	M. Carere (ISS)
11:00	Coffee Break (30 min)	
11:30	Emerging Pollutants in drinking water: exposure assessment	L. Lucentini (ISS)
12:00	Toxicological assessment of chemical pollutants in drinking water: the European approach	R. Crebelli (ISS)
12:30	Cyanobacteria as emerging water contaminant and the related risk	M. Manganeli (ISS)
13:00	Lunch (60 min)	

COURSE CONTENT

In detail the course covered the following topics:

- Introduction of the Department of environment and primary prevention UNITS of the ISS
- Monitoring of emerging pollutants in Europe
 - Difference between US (proof the effect) and Europe (precautionary principle)
 - JRC → reliable, credible information within the EC for public
 - Chemicals and the EU and under the WFD → substances on the watch list
 - Costs for EU member states → 40000 sampling sites, 40 compounds, 12 times a year → about 200 EUR per compound
 - Information Platform for Chemical Monitoring A- IPCheM
- The watch-list of the Directive 2013/39(EU on priority substances)
 - How to manage emerging pollutants in EU
 - Approach of the chemical prioritization - primary and secondary selection criteria for PS
 - Modelling based exercise and databases for modelling
 - Exposure assessment - PEC calculation
 - Effect assessment – PNEC for toxicity to freshwater org. and human health via consumption
 - Ranking of substances based on RQ

- Watch list of pharmaceuticals
 - Pathways to water bodies, example Diclofenac
 - Analytics in comparison to bio-analytics, limits of quantification versus detection limits
- Emerging pollutants in drinking water – exposure assessment
 - Health risks around the water cycle
 - EU water policy and Italian fundamental water legislation
 - Risk communication concerning drinking water
 - Fast event detection systems for early warning surveillance
 - Endocrine Disruptors in Water for Human Consumption
- Toxicological assessment of chemical pollutants in drinking water: the European approach
 - COUNCIL DIRECTIVE 98/83/EC on the quality of water intended for human consumption: objectives, obligations, chemicals listed
 - World Health Organization (2011) Guidelines for drinking-water quality
 - IPCS Principles and methods for chemical risk assessment in food (WHO, 2009)
 - Mechanisms of toxicity: chemical (C) - target (T) interactions determining a toxic effect (E)
 - Derivation of ADI/TDI for non-genotoxic (threshold) chemicals
 - Guideline values for carcinogenic and non-carcinogenic contaminants of drinking water
 - Examples of emerging water pollutants recently evaluated at ISS: Vanadium & PFAS
 - Risk assessment for chemical parameters in drinking water
- Cyanobacteria as emerging water contaminant and the related risk
 - What are cyanobacteria and cyanobacteria blooms, where do they occur?
 - Sanitary relevance for human and animals, emerging & increasing risks due to cyanobacteria
 - Control mechanisms: nutrient input, predation, climate change
 - Risk assessment and human exposure scenarios (drinking water, bathing water, food supplement → internal concentrations)