



## *Putting Principles into Practice: BASF internal Code of Conduct*

*D G E Colloque Nanomatériaux  
15 janvier 2008*

# BASF at a glance



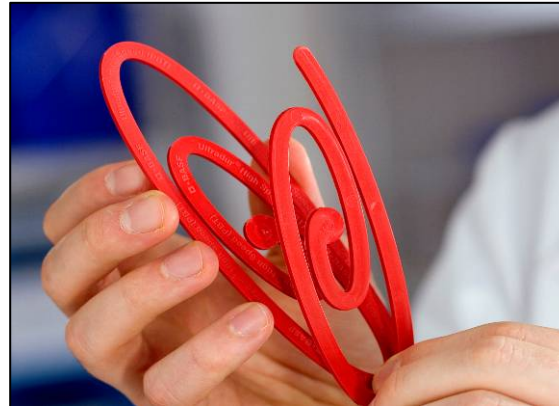
## BASF – The Chemical Company

- The world's leading chemical company
- Sales 2006: €52,610 million
- Income from operations (EBIT) 2006: €6,750 million
- Employees at year-end 2006: 95,247
- Our portfolio ranges from chemicals, plastics, performance products, agricultural products and fine chemicals to crude oil and natural gas.

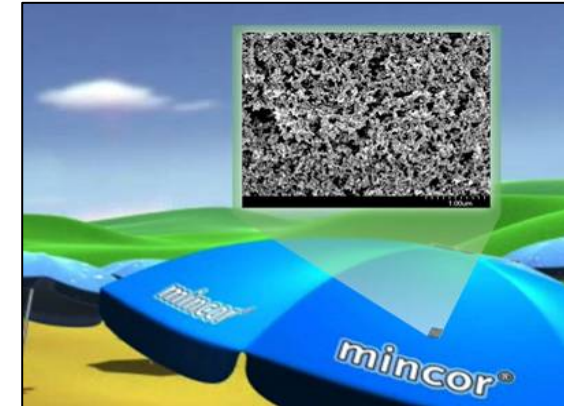
# Sales products: nano makes the difference



