


Dr. Achim Boenke

European Union, Directorate General Enterprise  
"Place of the issue of Emerging risks in EU policies"

**Nanotechnology**

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### Introduction to nanotechnologies

## Introduction

Nanotechnology is the study of phenomena and fine-tuning of materials at atomic, molecular and macromolecular scales, where properties differ significantly from those at a larger scale. Products based on nanotechnology are already in use and analysts expect markets to grow by hundreds of billions of euros during this decade. These advances can contribute to the European Union's growth, competitiveness and sustainable development objectives and many of its policies including public health, employment and occupational safety and health, information society, industry, innovation, environment, energy, transport, security and space.


### Nanotechnology research portal of the European Commission

[CORDIS website portal on nanotechnology research on European level](#)


It offers website access to funding opportunities and EU funded projects, information on international co-operation, financing and innovation, education and mobility, health, environment and safety aspects, and communication and debate. The site also includes publications and events in nanotechnology, the latest nano-related news, and press material on nanotechnology in general and on specific funded projects. It also presents information on the European Strategy and the Action Plan on nanotechnology.

### Latest news

#### The Communication on Regulatory Aspects of Nanomaterials

[EN](#) - [FR](#) - [DE](#)  ( 70Kb)

Accompanying Staff Working Document (summary of legislation)

[EN](#)  ( 207Kb)


#### Substantial support to nanotechnology from FP7 during its first year (2007)

[Link](#)

#### New section with answers to frequently asked questions

[Link](#)

#### A code of conduct for responsible nanosciences and nanotechnologies research

A Commission Recommendation of 07/02/2008 - [EN](#) - [FR](#) - [DE](#)  ( 100Kb)

### Past Events

7-8/05/2008  
**[First conference on the Recommendation on a code of conduct for responsible nanosciences and nanotechnologies research](#)**

05/12/2007 (Brussels)  
**[Debate on Governance Initiatives for the European Nanotechnology Community in the Public and Private Sectors](#)**.

06/09/2007. European Commission Communication: "Nanosciences and Nanotechnologies: An action plan for Europe 2005-2009. **[First Implementation Report 2005-2007](#)**".

[http://ec.europa.eu/nanotechnology/index\\_en.html](http://ec.europa.eu/nanotechnology/index_en.html)

## Scientific Committee on Occupational Exposure Limits (SCOEL)

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**The Scientific Committee on Occupational Exposure Limits**  
**Legal Basis for SCOEL**  
Commission Decision of 12 July 1995 setting up a Scientific Committee on Occupational Exposure Limits to Chemical Agents ([OJ L 188, 9.8.1995, p.14-15](#)).  
**Commission Decision (2006/573/EC)**      
**Introduction**  
The purpose of the Scientific Committee on Occupational Exposure Limits (SCOEL) is to provide scientific advice to the European Commission to underpin regulatory proposals on exposure limits for chemicals in the workplace within the framework of the chemical agents [Directive 98/24/EC](#) and the carcinogens at work [Directive 90/394/EEC](#) as amended. Its mandate is to examine available information on toxicological and other relevant properties of chemical agents, evaluate the relationship between the health effects of the agents and the level of occupational exposure, and where possible recommend values for occupational exposure limits which it believes will protect workers from chemical risks. Members of SCOEL are selected following an invitation from the European Commission to the Member States that requests the nomination of suitable candidates. All SCOEL members act as independent scientific experts, not as representatives of their national Governments. They include experts in chemistry, toxicology, epidemiology, occupational medicine and industrial hygiene.  
The meetings of SCOEL are held on a regular basis, normally four times a year. The major task of the SCOEL is described in Article 2 of the Commission Decision: The committee shall in particular give advice on the setting of occupational exposure limits (OELs) based on scientific data and where appropriate shall propose values which may include: the eight-hour time weighted average (TWA); short-term/excursion limits (STEL); biological limits'.  
**The way the committee works**  
After evaluating all available data, SCOEL proposes a recommendation for a limit value in the form of a short summary document. Once the summary document is agreed, the Commission makes it public to allow interested parties to submit health-based scientific comments and further data. After a comments period of about six months, the committee reviews the document in the light of the comments received and adopts the final version, which is then published by the Commission. Once the Commission services have received the final recommendation from the committee, they are in a position to develop legal proposals for an OEL.  
SCOEL makes [recommendations](#) to the Commission on 'health-based' OELs. An OEL of this type may be established in those cases where a review of the total available scientific database leads to the conclusion that it is possible to identify a clear threshold dose below which exposure to the chemical in question is not expected to lead to adverse effects.  
The European Commission uses the scientific advice from SCOEL to make proposals for occupational exposure limits. Limits based solely on scientific considerations are considered as adaptations to technical progress, and are incorporated in proposals for Commission directives within the framework of the chemical agents directive and are indicative. Limits that take account also of socio-economic and technical feasibility factors are included in proposals for Council directives under either the chemical agents directive or the carcinogens at work directive and are binding. A description of the limit setting process together with information on adopted limits and work in progress is given in the section on Chemicals: [Occupational Exposure Limits](#).

