QUESTIONNAIRE FOR COMPANIES

INFORMATION FOR EXPOSURE ASSESSMENT

This questionnaire is to be filled in during the information visit together with the Company manager and/or, when applicable, with the Health & Safety specialist. It must be completed for all nanomaterial used, manufactured, and/or handled. To improve risk assessment, it is best to have as much information as possible.*

INFORMATION RELATED TO THE COMPANY	
COMPANY	Write the company name
ADDRESS	Write the address workplace
MAIN ACTIVITY	Write the company main activity
NUMBER OF WORKERS - ***In total on this site*** - ***Handling nanomaterials*** - ***Non-exposed (admin., etc)***	 Write the number of workers Write the number of workers Write the number of workers
DATE ***(Info.visit)***	Clic and choose

**This version is adapted from the questionnaire developed by ITENE.*

A. INFORMATION ON ACTIVITY WITH NANOMATERIALS (NMs)

A.1 ACTIVITY RELATED TO NMs

☐ Manufacturer
☐ Downstream user
☐ Research and development (R&D)
☐ Maintenance of facilities with NMs

A.2 QUANTITIY OF NM PRODUCED OR USED

Write quantity of NM produced or used: kg/year, g/month, g/week….

A.3 MANUFACTURING PROCESSES AND OPERATIONS RELATED TO NMs

☐ Manufacturing:

Describe the manufacturing processes such as pirolisis, electrospinning…

☐ Handling:

Describe the handling such as creation of mixtures, spraying, extrusion, machining of materials containing NMs…

☐ Maintenance of facilities with NMs:

Describe the tasks and facilies with NMs, such as cleaning…

A.4 DETAILED PROCESS DESCRIPTION

Type: ☐ Continuous
☐ Discontinuous
☐ Discontinuous regular

Automation: ☐ Automatic
☐ Semi-automatic
☐ Manual

Temperature: [°C] Clic and write.

Flow diagram *(describe and/or draw)*

A.8 ADDITIONAL OBSERVATIONS

Clic and write.

B. NM PROPERTIES / TOXICOLOGY / ECOTOXICOLOGY

B.1 PHYSICO-CHEMICAL PROPERTIES OF THE NMs

Shape:
Clic and write.

Size:
Clic and write.

Surface area:
Clic and write.

Solubility:
Clic and write.

Is it functionalized or treated?
Clic and write.

B.2 TOXICOLOGY OF THE NMs

Is the toxicology of the NMs known? Choose option
If 'No', go directly to question B.3

Acute inhalation toxicity:
Clic and write.

Acute dermal toxicity:
Clic and write.

Acute toxicity by ingestion:
Clic and write.

Genotoxicity:
Clic and write.

Cytotoxicity:
Clic and write.

B.3 ECOTOXICOLOGY OF THE NMs

Is the ecotoxicology of the NMs known? Choose option
If 'No', go directly to question B.4

Acute ecotoxicity in fresh water:
Clic and write.

Bioaccumulation:
Clic and write.

Ecotoxicity in invertebrate soil organisms:

Clic and write.

B.4 LIMIT VALUE (Occupational Exposure Limits; OELs)

☐ Unknown
☐ The OEL is: Clic and write.
Source: Clic and write.

B.5 ADDITIONAL OBSERVATIONS

Clic and write.

C. NM-RELATED TASKS AND WORKING AREA

C.1 TASK DESCRIPTION

Description of the NM-related task:

Clic and describe.

Number of workers involved in the task: Clic and write.

Duration of the task within the day: Choose.

Number of repetitions of the task within the day: Clic and write.

Frequency of the task: Choose.

Quantity of product used in the task:
- ☐ [mg] clic and write.
- ☐ [g] clic and write.
- ☐ [kg] clic and write.
- ☐ [t] clic and write.
- ☐ [mL] clic and write.
- ☐ [L] clic and write.
- ☐ [m^3] clic and write.

Level of energy applied to the task:
- ☐ High[1]
- ☐ Medium[2]
- ☐ Low[3]

Distance from the worker to the source of emission [m]: Clic and write.

C.2 DESCRIPTION OF THE WORKING AREA

Working area: Choose option

Dimensions of the working area:
Length [m]: clic and write.
Width [m]: clic and write.
Height [m]: clic and write.

