



Brussels, 30th March 2012

To: World Health Organization

ETUC comments on the background paper proposing key questions to be addressed by WHO/NANOH Guidelines on Protecting Workers from Potential Risks of Manufactured Nanomaterials

The ETUC is pleased to be able to comment on the background document proposing key questions to be addressed by the WHO/NANOH Guidelines on Protecting Workers from Potential Risks of Manufactured Nanomaterials. Since 2008 the ETUC has been active in the nanotechnology discussions, and has published two Resolutions on Nanotechnologies and Nanomaterials, adopted by its Executive Committee in 2008 and 2010<sup>1</sup>.

The key issue for the ETUC is to guarantee the health and safety of workers who may be exposed to nanomaterials throughout the life cycle of the specific nanomaterial. Therefore the seven questions in the background paper must be addressed in sufficient detail, and a number of crucial issues will need to be further examined.

ETUC comments on the key questions in the guidelines:

#### 1.- Introduction

Workers around the world are exposed to nanomaterials, and the WHO proposal should be an inclusive guideline for all workers potentially exposed to nanomaterials globally.

The precautionary principle and its implementation have been mentioned, but what role will the precautionary principle play in the WHO guideline for controlling exposures to specific nanomaterials? And how will the guideline make the link with formal regulation?

#### 2.- Common manufactured nanomaterials

There is a challenge on identifying most widely used nanomaterials, several European countries are pursuing initiatives to set up nanomaterials registries, how will the guidelines take into account the data collected from those

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<sup>1</sup> ETUC 1<sup>st</sup> Resolution on Nanotechnologies and Nanomaterials: <http://www.etuc.org/a/5163>  
ETUC 2<sup>nd</sup> Resolution on Nanotechnology and Nanomaterials. <http://www.etuc.org/a/8047>



initiatives? The OECD list could be used as a starting point but it should not be the determining basis.

What is the form of the specific nanomaterial that workers are exposed to (free material, matrix-bound, solution-bound, etc.), and what are the routes of exposure that are of concern?

At what point in the life cycle of a specific nanomaterial are worker exposures of concern likely to occur?

How will this question help in terms of the traceability of nanomaterials throughout their life cycle?

### 3.- Hazard assessment

This process tends to generate different conclusions, depending upon whether or not the assessors also face the hazards. Therefore the one inviolable principle is that those facing the hazard, must be full participants in the assessment of it. In the absence of OELs for many nanomaterials, how will control banding be used to determine hazards or risks?

### 4.- Exposure assessment

There are indeed, very few workplace measurements of engineered nanoparticle exposures. How will the guidelines address the identification of workers potentially exposed to nanomaterials?

Will the guidance recommends establishing national registries of workers?

How will exposures be assessed, and are there alternatives to traditional exposure assessment techniques for nanomaterials that should be recommended as alternatives for low- and medium-income countries?

### 5.- Risk mitigation

In 2012, an international survey<sup>2</sup> of nanomaterials companies in 14 countries, reported “lack of information” as a significant impediment to implementing nano-specific safety practices. Those companies also reported practices that were inconsistent with widely available guidance and that nano-specific health and safety programs that were narrow in scope. Being aware of this situation, how will risk mitigation measures be evaluated?

What role will substitution play in the WHO guidelines?

Will the traditional hierarchy of controls be recommended for all exposure scenarios of concern?

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<sup>2</sup> Engeman, C et al (2012) Governance implications of nanomaterials companies' inconsistent risk perceptions and safety practices. J Nanopart Res 14:749



What role will respiratory protection and other forms of personal protective equipment (PPE) play in risk mitigation efforts, and will there be any distinction on the use of respirators and PPE in low- and medium-income countries?

Will the guidelines address worker protection issues that may arise from nanomaterial exposures resulting from accidents or process upsets and other emergencies?

Additionally, the ETUC believes that the WHO guidelines should consider the following key aspects to adequately fulfil the goal of protecting workers from the risks of nanomaterials:

1.- Adequate and periodic training for workers who may possibly be exposed to nanomaterials:

Workers should understand the hazards involved in working with nanomaterials, routes of exposure, methods used for controlling exposure, using respiratory protection, and work practices, as well as properly understanding the content of the Safety Data Sheets. Training should also address the upgrading of worker's skills.

2.- Long-term health surveillance:

Health surveillance and medical screening are important elements in assessing the health of exposed workers, and can serve to identify adverse health outcomes resulting from exposure. Based on the current toxicological evidence of some types of carbon nanotubes, the scientific literature recommends that there is a need for long-term health surveillance to protect workers exposed to nanomaterials, and for the compilation of exposure registers protecting workers' privacy and rights.

3.- Workers' participation in designing the WHO guidelines

In developing workplace guidelines, worker's participation is essential. How will workers' representatives be involved in developing the WHO guidelines?

4.- Re-evaluation and revision of the guidelines

Evaluating the effectiveness of any health and safety guideline is essential to determine whether workers are receiving the adequate protection that the guideline has been designed to deliver. The WHO guidelines should consider including some discussion about such a review. The inclusion of this will mean that users of the guidelines will understand the value of evaluating their



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implementation efforts, and can revise their programme as their review may warrant, so that workers can be protected.

Recalling the ETUC Resolutions on Nanotechnologies and Nanomaterials, the ETUC is willing to endorse the WHO guidelines only if workers' representatives are involved in their design and monitoring.