Bundesministerium
für Umwelt, Naturschutz,
Bau und Reaktorsicherheit

Umwelt Bundesamt

Indoor Air Toxicology

16–18th September 2018

International Conference on Risk Assessment of Indoor Air Chemicals

Lilian Busse: Welcome
German Environment Agency (UBA), Germany

Dear Mr. Vorwerk, dear Colleagues, Ladies and Gentlemen,

I am pleased to welcome you to the First International Conference on Risk Assessment of Indoor Air Chemicals at the Umweltforum in Berlin tonight.

You might not see it, you might not be able to touch it, and usually you don't even realize its existence…
But it is everywhere: indoor air.

You can't escape it. You can change the setup of a room but you will still breathe the air in it.

Our first breath is taken indoors, and it accompanies us our entire life. Indoor air is such a part of our daily life that even we – as experts – often take the quality of the air we breathe indoors for granted.

Within the last decades, increasingly more regulations were developed and implemented. We have regulations for almost all aspects of our life but – there is no regulation for indoor air.

Mrs. Zsuzsanna Jakab, Director of the World Health Organization's Regional Office for Europe, wrote in 2010, in her introduction to the WHO Guidelines for Indoor Air Quality: "Clean air is a basic requirement of life. The quality of air inside homes, offices, schools, day care centres, public buildings, health care facilities or other private and public buildings where people spend a large part of their life is an essential determinant of healthy life and people's well-being."

In Germany, there has been an established opinion that government should not regulate indoor air as private space should not be regulated.

However in 1992, the German Government raised the regulation issue in their Concept for Improved Indoor Air Quality as follows: "There can be no comprehensive regulation for the large number of compounds and groups of compounds that pollute indoor air from different sources and via diverse mechanisms […] In the opinion of the Federal Government a successful improvement of the current situation can only be achieved by the use of several instruments for action and their joint application."

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Healthy air quality is a basic human right such as the access to drinking water, food, housing and public health services. Therefore it is a public responsibility to ensure common access to good, healthy indoor air quality.

Against this background: What are we, as German Environment Agency doing for indoor air?

At UBA we have committed ourselves to actions at both the national and international level. One of our central activities at the national level is the risk assessment of indoor air contaminants, which is driven by our Committee on Indoor Guide Values (or AIR). AIR previously known as the "Ad-hoc-Working Group", was established as a joint expert working group by the German federal health authorities, UBA and several scientific institutions in 1994. The major assignment of AIR is to develop a harmonised procedure for the risk assessment of indoor air contaminants. As a major product, AIR derives quantitative indoor air guide values. They are derived from toxicological evidence, and provide us with information in order to classify pollutant concentrations measured in a real indoor environment with respect to their relevance to health.

Even though AIRs guide values are not legally binding; they have a considerable influence when a health-related evaluation of indoor pollutant levels is required.

One of the international activities that I would like to particularly spotlight today, is our joint work with other European Partners in the EU working group on "Lowest Concentration of Interest" – in short, EU-LCI group.

This group works on including information in the product labelling which will help consumers to distinguish between products regarding the amount of their chemical emissions.

For a harmonised product evaluation the group has defined an extensive list of substances for which emissions will need to be quantified in chamber tests, and compared with toxicological reference values, the so-called EU-LCI values. Work by the EU-LCI group counts as an essential step towards a harmonised European approach to building product evaluation.

We have supported the EU-LCI group in various ways, such as
- by providing the group's secretariat
- by funding expert dossiers to determine EU-LCI values for various substances
- and by incorporating the EU-LCI values into our national regulation...

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Work by the EU-LCI group has resulted in an impressive number of 134 values available for a toxicological assessment of construction product emissions.

The most important driver of the success of this group is the commitment, patience and persistence of its members!

But we should not forget that theinitiative to harmonise the assessment criteria for product evaluation of the major European health-related quality labels started by the UBA in 2007 was proceeded by the successful work of the German committee the Committee for Health-related Evaluation of Building Products, AgBB and a substantial number of EU-LCI guide values originates from AgBB assessments.