**adhesion**



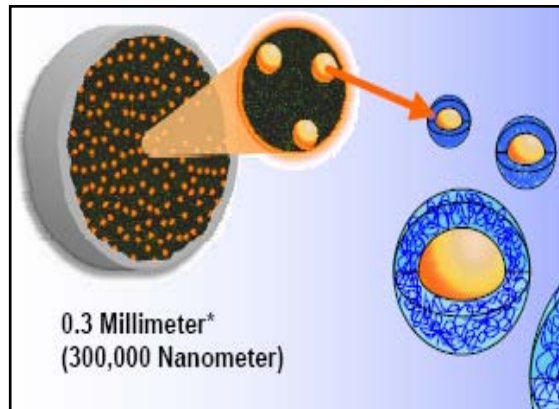
**eco-efficiency**



**self-cleaning**



**dirt-resistance**



**bioavailability**

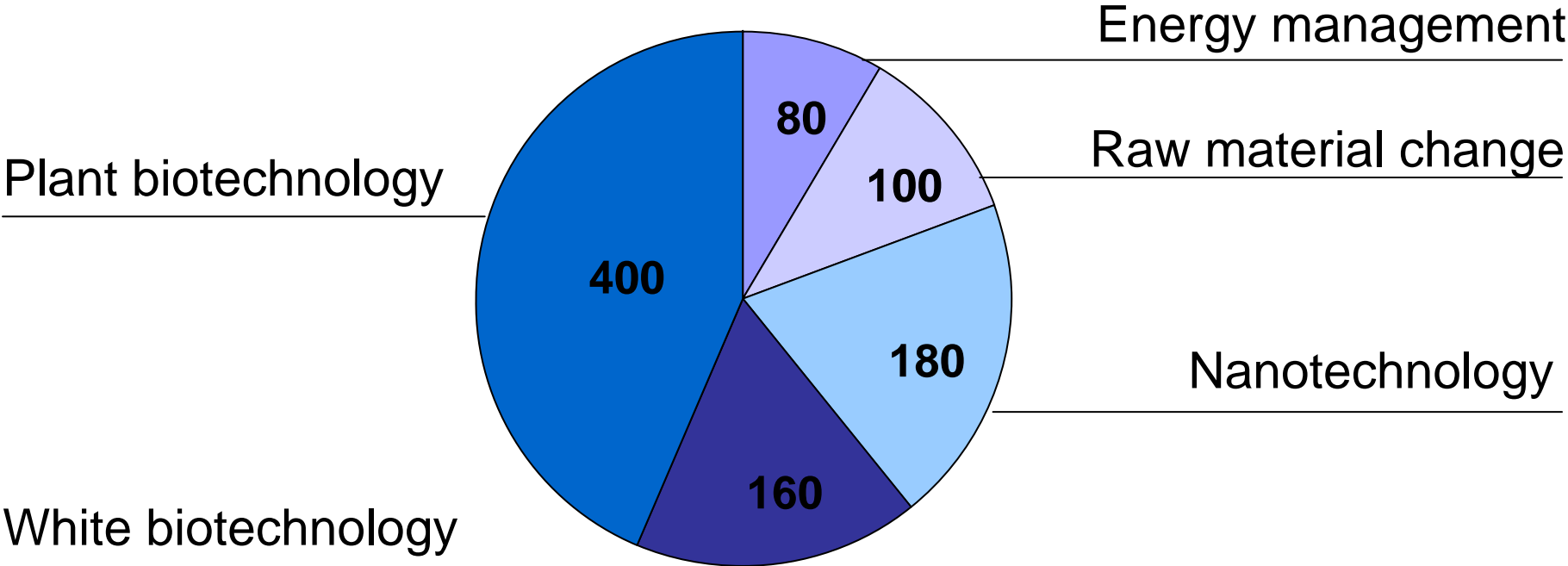


**sun protection**

# Nanotechnology: Focus area of BASF research



Cross-platform developments in growth clusters:  
2006 – 2008 of approx. €920 million



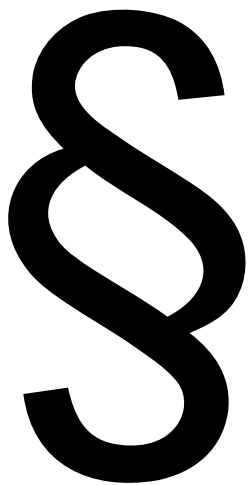
# The plenty of faces of nanotechnology



An integrated nanotechnologies innovation management includes a proactive environmental health & safety management.

The success of nanotechnologies will also largely depend on public perception and the political framework

# How about regulation and public perception?



**NGOs and consumer groups call for a strict regulation of nanotechnology. However:**

- Regulation prevents innovation and progress
- A regional limited regulation restricts competitiveness
- To-date toxicological results do not legitimate regulation

A Code of Conduct is the tool of choice, that maintains the necessary framework conditions for innovation and competitiveness. It is an option, where regulation is not possible and a commitment that makes a company accountable towards society and politics.

# Self-commitment instead of regulation: Code of Conduct Nanotechnology

■ The Code of Conduct is a voluntary commitment to responsible action based on our Values & Principles to:

- protect employees, customers and business partners
- protect the environment
- participate in safety research
- communicate transparently and contribute to the dialogue

The Code of Conduct gives guidance to all employees worldwide. It is published on the internet at:  
[www.basf.de/dialogue-nanotechnology](http://www.basf.de/dialogue-nanotechnology)

## Code of Conduct Nanotechnology

Along with offering opportunities, all new technologies also pose risks and this is true for nanotechnology, too. In order to tap into the opportunities offered by technological progress, we want to use new technologies when manufacturing innovative and market-grade products. Only on the basis of these concrete products can a rational assessment be conducted of the potential risks, compared with the opportunities, these products pose. This means that only the willingness to pursue opportunities and risks on a gradual basis will make innovations based on new technologies possible. As an innovative company, we have within this process a special responsibility towards our employees, customers, suppliers and society but also towards future generations. This code of conduct spells out the principles on which our work is based.

