EU-US –
NSC - WG 5 - Risk

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Activities

• EU research projects working with Risk assessment and Intelligent Testing Strategies to various extend
• NanoSafety Cluster – regular face-to-face meetings with involved projects (incl RISK)
• Risk meetings coordinated by MARINA
• Half yearly update on progress from the project
Objective of Risk Group (WG5) in NSC

• To generate overview/coordinate activities in the development of risk assessment approaches and related intelligent testing strategy (ITS) for nanomaterials which supports regulatory decision making.

• To facilitate development of an integrated approach where human and environmental assessments are interlinked and mutually supportive.
Starting point

• Wide variability of nanomaterials: impossible to conduct full testing and risk assessment of each material and application.

• However, safety has to be demonstrated before introducing new nanomaterials in consumer or industrial products and processes.
Current status

• Current risk assessment – Physical chemical, exposure, hazard and risk


• ITS nano (2013) Research Prioritisation to deliver an intelligent testing strategy for the human and environmental safety of nanomaterials.
Basics blocks

KINETICS/MODE OF ACTION

MATERIALS

EXPOSURE

HAZARD

MODELS

RISK

MANAGEMENT

ITS-RISK

MARINA
Conceptual

MARINA, workshop April 2013
Workshop report open for comments via NSC-website soon.
MARINA future work

- Conceptual work on grouping (ranking etc) of nanomaterials.
- Conceptual work on a risk assessment strategy (previous slide is part of ongoing work).
- Identification and evaluation of potential tools and methods that can be used in the risk assessment strategy.
- Integration of environmental and human health risk assessment strategy.
Integrating Research Priorities

Exposure ID

Grouping

Ranking

Implementation

Hazard ID

ITS NANO

PC ID
NSC - Risk prediction tools

- Prediction of hazard/tox + release/fate exposure models
- RA-enabled LCA/Integration in decision tools
- Development and validation high throughput screenings approaches to enable ‘high concern grouping approach’ in risk banding tools to identify potential hot spots for risk and to enable read across.
- Testing and calibration and further development of risk prioritization (or banding) tools
- Quantification of exposure reduction effectiveness.

2012  2015  2020
Grouping

different surface chemistry / activity

different materials

different shapes

different size

solubility, release of ions

NSC/Oomen et al 2013
Risk Implementation

Data generation (Hazard & Exposure)

Data collection, interpretation and integration

RA method development & Risk management

Risk Characterisation and Risk Assessment

Integration into Legal Framework

Information Collection and Management

Interpretation of Data

Decision making

Grouping / Ranking Procedures

Integration of Data

Decision Tree(s) for Testing/Monitoring

Use of historical data

Weight of Evidence

Develop Standard Harmonised Approach for RA

Data Quality
NSC - RISK Group procedures

- Teleconferences 3-4 times a year
- Face-to-face meetings at NSC
- Abstract from project in a 6 m report

- Exchange information with US-EU

Format?