

## Accepted Manuscript

Title: Fast and simple assessment of surface contamination in operations involving nanomaterials

Authors: Alberto Clemente, Raquel Jiménez, M. Mar Encabo, M. Pilar Lobera, Francisco Balas, Jesus Santamaria



PII: S0304-3894(18)30902-6  
DOI: <https://doi.org/10.1016/j.jhazmat.2018.10.011>  
Reference: HAZMAT 19831

To appear in: *Journal of Hazardous Materials*

Received date: 10-7-2018  
Revised date: 1-10-2018  
Accepted date: 3-10-2018

Please cite this article as: Clemente A, Jiménez R, Mar Encabo M, Lobera MP, Balas F, Santamaria J, Fast and simple assessment of surface contamination in operations involving nanomaterials, *Journal of Hazardous Materials* (2018), <https://doi.org/10.1016/j.jhazmat.2018.10.011>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Fast and simple assessment of surface contamination in operations involving nanomaterials

Alberto Clemente,<sup>†</sup> Raquel Jiménez,<sup>†</sup> M. Mar Encabo,<sup>†</sup> M. Pilar Lobera,<sup>†‡</sup> Francisco Balas,<sup>†‡\*</sup> & Jesus Santamaria<sup>†‡\*</sup>

<sup>†</sup>Instituto de Nanociencia de Aragón (INA) – Universidad de Zaragoza, c/ Mariano Esquillor s/n, 50018 Zaragoza (Spain).

<sup>‡</sup>Networking Biomedical Research Centre for Biomaterials, Bioengineering and Nanomedicine (CIBER-BBN), c/ Monforte de Lemos 28, 28040 Madrid (Spain).

\*Corresponding authors.

### Highlights

- Surface contamination caused by handling nanomaterials was traced using fluorescently labeled 80-nm silica nanoparticles.
- Fluorescent silica nanoparticles granted high analytical sensibility, small sizes and high dispersability in aerosol phase.
- Below 100 ppm of fluorescent nanoparticles added to the aerosol matter allowed exposure assessment in wide contact surfaces.
- The appropriate illumination revealed the deposition zones, allowing a low-cost procedure for risk assessment tests.

### Abstract

Download English Version:

<https://daneshyari.com/en/article/11262831>

Download Persian Version:

<https://daneshyari.com/article/11262831>

[Daneshyari.com](https://daneshyari.com)