



RÉPUBLIQUE FRANÇAISE

Liberté
Égalité
Fraternité

FASHION & LUXURY



BEAUTY

MANUFACT.



HEALTH



INTERNATIONAL



LABORATORIES



AND TECHNOLOGICAL
PLATFORMS

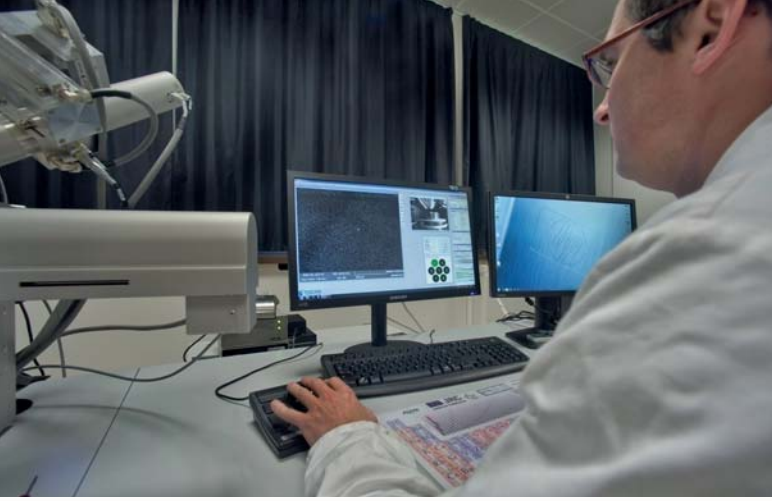


Nos SOLUTIONS

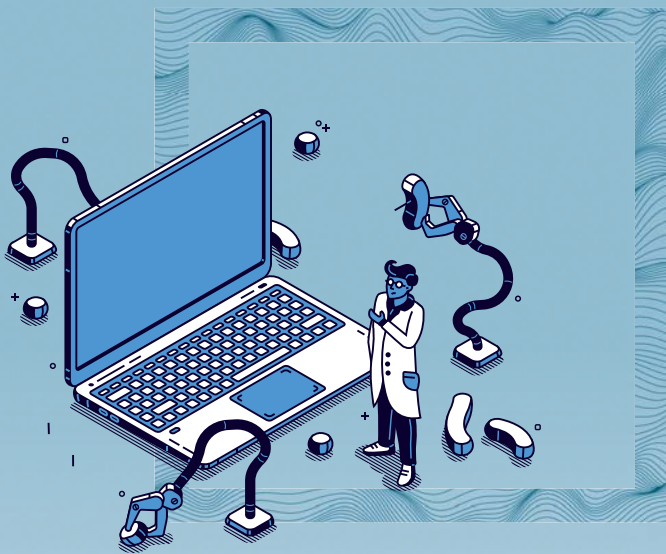
Analysing the minerals in your cosmetic and pharmaceutical products

Would you like to be able to characterise and qualify the raw materials in your cosmetic and pharmaceutical products? Find out more about their origins, crystallochemistry, morphology and stability? Remove all traces of foreign bodies that might come from the production lines? Analyse any packaging defects?





*Scanning electron microscope (SEM) analysis and crystallographic characterisation of minerals.
© BRGM – Laurent Mignaux*



YOUR ISSUES AND NEEDS

The quality and CSR requirements to be met by cosmetic and pharmaceutical companies sometimes involve specific analyses of mineral raw materials in order to demonstrate that they are both safe and compliant. These analyses demand a high level of expertise.