A second field of work that I would like to highlight is the experimental research that we do at the German Environment Agency on indoor air.

A prime example is the German Environmental Survey (GerES). In this survey, indoor air samples are collected in a representative cross-section of German households and analysed in our laboratories for volatile organic carbon. We are also interested in particulate matter and the constituents of house dust. We believe that our laboratory facilities are a valuable asset when assessing the exposure of the population to a lot of industrial chemicals in an independent manner.

UBA has also supported the integration of extensive data on volatile organic carbon, measured between 2002 and 2012 by the Association of Ecological Research Institutes, into a single data base. Over 300,000 individual measurements in German households have been made available in conjunction with corresponding information about sampling, experimental methods, quality assurance and sampling locations.

Based on these data, reference values for TVOC (which is the total sum of VOC) in Germany were calculated. These reference values are very useful in situations when we have no toxicological guide values at hand; they might be used for comparison of specific air samples in order to conclude whether the measured concentrations are within the normal range or not. Particularly for those substances without a health assessment, the comparison with reference values from the data base is a method of choice in order to evaluate the indoor air samples.

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Other ongoing and future research projects address the risk assessment for sensory irritants, an assessment of the discomfort posed by odours, and the measurement of emissions from innovative devices such as 3D printers in households. Cost-effective 3D printers are currently making their way into private households. During the printing process, plastic filaments are heated to high temperatures which may lead to emissions of pollutants such as particles and organic vapours.

Let me now come back to the reason why we are here: the International Conference on Risk Assessment of Indoor Air Chemicals! During the preparation of this conference we have been asked "Why do we need another indoor air conference?" The reasons are simple: Because we need to learn from each other!

In contrast to other established scientific conferences, the main focus here lies on introducing the various, existing indoor air quality guidelines and regulatory frameworks. We invited authorities from all over the world to present their regulatory approaches. They will share their experiences on the strengths and weaknesses of their approaches. Others might be able to learn from the already established approaches.

Also, as you all know- we need a profound scientific basis for good regulation. We are very pleased that so many excellent scientists have accepted our invitation to share their scientific knowledge.

We need the conference.....Because we need to talk!

We need to talk about how to define a good indoor air quality.
The European Union has its own chemical regulation. Most of the indoor air contaminants are subjected to either the EU REACH or Biocide regulation. We have to discuss if we need a specific European approach for indoor air as well, and if the current approaches are satisfactory. We need the conference.....Because we need to develop strategies and find solutions for certain issues!

We need to find the way on how to deal with problematic substances, which for example might cause allergic reactions. The risk assessment concepts for the respiratory and skin sensitizers are still missing. Should such substances be allowed indoors at all?

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One other important issue is that we need to protect people who cannot protect themselves – including children, sick people and the elderly. In risk assessment we routinely apply safety factors, however - even if all reference values are met - there are still complaints about the bad air quality and some people feel that they are especially sensitive. Does it mean that our procedures are failing to consider some vulnerable groups adequately?

Without a doubt there are no simple answers for our questions. But we are here today because we all are confronted with the same questions. Let us work together!

We at the German Environment Agency will continue to support the further development of the scientific basis of indoor air risk assessment. We will strengthen our knowledge on the indoor-relevant health issues such as local irritation, sensitisation or odour perception.

We will also continue indoor air monitoring programmes such as within the next German Environmental Survey. The survey will be launched in 2019 and will enable us to update, the data base for the VOC. In this survey we intend to take a close look at the effects of mould in a sub-group of the investigated households.

In addition, UBA will continue with an active support for Europe-wide harmonised health criteria for the assessment of construction products emissions. We will host the next meeting of the EU-LCI group in November here in Berlin aiming at the completion of the EU-LCI list of chemicals.

We hope that this conference will give us the possibility for strengthening the existent network and building new collaborations.

Let us learn from each other and exchange different approaches to safeguard a good indoor air quality in the future. I wish you and us a successful conference, and thank you for your attention.

Berlin, September 16, 2018