Monitoring Action C1

C1 Define starting situation (baseline scenario)

Project acronym:	ECO-TEXNANO
Project full title:	Innovative tool to improve risk assessment and promote the safe use of nanomaterials in the textile finishing industry
Reference number:	LIFE12 ENV/ES/000667
Deliverable:	C1 Template of questionnaire on base line scenario
Version:	Final version
Associated Action:	C1
Action leader:	ITENE

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1. Introduction

The main goal of action C1 of the Ecotexnano project is to define the starting situation as a reference line to monitor the project implementation progress.

Present deliverable recompile the templates of developed and distributed questionnaires, employed in the monitoring action C1 of the Ecotexnano project.

With action C1 a base line scenario data was stablished based on different approaches. Among them, following questionnaires were used:

- One questionnaires sent in the scope of A2, regarding operative conditions and risk management measures applied in the industry when working with nanomaterials
- Two questionnaires sent in the scope of action C1, regarding knowledge and use on nanomaterials and knowledge on regulation affecting nanomaterials

Templates of each questionnaires are presented below.

2. Templates of questionnaires

In order to measure the starting degree of knowledge and implementation about the use of materials and substances at the nanoscale in finishing processes of textiles, as well as health, environment and safety, a compendium of questionnaires was developed and distributed among the main target audience of the project, including industrial companies, trade associations, policy makers and other stakeholders. These questionnaires were created in electronic support and sent by email.

2.1. Questionnaire about the use of nanomaterials in textile industry

Questionnaire regarding the use of nanomaterials in textile industry was developed in the scope of C1 task. The template is shown in Table 1.

Table 1. Template of questionnaire regarding the use of nanomaterials in textile industry.

Does your Company use Nanomaterials?	
	Response
Yes	
No	
If no, why?	**Response**
I don't know what nanomaterials are	
I don't see why we should use them	
I know that they may improve the properties of our products but we don´t use them because of the hazards associated with them	
Comments	

If Yes, what amount of nanomaterials does your company use every year?	
	Response
Less than 10 kg	
Between 10 and 100 kg	
Between 100 and 1 tonne	
More than 1 tonne	
What type of nanomaterials do you typically use?	
	Response
Silicon dioxide (SiO2)	
Titanium dioxide (TiO2)	
Zinc oxide (ZnO)	
Aluminium oxide (Al2O3)	
Diiron trioxide (Fe2O3)	
Triiron tetraoxide (Fe3O4)	
Zirconium dioxide (ZrO2)	
Cerium dioxide (CeO2)	
Calcium carbonate (CaCO3)	
Titanium nitride (TiN)	
Silicon carbide (SiC)	
Silicon nitride (Si3N4)	
Gold (Au)	
Silver (Ag)	
Platinum (Pt)	
Copper oxide (CuO)	
Cobalt (Co)	
Fullerenes	
Single-wall carbon nanotubes (SWCNT)	
Multi-wall carbon nanotubes (MWCNT)	
Carbon black	
Graphene flakes	
Graphite	
Nanodiamonds	
Nanocellulose	
Dendrimers	
Polymer nanoparticles, nanowires, nanorods	
Nanoclays	
Quantum dots (CdSe)	
Nanozeolites	
Other	
Comments	

With what type of fabrics do you use nanomaterials	
	Response
Plastic	
Natural fibres	
woven	
nonwoven	
other	
During what process (es) do you add nanomaterials to your products?	
	Response
Electrospining	
Coating	
Other	
Comments	
Are you aware of the hazards derived from the use of nanomaterials?	
	Response
Yes	
No	
Comments	
If yes what are protective measures that your Company has taken?	
	Response
Use of suitable eye protection and gloves	
Use suitable gloves tested according to EN374	
Use of chemically resistant gloves (tested to EN374) in combination with 'basic' employee training	
Use of chemically resistant gloves (tested to EN374) in combination with specific activity training	
Use of wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls	
Use of suitable gloves (tested to EN374) and eye protection	
Use of suitable respiratory protection (conforming to EN140 with type A filter or better) and gloves (type En374)	
Use of suitable respiratory protection (conforming to EN140 with type A filter or better) and gloves (type EN374)	
Use of respirator complying with EN140 standard fitted with type A filter or better	
Use of suitable gloves (type EN374) coverall and eye protection	
Use of full face respirator complying with EN140 standard fitted with type A filter or better	
Use of suitable coveralls to prevent skin exposure	
Workers wear rubber boots	

Use of respirator complying with EN 140 filter with type A/P2 filter or better	
Use of positive pressure air supplied respirator	
Use of full face respirator complying with EN140 standard with type A/P2 filter or better	
Comments	

2.2. Questionnaire regarding Operational conditions and existing Risk management Measures

As formerly mentioned, questionnaire regarding Operational conditions and existing Risk management Measures was created in the scope of action A2 of the project. The template is shown in Table 2.

