

# Indoor Air Quality- Future Needs and Challenges

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## **Present situation**

***On the basis of the information available the contribution of bad indoor air quality to the total burden of disease cannot be quantified with a high degree of certainty.***

***Exposure to single compounds does not reflect real health risks. Future work should focus on combined exposure to chemical mixtures (cocktail effect) at environmentally relevant concentrations.***

## **IAQ-activities at the JRC and with the participation of the JRC**

**INDEX (Indoor exposure limits for priority pollutants in the EU)**

**THADE (Towards healthy air in dwellings in Europe)**

**EXPOLIS (Air pollution exposure distributions of adult urban populations in Europe)**

**BUMA (Prioritization of building materials as indoor pollution sources)**

**ETS-Research to support the Commission's strategy**

**AIRMEX (Indoor air monitoring and exposure assessment study)**

**Effects of indoor air priority compounds and mixtures on cells**

**Exposure modeling and physiology-based pharmaco-kinetic/dynamic modeling**

**European Collaborative Action (ECA) on**

**“Urban Air, Indoor Environment and Human Exposure”**

## Prioritization of chemical substances for indoor spaces

### High priority chemicals

- *Formaldehyde, Nitrogen Dioxide, Carbon Monoxide, Benzene, and Naphthalene+the WHO list*

### Second priority chemicals

- *Acetaldehyde, Styrene, Toluene and Xylenes*

### Additional chemicals of interest

- *Ammonia, delta-Limonene, and alpha-Pinene*

## **Gaps in knowledge**

***Toxicological studies based on chronic low dose exposure could provide more in-depth information on possible long term effects of air contaminants at concentrations typical for indoor environments.***

***European projects combining epidemiological, chemical, biological studies (including biomonitoring) could provide the knowledge needed to assess the risk and evaluate the impact of indoor air pollutants on human health.***

## Needs

- Exposure guidelines for indoor air
- Review of existing data of indoor air pollutants, including links to tobacco smoke, and their concentration in each member state
- Identification and mapping of major indoor sources
- Indoor Air Chemistry



**Thank you for your attention!**

