



Dialogue guide

Occupational safety and health aspects for
handling nanomaterials

Supplementary item No 5



Imprint

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The responsibility for the contents of this publication lies with the authors.

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DIALOGUE GUIDE FOR OCCUPATIONAL SAFETY AND HEALTH ASPECTS FOR HANDLING NANOMATERIALS (NM)		
Company / Institution:	Contact data: Contact person:	Date:

Question 1: Are NM

- Produced
- Processed
- Released during production / processing

in your company / institution?

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Question 2: How many employees come into contact with NM in your company / institution?

- < 10
- 10 to < 50
- 50 to < 100
- ≥ 100

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Question 3: In which form are the NM produced / processed / released?

- Fiber
- Dust
- Aerosols
- Liquids

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Question 4: Which NM is (are) produced / processed / released during the working procedures?

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Question 5.1: What is the quantity of NM handled on a daily basis?

- g/day (ml/day)
- kg/day (l/day)
- t/day (m³/day)

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Question 5.2: What is the quantity of NM handled on a yearly basis?

- g/year (ml/year)
- kg/year (l/year)
- t/year (m³/year)

**Question 6.1: Are MSDS for the produced / processed nanomaterials available in your company?
(Can the MSDS be shown? Can they be delivered? Are they accessible for all employees?)**

- Yes
- No

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Question 6.2: Do the MSDS refer specifically to NM?

- Yes
- No

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Question 6.3: Do the MSDS contain the following information?:

- Does the classification of the hazardous properties (see below) refer specifically to the nanoscaled form?

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Are threshold values for alveolar dust (A- dust) and / or particle number concentration?

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Morphological information (form, structure, i.e. is it for example a stiff fiber...)

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Solubility in water (g/l range → well soluble, below 100 mg/l → insoluble)

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Information about dustiness / dust number

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Information about human toxicity

- Acute toxic (R23, R24, R25; H301, H311, H331)
- Chronic toxic (R48)
- Carcinogenicity (carc. 3) (R68)
- Irritating to skin (R38; H315)
- Sensitisation by inhalation (R42, R43; H317)

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Question 7: Do you include NM safety information in training courses and occupational-medical and toxicological advice?

Yes No

Are there any specials?

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Question 8: Which of the following operations are performed on NM?

1. Mixing and dispersion

⋯⋯ **Control guidance sheet 215:** Mixing of solids with other solids or liquids (additional measures)

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2. Filling and bagging

⋯⋯ **Control guidance sheet 204:** Removing waste from a dust extraction unit (additional measures)

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3. Charging and decanting

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4. Weighing

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⋯⋯ **Control guidance sheet 214:** Weighing solids (additional measures)

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5. Spraying

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6. Coating (of surfaces)

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7. Other

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⋯⋯ **Control guidance sheet 240:** Dust workplaces (principles)

Question 9: Which of the following protection measures are used when handling NM?

Technical protection measures – ventilation:

- Function and efficiency is regularly inspected, at least once per year.
- Before starting work the ventilation is switched on and tested.
- The ambient air movement is across or away from the employee.
- Is data on the amount of alveolar dust (A- dust) and / or particle number concentration at the workplace available respectively does data on the fibre amount exist?
 - Yes
 - How high was the exposure?
 - No

Which of the following technical measures are used when working with NM?:

- Local exhaust ventilation (LEV)
- Fume hood
- Glove box
- Safety cabinet

Which of the following technical measures are used when working with NM in form of aerosols:

- Closed facility
- Closed spray booth with automated change of moulded par
- Open spray booth, the spray dusts are captured by exhaust ventilation
- If spraying is performed manually, the spray lance is as long as possible. The drop size is preferably >100 µm (no inhalable mist)

... Control guidance sheet 100: General ventilation (minimum requirements)

... Control guidance sheet 200: Local exhaust ventilation (source extraction) (additional measures)

... Control guidance sheet 301: Glove box (closed system)

Technical protection measures - processes:

- Low-dust drop and dump areas
- Low-dust processing and disposal methods

Organisational protection measures

- Hazardous substances are clearly labelled.
- Containers for waste disposal are clearly marked and labelled.
- Surfaces are easily cleaned.
- Possibilities for dust deposits are minimised.
- Wet cleaning is mandatory.
- Industrial vacuum cleaners are available.

Type of filter:

- M
- H
- Appropriate clean-up equipment for leaking or spilled agents are available and easily accessible.
- Cleansing wipes are not kept in pockets.
- Dusty protection clothes are not shaken out or blown off
- In case of dusty activities, only clean filtered air (filter type H) is recycled.
- Bulk goods and open containers are covered.
- Dusty agents are stored in closed containers.
- Basic occupational hygiene standards are adhered to.

🔗 **Control guidance sheet 110:** Inhalation – Basic Safety Precautions (Principles)

Personal protective measures:

- Instructions on how to use, maintain and properly store protective equipment, are readily available.
- Chemical-resistant gloves are used.

Type:

Protective equipment is correctly stored in a dedicated area.

Is protective clothing worn?

Material of protective clothing (if a high amount of material is handled)

Dust: Type 3

Aerosols: Type 4

Is a respirator used for short-term activities?

Type of respirator? Type of filter?:

P2 P3

FFP2 FFP3

Other