1. We, the employees of BASF, develop and use the potential of nanotechnology in order to manufacture products with enhanced performance or new properties using targeted production and the use of new, nanoscale materials.

- The protection of human life and the environment is a fundamental principle for our company.
- We identify sources of risk for our employees in our laboratories, production plants, packing facilities and storage facilities and eliminate these using the appropriate measures. In the event of any health and environmental hazards arising as a result of our operations, we take immediate action.

# Implementation of the Code of Conduct Nanotechnology: Occupational Safety

*„We identify sources of risk for our employees in our laboratories, production plants, packing facilities and storage facilities and eliminate these using the appropriate measures.“*

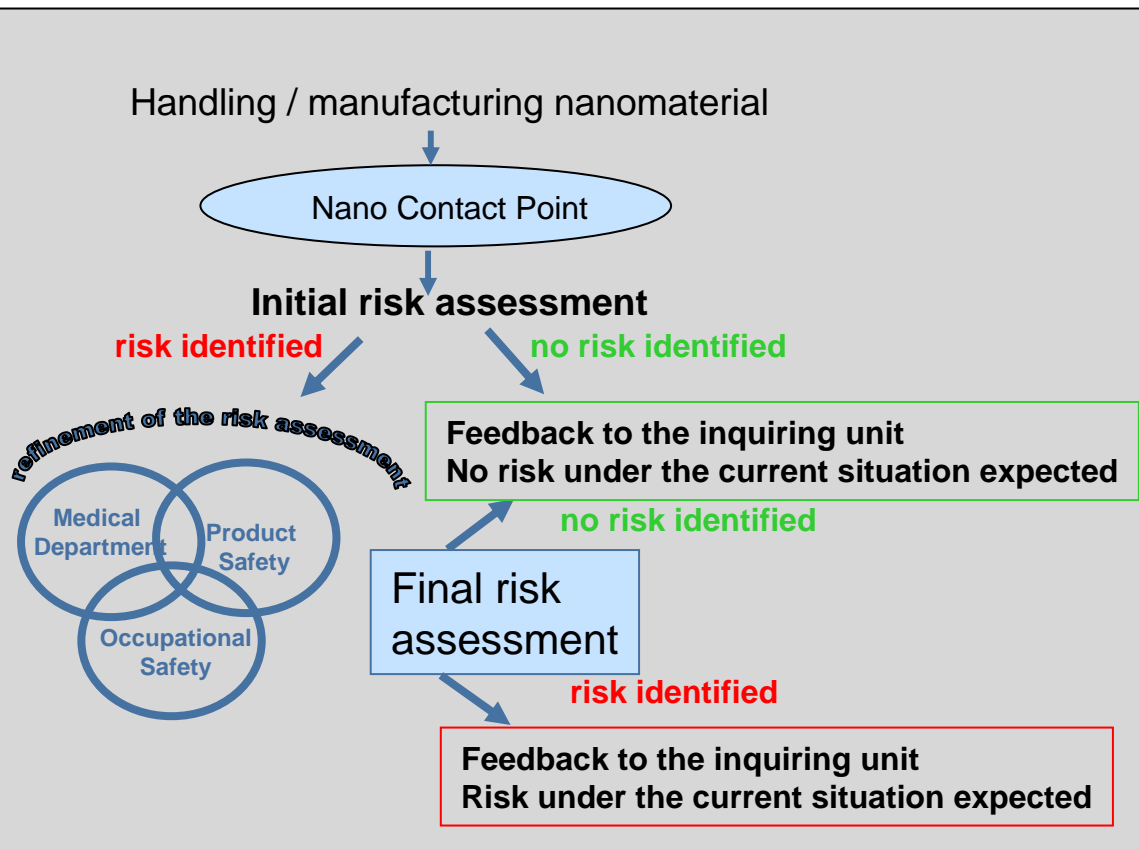
**To implement the occupational safety principles of our CoC, BASF has introduced a Guide to safe manufacture of nanoparticles at workplaces. Our approach is:**

