

AIRNET Toxicology Work Group

Objectives

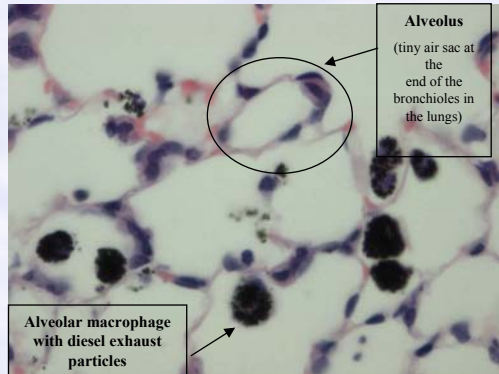
- Facilitate an interactive communication and review forum to gather, discuss and interpret the findings arising from toxicology research on air pollution and how this will impact risk and health assessment
- Contribute to a better understanding of causality and the biological plausibility of health effects of air pollution and components and exposure conditions important for this together with the exposure and epidemiology work groups

HOW?

1. Identification of issues relevant to end-users such as policy makers, industry, NGOs and the public
2. Publication of non-specialist summaries of research findings that are especially relevant for end-users
3. Assessments of the potential policy implications of those research findings

Report structure

1. Preface (0.5 page)	3.4.3 Animal studies - (Botsivali/ Farmer)
2. End-user information needs - co-ordinated with other AIRNET WG groups - 0.5 page	3.4.4 Cellular and mechanistic studies (Botsivali/ Farmer)
3. State-of-the-art in toxicology	3.4.5 Health implications (Botsivali/ Farmer)
3.1 PM (12 pages)	3.5 CO (4 pages)
3.1.1 Dosimetry (Kreyling)	3.5.1 Dosimetry (Refsnes/ Låg)
3.1.2 Human clinical studies (Sandström)	3.5.2 Human clinical studies – (Refsnes/ Låg)
3.1.3 Animal studies (Cassee)	3.5.3 Animal studies (Refsnes/ Låg)
3.1.4 Cellular and mechanistic studies (Donaldson)	3.5.4 Cellular and mechanistic studies (Refsnes/ Låg)
3.1.5 Health implications (Kyrtopoulos)	3.5.5 Health implications (Refsnes/ Låg)
3.2 Ozone (8 pages)	3.6 SO2 (4 pages)
3.2.1 Dosimetry (Kyrtopoulos)	3.6.1 Dosimetry (Hagemann)
3.2.2 Human clinical studies (Sandström)	3.6.2 Human clinical studies (Hagemann)
3.2.3 Animal studies (Bernard)	3.6.3 Animal studies (Hagemann)
3.2.4 Cellular and mechanistic studies (Bernard)	3.6.4 Cellular and mechanistic studies (Hagemann)
3.2.5 Health implications (van Bree)	3.6.5 Health implications (Hagemann/ Borm)
3.3 Nitrogen dioxide (8 pages)	4. Assessment of key issues, additional concerns and future research needs (2.5 pages) (Dybing, Cassee, Donaldson, Gephart, Salonen)
3.3.1 Dosimetry (Kyrtopoulos)	5. Potential policy implications of toxicology findings (2.5 pages) (van Bree, Dybing, Cassee)
3.3.2 Human clinical studies (Sandström)	6. Frequently asked questions (total 10 questions) (2 pages)
3.3.3 Animal studies (Schwarze)	
3.3.4 Cellular and mechanistic studies – (Schwarze)	
3.3.5 Health implications (Schwarze/ Sandström)	
3.4 PAH (6 pages)	
3.4.1 Dosimetry (Botsivali/ Farmer)	
3.4.2 Human clinical studies (Botsivali/ Farmer)	



This figure shows a cross section of a mouse lung instilled with diesel exhaust particles (50µl of 3 mg DEP/ml, intranasally instilled)
Photo: Dormans, RIVM

Upcoming events

- Discussion of 1st draft report (5 November 2003)
- Selection and answering of frequently asked questions
- Discussion of 2nd draft report at WG meeting (Spring 2004)
- Finalise report (September 2004)
- Presentation at 3rd AIRNET annual conference in Prague (October 2004)
- Identification of key scientific papers within air pollution and health for AIRNET alert
- Writing of non-specialist summaries of recent important science-policy related papers for AIRNET Alert! (ongoing)

For more information...

- Contact the chair: Erik Dybing
=> erik.dybing@fhi.no
- Contact Annike Totlandsdal within the AIRNET management team
=> annike.totlandsdal@rivm.nl
- Visit the AIRNET Toxicology webpage
=> <http://airnet.iras.uu.nl>



Animal models are being widely used to measure the effects of exposure to air pollution. This figure shows a device used to expose rats to ambient air particles. Afterwards the rats are examined to investigate the possible effects of the exposure.

Photo: MGO, RIVM



Institutes involved in the toxicology work group

Cancer Biomarkers and Prevention Group, Biocentre, University of Leicester, UK
CONCAWE, International Association of Oil Companies with Refining Capacity in Europe, Brussels, Belgium
Division of Environmental Medicine, Norwegian Institute of Public Health, Oslo, Norway
Department of Occupational and Environmental Medicine Sahlgrenska University Hospital and Academy Göteborg, Sweden
Division of Toxicology and Neurotoxicology, Karolinska Institutet, Stockholm, Sweden

Edinburgh Lung and the Environment Group Initiative (ELEGI) University of Edinburgh, Edinburgh Scotland
European Commission Joint Research Centre, Ispra, Italy
ExxonMobil Chemicals Europe, Europe Headquarters, Machelen, Belgium
Fraunhofer Institute of Toxicology and Experimental Medicine, Clinical Asthma- and Inhalation Research, Hannover, Germany
GSF - National Research Center for Environment and Health, Institute for Inhalation Biology, Neuherberg/Munich, Germany
Institute for Risk Assessment Sciences (IRAS), Utrecht University, Utrecht, The Netherlands

Institute of Biological Research and Biotechnology, National Hellenic Research Foundation, Greece
Istituto Superiore di Sanità (Italian National Institute of Health), Rome, Italy
IUF - Environmental Health Research Institute (Institut für umweltmedizinische Forschung), Heinrich-Heine University Düsseldorf, Germany
National Public Health Institute, Unit of Environmental Epidemiology, Kuopio, Finland
Netherlands Environmental Assessment Agency - RIVM, Bilthoven, The Netherlands

Public Health and Clinical Medicine, Umeå University, Umeå, Sweden
School of Life Sciences, Napier University, Edinburgh, Scotland
Statoil Research Centre, Trondheim, Norway
Unit of Toxicology Faculty of Medicine, Catholic University of Louvain, Brussels, Belgium
University of Vienna Medical School, Division of Immunology, Allergy and Infectious Diseases (DIAID), Department of Dermatology, Vienna, Austria
VITO - Flemish Institute for Technological Research, Mol, Belgium