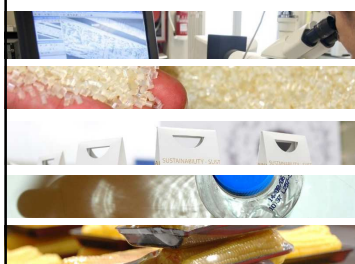


## Tools to support the chemical safety assessment of Nanomaterials under REACH: REACHnano toolkit



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JOIN WORKSHOP ON RISK ASSESSMENT & RISK MANAGEMENT STRATEGIES APPLIED TO NANOMATERIALS

2<sup>nd</sup> November, 2015  
INSHT, Madrid (Spain)




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

# 1. Web of Reachnano project



<http://www.lifereachnano.eu/>  
<http://www.lifereachnano.eu/>  
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<http://www.lifereachnano.eu/>  
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# 1. Web Reachnano project

REACHnano  REACHnano HELPDESK 

<http://www.lifereachnano.eu/>

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REACHnano  Development of a web based REACH Toolkit to support the chemical safety assessment of nanomaterials / LIFE11 ENV/ES/000549 

HOME PROJECT CONSORTIUM LINKS NEWS DISSEMINATION RESULTS HELP DESK CONTACT



The REACHnano project aims to provide the industry and stakeholders with easy-to-use tools to support the risk assessment of nanomaterials along their lifecycle.

TRANSLATE

ACCESS TO REACH TOOLKIT

[REACHnano Toolkit](#)

The main objective of the project will be a web-based toolkit, available for free to all European stakeholders.

**Easy-to-use tools to support the risk assessment of nanomaterials**

The REACHnano project aims to provide the industry and stakeholders with easy-to-use tools to support the risk assessment of nanomaterials along their lifecycle. It thus seeks to support the implementation of the REACH regulation with regard to nanomaterials and ultimately improve the protection of the environment and human health from risk.

[read more...](#)

LOGIN INTRANET

User Name







Password

Remember Me

[Forgot your password?](#)

[Forgot your username?](#)

CONSORTIUM

      with the financial support

## 2. REACHnano Tool



## 2. REACHnano Tool



✓ **Main functionalities:**

- I. **“Inventory”** give access to an on-line database containing information on nanomaterials
- II. **“Risk assessment”** This module give access to the environmental and human exposure risk assessment tool
- III. **“Data sharing”** gives access to the information sharing tool, where the user can introduce comments and new information to populate the inventory

✓ **Login:**

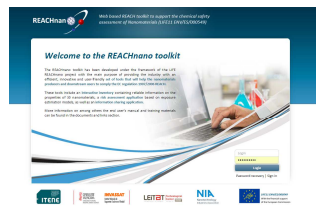
Each user may register for free to start using the tool, from the “Sign in” option

✓ **“Documents and links”**

Users can download help documents as manuals, guides, etc. and found links to websites of interest

**Note:** from web of the Project users can contact with the HelpDesk developer team for comments, suggestions, etc.

### 3. How to work with the REACHnano Tool



### 3. How to work with the Tool



#### 3.1. Access to REACHnano Helpdesk and Tool

#### 3.2. Registration

#### 3.3. Inventory

#### 3.4. Worker Risk Assessment

#### 3.5. Environment Risk Assessment

#### 3.6. Data Sharing

#### 3.7. Search tool

#### 3.8. Documents and links

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3. How to work with the Tool

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### 3.1. Access to REACHnano Helpdesk and Tool

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3. How to work with the Tool

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### 3.2. User's Registration

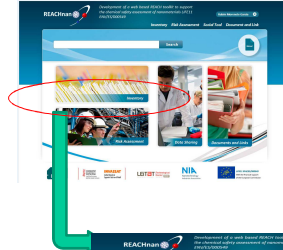
Each user may register for free to start using the tool, from the "Sign in" option

### 3. How to work with the Tool



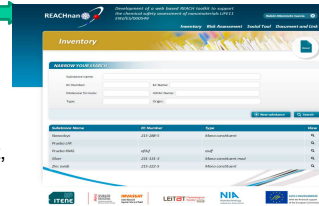
#### 3.3. Inventory

The inventory module give access to an on-line database containing information on nanomaterials properties, uses, exposure and applications. It has been developed to allow target audience to access, compile and consult relevant information of the most employed nanomaterials (30 NMs).



It is based on a metamodel whose main categories are:

- General information
- Classification and Labelling and PBT (persistent, bioaccumulative and toxic) assessment
- Manufacture, use and exposure
- Physical and chemical properties
- Environmental fate and pathways
- Ecotoxicological information
- Toxicological information

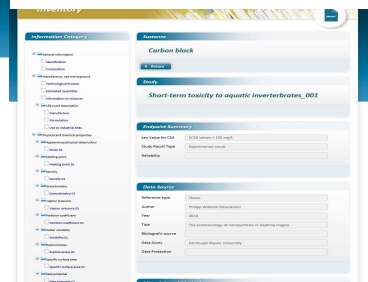
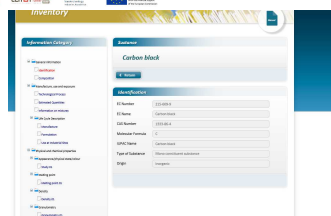
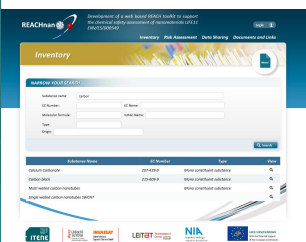


Each of these categories contains several sets of variables and sub-variables.