[http://ec.europa.eu/employment\\_social/health\\_safety/scoel\\_en.htm](http://ec.europa.eu/employment_social/health_safety/scoel_en.htm)

**Purpose** To provide scientific advice to the European Commission to underpin regulatory proposals on exposure limits for chemicals in the workplace, within the framework of the chemical agents Directive 98/24/EC and the carcinogens at work Directive 90/394/EEC as amended.

Its mandate is to examine available information on toxicological and other relevant properties of chemical agents, evaluate the relationship between the health effects of the agents and the level of occupational exposure, and where possible recommend values for occupational exposure limits which it believes will protect workers from chemical risks.

### Indicative Occupational Exposure Limit Values (IOELVs)

IOELVs may be established where the review of the available scientific data leads to the conclusion that it is possible to identify a clear threshold dose below which exposure to the substance is not expected to lead to adverse health effects.

In accordance with Article 3 of Directive 98/24/EC, on chemical agents, when establishing IOELVs feasibility factors (including socio-economic and technical) are not taken into account.

Directives containing IOELVs are adopted by the European Commission through the adaptation to technical progress procedure included in Article 17 of the Framework Directive, 89/391/EEC.

### **Binding Occupational Exposure Limit Values (BOELVs)**

BOELVs take account of socio-economic and technical feasibility factors as well as the factors considered when establishing IOELVs.

For any chemical agent for which a BOELV value is established at EU level, Member States shall establish a corresponding national binding OEL value which can be stricter, but cannot exceed the Community limit value.

### **Biological Limit Values (BLVs)**

In accordance with Article 3(6) of Directive 98/24/EC on chemical agents the Commission may establish biological limit values (BLVs) based on independent scientific assessment of the latest available scientific data.


In establishing all types of limit value the availability of measurement techniques is taken into account.

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### **Advisory Committee on Safety and Health at Work (ACSH)**

1. The Committee shall have the task of assisting the Commission in the preparation, implementation and evaluation of activities in the fields of safety and health at work. This task shall cover the public and the private sectors of the economy.
2. Specifically, the Committee shall:
  1. conduct, on the basis of the information available to it, exchanges of views and experience regarding existing or planned regulations;
  2. help to devise a common approach to problems in the fields of safety and health at work and identify Community priorities as well as the measures necessary for implementing them;
  3. draw the Commission's attention to areas in which there is an apparent need for new knowledge and for suitable training and research measures;
  4. define, within the framework of Community action programmes:
    - the criteria and aims for preventing accidents at work and health hazards within the undertaking;
    - methods enabling undertakings and their employees to evaluate and to improve the level of protection;


5. contribute, alongside the European Agency for Safety and Health at Work, to keeping national administrations, trades unions and employers' organisations informed of Community measures in order to facilitate cooperation and to encourage any initiatives on their part to exchange experience and establish codes of practice;
  6. give an opinion on plans for Community initiatives which affect safety and health at work;
  7. give an opinion on the annual programme and the rotating four-year programme of the European Agency for Safety and Health at Work.
3. In order to accomplish the above tasks, the Committee shall cooperate with the other Committees which are competent for safety and health at work, inter alia with the Senior Labour Inspectors Committee and the Scientific Committee for Occupational Exposure Limits to Chemical Agents, mainly by exchanging information.


