

# Risk Assessment of Nanomaterials

The **manufactured nanomaterials** present specific properties of great industrial interest. However, their possible effects on the health and environment are still largely unknown. GAIKER-IK4 gives an invaluable help for a responsible development of this kind of products through the following specialized services:

- ▶ **Use of control banding tools** to assess and manage risk of manufactured nanomaterials (MNM) when few or no information is available:
  - Identification of hot spots in the process
  - Identification of knowledge gaps
- ▶ **Identification of regulatory needs**
- ▶ **Hazard evaluation:**
  - Physico-chemical analysis: TEM, SEM, DLS, Z-potential
  - *In vitro* toxicological evaluation to assess risk:
    - Mutagenicity (OECD 487 and 476)
    - Dermal irritation, corrosion (OECD 431, 435, 439)
    - ROS (different exposure routes)
    - Phototoxicity (OECD 432)
    - Inflammation
    - *In vitro* inhalation toxicity (aerosol exposure)
- ▶ **Life cycle assessment (LCA)**
  - Evaluation of the environmental profile of nanomaterials
  - Identification and analysis of the impacts related to the Life Cycle Assessment of the MNMs