### 3. How to work with the Tool



#### 3.3. Inventory



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3. How to work with the Tool

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### 3.4. Occupational risk assessment tool

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3. How to work with the Tool

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### 3.4. Occupational risk assessment tool

The **occupational risk assessment tool** is based on a combination of control banding approaches, exposure estimation tools used in REACH, and new templates to be used for developing exposure scenarios in the case of nanomaterials

Users may estimate the exposure depending on the operative conditions and applied risk management measures. Once all the necessary data is introduced, the model estimates if one (or more) scenarios can be dangerous for the worker



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### 3. How to work with the Tool

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## 3.5. Environmental risk assessment tool

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### 3. How to work with the Tool

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## 3.5. Environmental risk assessment tool

The environmental risk assessment module is based on a probabilistic material flow analysis modelling approach (PMFA) based on Monte Carlo method.

The tool includes all stages of the Life Cycle of nanomaterials from manufacturing to waste treatment

the model estimates the release of nanomaterials from a specific production site to the air, water and soil compartment as a function of the initial amount.

Because of the paucity of information, these probabilistic models are commonly applied and accepted. In the probabilistic model, each flow is represented by a probability distribution rather than a fixed value.

Material	Risk Assessment	Probability of occurrence
nanomaterial - dust	<input checked="" type="checkbox"/>	<input type="checkbox"/>
nanomaterial - air	<input type="checkbox"/>	<input type="checkbox"/>
nanomaterial - water	<input type="checkbox"/>	<input type="checkbox"/>
nanomaterial - soil	<input type="checkbox"/>	<input type="checkbox"/>
nanomaterial - food	<input type="checkbox"/>	<input type="checkbox"/>
nanomaterial - waste	<input type="checkbox"/>	<input type="checkbox"/>
nanomaterial - other	<input type="checkbox"/>	<input type="checkbox"/>






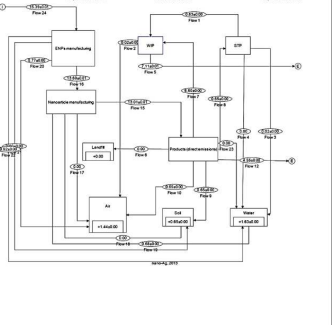
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### 3. How to work with the Tool

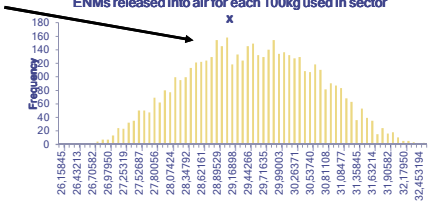




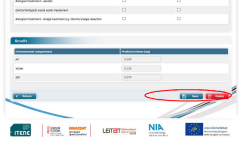


Users introduce tonnage and RMM and OC.

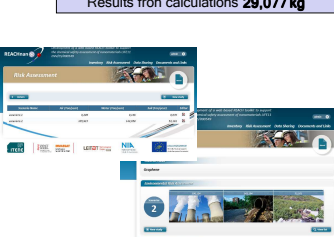
Once defined probability distributions, the model uses Monte Carlo method, combining each data of each probability distribution.

ENMs released into air for each 100kg used in sector





Results from calculations **29,077 kg**



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### 3. How to work with the Tool

#### 3.6. Data sharing







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### 3. How to work with the Tool

#### 3.6. Data sharing

This module gives access to the information sharing tool, where the user can introduce comments and new information to populate the inventory, as one of the principals Help desk REACHnano objectives is to promote the exchange of information.

Registered users may share documents with relevant information or data measured on different properties of nanomaterials in the inventory.

Once uploaded the information to the help desk for users, the management team validates the information and then makes available to the public.

Information will be available in the database section and in the specific endpoint screen. The nickname of the person and the date will be indicated comment.

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### 3. How to work with the Tool

#### 3.6. Data sharing

Substance Name	EC Number	Age	Category
Aluminium oxide	232-626-0	Minor constituent substance	
Carbon dioxide	201-428-0	Minor constituent substance	
Carbon black	232-459-0	Minor constituent substance	
Celastrol	232-474-0	Minor constituent substance	
Chloroform	201-474-0	Minor constituent substance	
Chalk	232-108-0	Minor constituent substance	
Copper oxide	232-289-0	Minor constituent substance	
Diethylene			
HAZOP	232-275-4	UNCL	
HAZOP	232-275-5	minor constituent substance	

**3. How to work with the Tool**

**3.6. Data sharing**

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**3. How to work with the Tool**

**3.7. Search tool**



The advanced search tool implement allows the user to find information quickly within the Reachnano Tool kit

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### 3. How to work with the Tool







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### 3.8. Document and links

Users can download help documents as manuals, guides, etc. and find links to websites of interest



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**THANK YOU FOR YOUR ATTENTION**

REACHnano  

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