Table 2. Template of questionnaire about the Operational conditions and existing Risk management Measures.

1. What does your company/institution do with nanomaterials?	
	Response
Produce	
Use (manufacturing articles or formulations)	
Release by processing other products	
Other	
Comments	
2. Physical form of the nanomaterials used/produce	
	Response
Powder	
Liquid	
Vapour	
Mist	
Gas	
Contained in an article	
Comments	
3. Nanomaterial concentration	
	Response
100%	
> 50%	
> 25%	
5 - 25%	
1 - 5%	
< 1%	
Comments	

4. To what extent are you handling nanomaterials?	
	Response
1 Kg/year up to < 5 Kg/year	
5 Kg/year up to < 10 Kg/year	
10 Kg/year up to < 50 kg/year	
50 Kg/year up to < 100 kg/year	
100 Kg/year up to < 1000 kg/year	
More than 1 Tn/year	
Comments	
5. Duration of use/exposure	
	Response
< 8 h	
< 4 h	
< 1 h	
< 15 minutes	
Comments	
6. Average numbers of days per week using nanomaterials?	
	Response
1	
2	
3	
4	
5	
6	
7	
Comments	
7. Number of employees handling nanomaterials	
	Response
<10 employees	
10 up to <50 employees	
50 up to <250 employees	
250 and more employees	
8. Technical and organisational conditions and measures	
	Response
Basic general ventilation (1-3 air changes per hour)	

Good general ventilation (3-5 air changes per hour)	
Enhanced general ventilation (5-10 air changes per hour)	
Local exhaust ventilation	
Indoor	
Outdoor	
Comments	
9. Conditions and measures related to personal protection (PPE used by workers	
	Response
Use suitable eye protection and gloves.	
Wear suitable gloves tested to EN374.	
Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.	
Wear chemically resistant gloves (tested to EN374) in combination with intensive management supervision controls.	
Wear suitable gloves (tested to EN374) and eye protection.	
Wear suitable respiratory protection (conforming to EN140 with Type A filter or better) and gloves (type EN374) if regular skin contact likely.	
Wear a respirator conforming to EN140 with Type A filter or better.	
Wear suitable gloves (type EN374), coverall and eye protection.	
Wear a full face respirator conforming to EN140 with Type A filter or better.	
Change filter cartridge on respirator daily.	
Use suitable eye protection.	
Wear suitable coveralls to prevent exposure to the skin.	
Wear rubber boots.	
Wear a respirator conforming to EN140 with Type A/P2 filter or better	
Wear positive pressure air supplied respirator if required by safe entry procedures.	
Wear a full face respirator conforming to EN140 with Type A/P2 filter or better.	
Comments	

10. Environmental protection measures	
	Response
All waste water is collected and treated via a WWTP	
Contain and treat vapors from stripping operations	
Dispose of waste or used sacks/containers according to local regulations	
Prevent leaks and prevent soil / water pollution caused by leaks	
Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan	
Other	

2.3. Questionnaire regarding Regulation knowledge in nanomaterials related industry

The questionnaire regarding Regulation knowledge in nanomaterials related industry was created in the action C1. The template is shown in Table 3.

Table 3. Template of the questionnaire about the Regulation knowledge in nanomaterials related industry.

1. What is the amount of ENMs that your company manufactures/handles?	
	Response
Less than 10 kg/year	
10 up to 100 kg/year	
100 up to 1 ton/year	
1 ton up to 10 ton/year	
More than 10 ton/year	
2. How would you describe your company's knowledge about REACH?	
	Response
Excellent	
Good	
Fair	
Bad	
None at all	
Comments	

3. Is your company required to register the nanomaterials you manufacture/import/use?	
	Response
Yes	
No	
Already registered	
Comments	
4. Please, answer if your company has nanomaterials already registered	
	Response
Registered as nanoforms	
Registered as nanomaterials itself	
Separate Chemical Safety Assessment was performed	
Comments	
5. What is your company's overall view of the current registration provisions and information requirements for nanomaterials?	
	Response
Very Clear	
Clear Unclear	
Very Unclear	
don't know	
Comments	

3. Conclusions

Templates of questionnaires presented in this deliverable were used in the scope of C1 task for surveying main stakeholders about:

1. Knowledge and use of nanomaterials;
2. Risk management measures and operational conditions employed;
3. Knowledge on regulation affecting nanomaterials

The aim of the surveys was to stablish a base line scenario regarding those topics.

The three developed questionnaires were created in an electronic support and sent by email to the main target audience of the project, including industrial companies, trade associations, policy makers and other stakeholders. Also telephone call were undertaken in order to improve the company's participation in the survey. Results from such surveys are presented in deliverable "C1. Baseline Scenario".