- to work as far as possible in closed systems
- if this is not possible, technical and organisational measures are taken
- working areas subject to nanoparticle emissions are monitored by exposure measurements
- BASF contributes to the development of measurement methods



# Implementation of the Code of Conduct Nanotechnology: Nano Contact Point

## Central helpdesk for questions relating to the toxicology of nanomaterials:



- Newly introduced in 2006
- Helpdesk for all BASF units globally
- Initial risk assessment through experts from products safety and occupational health and safety
- Recommendations to the responsible business units

# Implementation of the Code of Conduct Nanotechnology: Communication in the supply chain

- As established tool the material safety data sheet (sds) is appropriate for the communication in the supply chain
- BASF started to include nanoparticle specific information into the sds
- Example Mincor® TX TT: BASF excludes spray applications
- The German Chemical Industries Association (VCI) is developing a guidance document for the handling of nanomaterials in sds.

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BASF Sicherheitsdatenblatt gemäß Verordnung (EG) Nr. 1907/2006  
Datum / Überarbeitet am: 14.08.2007  
Produkt: Mincor® TX TT

Version: 2.1  
(30279537/SDS\_TEX\_DE/DE)  
Druckdatum 15.09.2007

EU-Richtlinie 1999/45/EG („Zubereitungsrichtlinie“):

R-Sätze R62/53	Schädlich für Wasserorganismen, kann in Gewässern längerfristig schädliche Wirkungen haben.
S-Sätze S23,3 S61	Dampf/Aerosol nicht einatmen. Freisetzung in die Umwelt vermeiden. Besondere Anweisungen einholen/Sicherheitsdatenblatt zu Rate ziehen.

Gefahrenbestimmende Komponente(n) zur Etikettierung: KOKOSFETTDIETHANOLAMIN

Sonstige Vorschriften

Wassergefährdungsklasse (Anhang 4 der VwVwS (Deutschland)): (2) Wassergefährdend.

TEGEWA-Selbstverpflichtung zur Klassifizierung von Textilhilfsmitteln nach ihrer Gewässerrelevanz (TEGEWA-Selbstverpflichtung zur Klassifizierung von Textilhilfsmitteln nach ihrer Gewässerrelevanz): (Klasse II) Abwasserrelevant.

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**16. Sonstige Angaben**

Ungeeigneter Verwendungszweck: Sprühapplikation

Vollständiger Wortlaut der Gefahrensymbole und R-Sätze falls in Kapitel 3 unter 'Gefährliche Inhaltsstoffe' genannt:

Xn	Gesundheitsschädlich.
C	Ätzend.
N	Umweltgefährlich.
T	Giftig.
20/21/22	Gesundheitsschädlich beim Einatmen, Verschlucken und Berührung mit der Haut.
36/38	Reizt die Augen und die Haut.
22	Gesundheitsschädlich beim Verschlucken.
34	Verursacht Verätzungen.
50/53	Sehr giftig für Wasserorganismen, kann in Gewässern längerfristig schädliche Wirkungen haben.
23/24/25	Giftig beim Einatmen, Verschlucken und Berührung mit der Haut.
43	Sensibilisierung durch Hautkontakt möglich.
40	Verdacht auf krebserzeugende Wirkung.

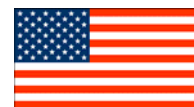
Senkrechte Striche am linken Rand weisen auf Änderungen gegenüber der vorangehenden Version hin.