**Employment, Social Affairs & Equal Opportunities**  
**Health and Safety at work**

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- [Objectives](#)

In accordance with Article 2 of Council Decision 2003/C 218/01:

Article 2

1. The Committee shall have the task of assisting the Commission in the preparation, implementation and evaluation of activities in the fields of safety and health at work. This task shall cover the public and the private sectors of the economy.
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  1. conduct, on the basis of the information available to it, exchanges of views and experience regarding existing or planned regulations;
  2. help to devise a common approach to problems in the fields of safety and health at work and identify Community priorities as well as the measures necessary for implementing them;
  3. draw the Commission's attention to areas in which there is an apparent need for new knowledge and for suitable training and research measures;
  4. define, within the framework of Community action programmes:
    - the criteria and aims for preventing accidents at work and health hazards within the undertaking;
    - methods enabling undertakings and their employees to evaluate and to improve the level of protection;
  5. contribute, alongside the European Agency for Safety and Health at Work, to keeping national administrations, trades unions and employers' organisations informed of Community measures in order to facilitate cooperation and to encourage any initiatives on their part to exchange experience and establish codes of practice;
  6. give an opinion on plans for Community initiatives which affect safety and health at work;
  7. give an opinion on the annual programme and the rotating four-year programme of the European Agency for Safety and Health at Work.
3. In order to accomplish the above tasks, the Committee shall cooperate with the other Committees which are competent for safety and health at work, inter alia with the Senior Labour Inspectors Committee and the Scientific Committee for Occupational Exposure Limits to Chemical Agents, mainly by exchanging information.

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- [Rules of Procedures](#)

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- [Annual report](#)

[http://ec.europa.eu/employment\\_social/health\\_safety/acsh\\_en.htm](http://ec.europa.eu/employment_social/health_safety/acsh_en.htm)

## Senior Labour Inspectors Committee (SLIC)

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




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







**Senior Labour Inspectors Committee (SLIC)**

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- [List of Members \(updated 9/2005\)](#)
- National Labour Inspections web sites  
- 2004 Annual Report  
- 2003 Annual Report  
- 2004 National Labour inspections Annual Reports 

BE	CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT
LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK	

- 2003 National Labour inspections Annual Reports 

CZ	DK	DE	EE	EL	ES	FR	IE	IT	CY	LV	LT
LU	HU	MT	NL	AT	PL	PT	SI	SK	FI	SE	UK

- Work Programme 2004-2006  
- [Asbestos](#): Asbestos is deadly serious! Prevent exposure !
- [Working Groups \(2003-2004\)](#)
- Main Results (since 2002)
  - SLIC Common principles for labour inspection  
  - [SLIC Resolution](#) (Community Strategy 2002-2006)
  - SLIC Resolution (Community Strategy 2007-2012)  
  - SLIC Construction Campaign 2004: Final Report  
  - SLIC Construction Campaign 2003: Final Report  
  - SLIC Thematic Day: May 2003 - [Thessaloniki Introduction Paper](#)
  - November 2003 - [Rome Introduction Paper](#)
  - May 2004 - [Dublin Outline Paper](#)
  - November 2004 - [Maastricht Outline Paper](#)
  - March 2005 - [Mondorf Proceedings](#)
  - Labour Inspection (Health and Safety) in the EU (25 Member States) - A short Guide - Updated version available by the end of 2005  


[http://ec.europa.eu/employment\\_social/health\\_safety/slic\\_en.htm](http://ec.europa.eu/employment_social/health_safety/slic_en.htm)

The Committee, in assisting the Commission, shall work towards the achievement of the following objectives:


1. defining common principles of labour inspection in the field of health and safety at work and developing methods of assessing the national systems of inspection in relation to those principles;
2. promoting improved knowledge and mutual understanding of the different national systems and practices of labour inspection, the methods and legal frameworks for action;
3. developing exchanges between national labour inspection services of their experiences in monitoring the enforcement of secondary Community law on health and safety at work, so as to ensure its consistent enforcement throughout the Community;
4. promoting exchanges for labour inspectors between national administrations and the setting up of training programmes for inspectors;
5. drawing up and publishing documents to facilitate the activities of labour inspectors;

