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AREAS OF DISCUSSION ABOUT WORK, RESOURCES FOR PREVENTION OF RISKS RELATED TO NANOMATERIALS

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The emergence of nanomaterials is generally considered to be a major technological revolution in many fields. This revolution is also associated with uncertainties about the effects of these new materials on human health and the environment. To date, there have only been a few SHS studies on risk management practices, neither in manufacturing nor in handling of nanomaterials within industrial units. The effects on professional practices are also slightly considered in terms of potential risks.

This intervention is therefore part of a research program "Building and managing the risks associated with nanomaterials in industry and research laboratories", whose objective is to explore ways of managing this emerging risk. This multidisciplinary research project involves prevention specialists (chemistry, metrology) and researchers in the social sciences (sociology, ergonomics). It leverages the partnership between two different laboratories: the National Institute for Research and Safety (INRS) and the laboratory PACTE (University of Grenoble).

This paper describes the ergonomic intervention performed at a technological transfer platform that aims to promote the nanostructured composites, from the raw material to the finished product, particularly carbon nanotubes. In the context of a platform extension project, this intervention analysed workers current practices to improve the existing conditions and provide insights in terms of organization of work, planning of workspaces, formalization of procedures, etc.

The methodology used was conducted in two phases:

- A first phase of comprehensive interviews and observations of work activities. It indicated that employees encountered a shared representation of the risks associated with nanomaterials ("dust", "ultrafine particles", "facilities designed for handling nanos") but were faced in their practices with many questions about the preventive measures to be taken.
- A second phase of accompanying the platform for the construction of a preventive approach by setting up four working groups (Protection Personal Equipment (PPE), flows, waste, maintenance). It expresses how discussion areas about work allow identifications of concrete actions for risks prevention. Indeed, collective exchanges promote exploration of the causes of difficulties in the handling of nanomaterials and looking for possible improvements.

The case-by-case approach called by nanomaterials involves exchanges places to collectively build solutions and action rules adjusted to the work context. These discussion areas about work promote the production between actors of local and revisable agreements and let work, for a while (Detchessahar, 2009).