# Implementation of the Code of Conduct Nanotechnology: Safety Research

*„We are actively involved in the ongoing development of a scientifically based database for the assessment of potential risks as well as in improving and refining product-based testing and assessment methods.“*



- Efo “NanoTox” and method development
- Efo “Aerosol Characterization”



- HESI / ILSI Nanomaterials EHS Program
- ACC Nanomaterials Voluntary Program



- NanoCare



- NanoSafe 2
- CellNanoTox

# Implementation of the Code of Conduct Nanotechnology: Safety Research

## Research issues:

Skin

Can nanoscale materials penetrate skin?

Lungs

How are nanoscale materials uptaken by the lungs and which effects do they have?

Body

How are nanoscale materials distributed in the body and which effect do they have?

Genetic Material

Can nanoscale materials damage the genetic material?

Environment

Do have nanoscale materials effects on animals and the environment?

Test Methods

How can the toxicity of nanomaterials be tested?

# Implementation of the Code of Conduct Nanotechnology: Transparency and Dialogue



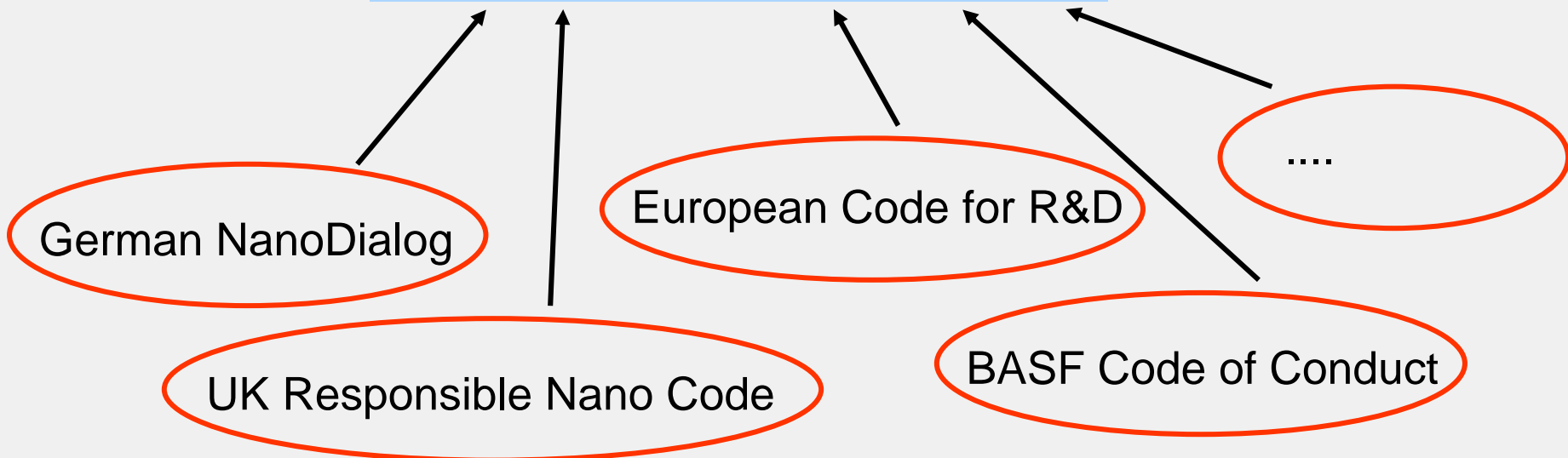
[www.basf.de/  
dialogue-nanotechnology](http://www.basf.de/dialogue-nanotechnology)

- BASF is proactively contributing to the political and public debate e.g. Kirchentag in 2007.
- The company is communicating transparently about its progress via internet, scientific publications, conferences and other multi-stakeholder events.
- For 2008 we are planning an stakeholder-dialogue with NGOs.

# The way forward: European Code of Conduct

- Code of Conduct is a suitable means behind the current economic, scientific and regulatory situation.
- Currently there are different Codes applied or under development.
- Goal must be: One Code for Europe jointly developed by all stakeholders

## European Code of Conduct



# Thanks to...

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- Carolin Kranz



... and you for your attention!