6. developing a reliable and efficient system of rapid information exchange between labour inspectorates on all problems encountered in monitoring the enforcement of Community legislation in the field of health and safety at work;
7. establishing active cooperation with labour inspectorates of third countries, so as to promote the work done by the Community on health and safety at work and to assist in resolving any cross-border problems;
8. studying the possible impact of other Community policies on labour inspection activities relating to health and safety at work and working conditions


## European Agency for Safety and Health at Work –European Risk Observatory



European Agency for Safety and Health at Work



Anticipating change



# European Risk Observatory

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### NanoImpactNet. FP7 multidisciplinary European network on the health and environmental impact of nanomaterials

03.11.2008




**NanoImpactNet** is the European network on the health and environmental impact of nanomaterials. The European Commission awarded NanoImpactNet EUR 2 million to bring together not just scientists, but also industry, policy makers and civil society, to ensure the safe and responsible development of nanomaterial.

- Learn more about NanoImpactNet

### More and more people face psychosocial risks at work

30.01.2008




Precarious contracts and work intensification, high emotional demands, workplace violence and a poor work-life balance can lead to **work-related stress and seriously affect workers' health and safety**. Read the new report on emerging psychosocial risks that put EU workers in danger.

- Read our Emerging Risk report on psychosocial risks
- Learn more about stress at work
- Read the press release on psychosocial risks

### Nanotechnologies and Occupational Health and Safety

17.12.2007




The rapid growth of nanotechnology (leading to the development of new materials, devices and processes) is outstripping our understanding and knowledge of the occupational health risks associated with manufacturing and using nanomaterials. Exposure to these materials during manufacturing and use may occur through inhalation, dermal contact and ingestion. Occupational health risks associated with manufacturing and using nanomaterials are not yet clearly understood.

See the Agency's collection of recent research information on nanotechnologies and possible impacts on workplaces

### New biological threats in European working environment

07.11.2007




Several thousand fatalities in the EU are due to work-related infectious diseases and many biological risks remain poorly assessed at workplace level. Read the new report on emerging biological risks that are most likely to affect EU workers.

- Read the press release on new biological threats
- Read the expert forecast on emerging biological risks

### Avian flu - Protection of workers

06.02.2007




The **European Agency for Safety and Health at Work** has collated information relating to **emergency planning for outbreaks of avian influenza**. This includes information for protecting workers concerned in agriculture (for example poultry workers), hospitals, diagnostic laboratories, waste management, and slaughterhouses.

More information

### More challenges for occupational safety and health in the future

19.09.2006



The current trends in society and work organisation create new risks and put **new demands on occupational safety and health research**. An overview of what we are in for in terms of workplace safety has just been published by the European Agency for Safety and Health at Work in a **working paper** for the European Commission entitled **Priorities for occupational safety and health research in the EU-25**.

Download the publication

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### Monitoring Systems

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- List by country

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Monthly review of strategic news

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### News

- EU-Eurostat New Country Profile interface provides easy access to a wealth of comparable statistics, including occupational accidents 01.12.2008
- ISTAS y CC.OO. presentan hoy una guía sindical para prevenir riesgos laborales en el embarazo y la lactancia 27.11.2008
- EU- Job Vacancy: Coordinator of European Affairs for European network of research institutes 11.11.2008
- AT-Women and OSH- Gender mainstreaming pages of the Austrian Labour inspection 06.11.2008
- FR-New statistics of occupational accidents and diseases for 2007 in France 06.11.2008

<http://osha.europa.eu/en/riskobservatory>

EU Strategy 2007-2012: 25% cut in accidents at work by 2012

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- More and more people face psychosocial risks at work
- Nanotechnologies and occupational health and safety
- New biological threats in European working environment
- Avian flu-Protection of workers
- Work related Hearing Loss-What is the extent of the problem?
- Exposure to Noise-What is the extent of the problem?
- EU experts forecast changes in occupational risks