

Is There a Need to Regulate Ultrafine Particles in Ambient Air?

- Adverse effects on human health from ultrafines
- Are ultrafines implicitly regulated by existing legislation?
- Are there measures available to reduce ultrafines in ambient air?

Adverse effects on human health

- Prerequisites to consider a regulation:
 - sufficient evidence for health risks from exposure 😊
 - quantified risk assessment agreed by the scientific community 😞
 - harmonised method to monitor exposure with a known uncertainty 😞
- Need for further action and research

Does current legislation already address ultrafines?

- Ultrafines form a part of PM₁₀ / PM_{2.5},
i.e. could be considered to be already regulated;
- but UF give an insignificant contribution to mass related concentrations and
- health impacts from UF and PM differ distinctly.
- Self-standing AQ standards for UF could be considered
(similar to heavy metals, which also form a part of PM)

Relevant Sources for Ultrafines

- nucleation mode:
short lifetime – local sources
- in general UF are not captured by
particle filters in road traffic or industry
- source apportionment needed to identify
relevant sources and appropriate abatement
measures

Potential to Set an Air Quality Standard

- representative exposure assessment needed
- resulting risk to be compared to other air pollutants
- effect of potential abatement measures and related costs must be quantified
- only then considerations could be started, which ambient air concentration could be attained with appropriate measures

Summary and Conclusion

- time horizon:
It should be considered to propose a target value for a number concentration for the revision of the AQD in 2013
- prerequisites for this:
 - risk assessment
 - exposure studies
 - source allocation
 - concept for measures