Task O2/A1

DEFINING THE KEY SITUATIONS

Erasmus+

INTRODUCTION

One of the pillars on which the project was based was the creation of an interactive multimedia learning tool available to all workers in the stone sector, with the main objective of generating safe working environments for the use and application of nanomaterials to stone products. There is a wide lack of knowledge about the consequences of their use. The lack of information on the risks arising from the use of nanomaterials is mainly because the research and commercial development of these materials is moving much faster than the study of the health and safety problems they generate.

For this reason, it was necessary to develop a tool to raise awareness of the existing risks derived from the application and use of these nanocomposites, and to make available to the educational and professional community all the necessary training materials, as well as to take advantage of the different possibilities offered by new technologies as a means of dissemination and visualisation of the materials produced.

In response to the above, this report is included in the task *"O2-A1. Defining the key situations"*, corresponding to Intellectual Output 2 " *Guideline of risks, health and environmental prevention measures in safe production and use of nanomaterials in Stone Sector*" of the NanoSafe project has been created.

In this task, the key situations to be included in the 3D environments have been proposed. Previously, reports have been carried out considering the main risk situations in the stone sector and among them, a series of situations have been selected which can be seen below.

These situations have been selected to be included in the 3D animations.

The report and all the information about the project are available in the following url:

- NanoSafe project web: https://www.nanosafeproject.eu/

Consortium members: Deutscher Naturwerkstein-Verband e.V. (DNV), Bildungszentren des Baugewerbes e.V, Asociación Empresarial de Investigación Centro Tecnológico del Mármol, Piedra y Materiales (CTM), Scuola Edile CPT- Centro per la Formazione e la Sicurezza Edile di Padova, National Technical University of Athens (NTUA), Delta Materials and Innovation Solutions.

SITUATION 1. CUTTING STONES TO SIZE AT CONSTRUCTION SITE	
ASOCIATED RISKS:	Cuts Inhalation of dust Skin and eye contact

SITUATION 2. APPLICATION DEPENDING ON THE NANOPRODUCT AT FACTORY	
ASOCIATED RISKS:	Skin and eye contact Inhalation and genotoxic effects Inflammatory effect in the lung Progressive fibrosis

SITUATION 3. POURING OF NANOMATERIAL POWDER INTO A LIQUID MATRIX TO CREATE A MIXTURE	
ASOCIATED RISKS:	Respiratory hazard Skin and eye contact

SITUATION 4. LIQUID NANOMATERIAL APPLIED WITH A SPRAY-GUN ON A STONE MATERIAL SURFACE	
ASOCIATED RISKS:	Respiratory hazard Ingestion hazard Skin and eye contact

SITUATION 5. NANOMATERIAL FIXED IN A SOLID MATRIX WHICH IS BEING DRILLED	
ASOCIATED RISKS:	Respiratory hazard Ingestion hazard Skin and eye contact

SITUATION 6. NANOMATERIAL IN LIQUID MATRIX APPLIED WITH PAINT ROLLER	
ASOCIATED RISKS:	Respiratory hazard Ingestion hazard Skin and eye contact

SITUATION 7. DUST-AIR MIXTURES IN A FACTORY	
ASOCIATED RISKS:	Fire and explosion

	Respiratory hazard

SITUATION 8. NANO-WASTE MANAGEMENT ENVIRONMENTAL PROTECTION	
ASOCIATED RISKS:	**Respiratory hazard** **Ingestion hazard** **Skin and eye contact**

SITUATION 9. NANOMATERIAL APPLIED AS AN AEROSOL	
ASOCIATED RISKS:	**Respiratory hazard** **Ingestion hazard** **Skin and eye contact**

SITUATION 10. WASTE CLEANING OR DISPOSAL AFTER WORKING HOURS	
ASOCIATED RISKS:	**Respiratory hazard** **Ingestion hazard** **Skin and eye contact**