

GLPs since
1998

Gaiker

MEMBER OF
BASQUE RESEARCH
& TECHNOLOGY ALLIANCE

Customized
advice

Large
experience
acquired
through EU
projects

NANOMATERIAL RISK ASSESSMENT

Manufactured nanomaterials (MNM)s have specific properties of great interest to industry. However, **the effects they may have on human health** are not yet very well known. GAIKER provides valuable support for the **responsible development** of these types of products. Our toxicological strategy for nanoparticles takes into account:

- Final application
- Human exposure routes
- Type of exposure (acute or chronic)

Drugs
Cosmetics
Chemicals
Industrial products

Safe-by-design products

- Use of control banding tools to assess and manage the risk of MNMs:
 - Identification of hot spots in production processes
 - Identification of knowledge gaps and safety recommendations
- Advice on regulatory aspects
- Life cycle analysis:
 - Evaluation of the environmental profile of the MNMs
 - Identification and analysis of the impacts associated with the life cycle of MNMs

Product safety assessment

- Physico-chemical analysis: TEM, SEM, DLS, Z-potential
- *In vitro* toxicological evaluation:
 -  Mutagenicity (OECD 487 y 476)
 -  Skin irritation and corrosion (OECD 431,435 y 439)
 -  Eye irritation (OECD 491)
 -  Oxidative stress
 -  Phototoxicity (OECD 432)
 -  Inflammatory effect / Immunotoxicity
 -  *In vitro* inhalation toxicity (lung epithelium exposure to aerosol)
 -  Interaction with / Absorption through physiological barriers

Partner with proven EXPERIENCE

- We follow current OECD recommendations
- Experience in working-groups of the European NanoSafety Cluster
- Experience in European and regional projects:



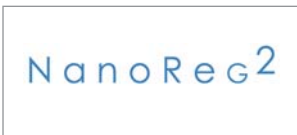
2020-2024. Development of an integrative and interactive platform to guide the industry in the development of safer nanomaterials and nanotechnology products. www.sabyna.eu



2019-2023. Establishment of a risk governance framework for nanotechnology. www.nanorigo.eu



2016-2019. Calibration, performance verification and implementation of nanomaterial risk management tools. www.nanocalibrate.eu



2015-2019. Development and implementation of grouping strategies and safe design with a regulatory perspective. www.nanoreg2.eu



2013-2017. Development of a European strategy for the toxicological and physicochemical characterization of nanomaterials within the legislation.



2012-2014. Prevention and management of occupational risks derived from exposure to nanoobjects, their aggregates and agglomerates (NOAA).

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