Creating intermediate objects to find the prevention. Case of road work of coatings
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Introduction:
Workers who implement coated on the road surfaces sites are exposed to bitumen. Knowledge about the health effects of exposure to bitumen through inhalation and dermal involve uncertainties (IARC 2011).
This work is part of the ergotoxicology field (Garrigou and Peissel-Cottenaz, 2008; Mohammed Brahim and Garrigou, 2009), which aims to develop working models, tools and resources to prevent health risks for workers exposed to chemicals. The current model of chemical risks prevention at the workplace postulates that the use of barriers (standards, regulations, material) allows to face dangers. It does not propose any integrated prevention approach to find and act on the technical, organizational and human determinants of hazards. The objective of the study is to collectively build new solutions for prevention based on representations associated with risks related to the real work activity (Kouabenan 2008) among all stakeholders in the work situation.

Method:
A methodology coupling observational data with physical and physiological measurements was deployed. Using the Video Exposure Monitoring (VEM) which allows an awareness of the exposure, a knowledge-sharing on the work situation, sources of exposure and know-how (Rosen, 2005), we searched for a strong involvement of operators in the process.
First, we present to the operators a footage of their own work synchronized with the physical and physiological measures to initiate a reflective practice (Schön, 1983 Mollo and Falzon, 2004). Prevention specialists, decision makers and managers are also invited to watch a video editing synthesizing a working day on a construction site to collect their perceptions on risk.
In a second stage, video and measurement data are selected with operators and enriched with extracts of verbalizations produced during the interviews. This joint work aims to define an intermediate object (Trompette and Vinck, 2009) to serve as a medium of exchange between different professions (decision makers, prevention specialists, business owner, operators).

Results:
The first results show how the risks representations related to exposure to bitumen are heterogeneous between different professions. At all levels, even among business managers, there is a lack of information and partial knowledge about the products used. Field operators who poorly protect themselves from risk paradoxically take precautions to protect their family environment from exposure to product residues via their work clothes. The methodology used allowed access to representations of the domestic sphere on the basis of the discussion around the activity. These representations would not be activated in the professional sphere because they would be stopped by defensive ideologies.

Discussion:
These first results show that taking into account the risks representations among different professions is essential and innovative in order to permanently transform current practices for prevention. (Hambach et al., 2011). The intermediate object, as a shared framework, allows to debate on practices, to create a dialogue between different professional worlds (Beguin, 2004) and to carry out these changes.

Keywords:
Prevention, representation of risks, VEM, intermediate object, bitumen

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