Number of workers in the working area: Clic and write.

Other task(s) performed in the working area (near task(s) at risk for NM exposure):

Clic and write.

[1] Mechanical mixing at high speed, pouring of product from big bags, spraying of products using high pressure or spray paint, boiling of liquids, mixing of products at high speed.

[2] Manual pouring of bags, mechanical mixing at low speed, fast and careless diving, aeration tanks, electroplating.

[3] Precise, slow and controlled dives; manual mixing or sieving of the product.

Diagram / graph or the working area[4] *(describe and/or draw)*

Clic and write.

C.3 ADDITIONAL OBSERVATIONS

Clic and write.

[4] Indicate where the emission focus of the nanomaterials, the worker, the control measures adopted, the secondary sources of nanomaterials and the measuring equipment used are located

D. CONTROL MEASURES

D.1 EXTRACTION / EMISSION

Type of isolation / confinement: Choose

Segregation[5]: Choose.

Emission reduction: ☐ Wet methods:
Clic and write
☐ Establishment of procedures:
Clic and write
☐ Observations:
Clic and write

Localized extraction: ☐ Integrated (into the machine / tool):
☐ Biological safety cabinet: Choose the type.
☐ Laminar flow cabin
☐ Fume hood
☐ Suspended hood
☐ None

Presence of filter: Choose.
➔ If 'yes', type of filter: Choose.

Regular inspection / maintenance of equipment: Choose.
➔ If 'yes', frequency of inspection / maintenance: Choose.

Capture speed: [m/s] Choose.

Description of air currents, ventilation and air-conditioning systems close to the extraction system:

Clic and write

Additional observations *(deflectors, flanges, dimensions, efficiency, etc)*

Clic and write

D.2 GENERAL VENTILATION

Type[6]: Choose.

Presence of filter: Choose.
➔ If 'yes', type of filter: Choose.

Air re-circulation: Choose.

[5] Segregation: separate the nanomaterial manipulation process from the rest of the processes

[6] Natural and mechanical ventilation

Operating flow (renewal per hour): Choose.

Description of air currents, ventilation and air-conditioning systems close to the ventilation system:

Clic and write

Additional observations:

Clic and write

D.3 TIDINESS AND CLEANLINESS[7]

Daily cleaning performed: Choose.

Cleanliness level: Choose.

D.4 ADDITIONAL OBSERVATIONS

Clic and describe cleaning procedure

[7] *Good*: Clean with proper procedures (HEPA filter aspirator). *Regular*: general cleaning practices. *Bad*: No specific practices

E. PERSONAL PROTECTIVE EQUIPMENT (PPE)

E.1 RESPIRATORY PROTECTION

Usage of any respiratory protection: Choose.
If 'No', go directly to question E.2

☐ Self-filtering mask: Choose.
☐ Mask or semi-mask with filter: Choose.
☐ Assisted ventilation equipment, mask with filter: Choose.
☐ Assisted ventilation equipment, hood or helmet with filter: Choose.

E.2 EYE PROTECTION

Usage of any eye protection: Choose.
If 'No', go directly to question E.3

☐ Universal frame glasses
☐ Facial screen
☐ Full frame glasses

E.3 CHEMICAL PROTECTIVE GLOVES

Usage of any chemical protective gloves: Choose.
If 'No', go directly to question E.4

☐ Disposable
☐ Use of double glove
☐ Material: Choose.

E.4 PROTECTIVE CLOTHING

Usage of any protective clothing: Choose.
If 'No', go directly to question E.5

☐ Disposable
☐ Type: Choose.

E.5 ADDITIONAL OBSERVATIONS *(Type of PPE not covered, etc)*

Clic and write.

F. ORGANISATIONAL MEASURES

F.1 INFORMATION AND TRAINING

Workers have been informed about the specific risks of NMs: Choose.
Workers have received training for the safe handling of NMs: Choose.
Workers have received training for the correct use of PPE: Choose.
The number of exposed workers has been limited: Choose.
A report has been done on the risk of NM exposure: Choose.
Workers' Respiratory Protection Equipment have performed the fit test: Choose.

F.2 ADDITIONAL INFORMATION

Clic and write.