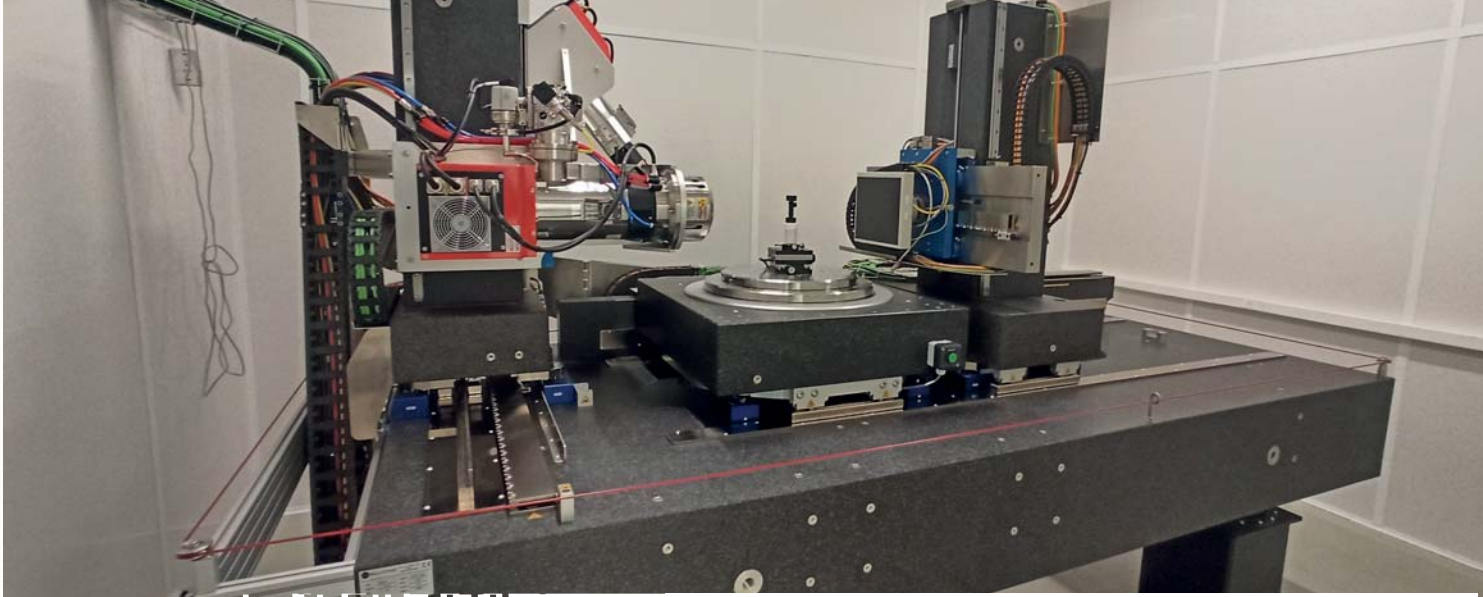
OUR **ADDED VALUE**

BRGM has sixty years of experience in providing analyses and services of high technical added value and proven reliability in the field of geosciences and the environment. Through its cutting-edge analytical skills and platforms, it is able to develop new analytical techniques and protocols tailored specifically to your needs in order to:

- **Characterise the physico-chemistry of the mineral raw materials in products** made by manufacturers or subcontractors, whether these materials are of natural or synthetic origin (powders, amorphous silica, nanoparticles).
- **Trace the origin of the mineral raw materials** by isotope or mineral characterisation of major and trace elements (e.g. for gold, pigments, beads, etc.).
- **Determine the origin of any foreign bodies present in products**, either from the production line or from the raw materials.
- **Understand the causes of any packaging defects** on the bottle (visual defects, corrosion, etc.).



Automorphic rough rubies measuring 2 and 3 mm in diameter respectively, viewed under a binocular loupe (Sri Lanka, 2013). © BRGM - Delphine Bruyère



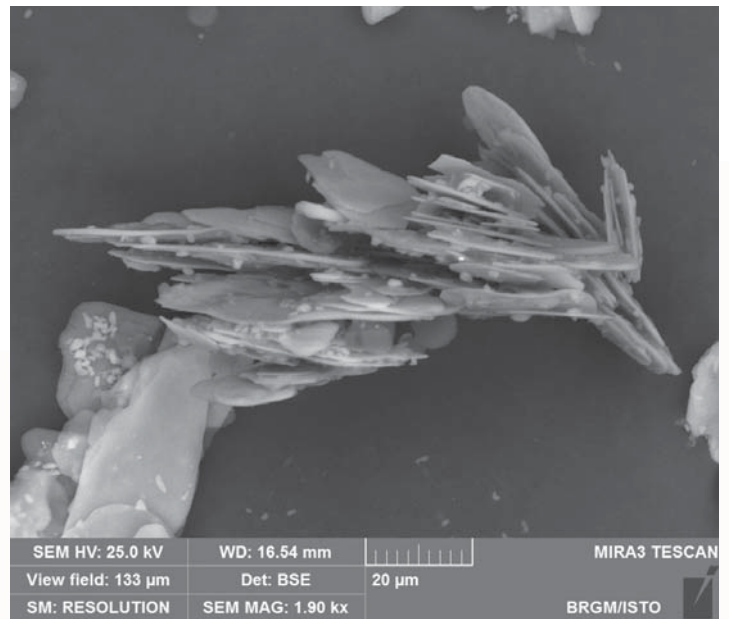
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*MIMAROC, the micro-tomography platform designed to explore the reactivity of geo-materials under stress (Orléans, 2022).
© BRGM – Madjid Bouzit*

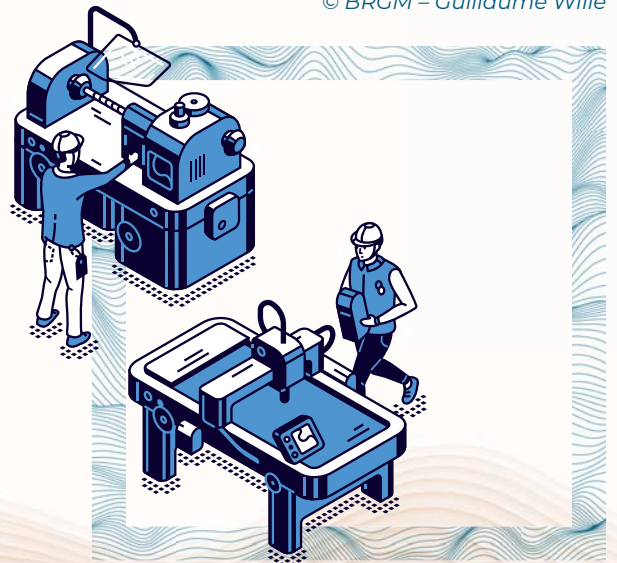
TOOLS AND PLATFORMS

BRGM provides an extensive and innovative range of analytical capabilities dedicated to the cosmetic and pharmaceutical industries:

- Microscopy and microanalysis:
 - light microscopy,
 - SEM scanning electron microscopy (imaging of morphology, topography, chemical composition and crystallography),
 - SEM-Raman,
 - cryo-microscopy (biological samples, pastes, etc.),
 - EDS (chemical microanalysis),
 - EBSD (crystallography),
 - electron microprobe,
 - high-resolution analytical TEM/STEM.
- Infrared spectroscopy (reflection and transmission, field effect silica concentration).
- X-ray diffraction (qualitative and quantitative analysis, XRD of clay, controlled atmosphere and temperature experiments).
- Chemical analysis (FluoX, ICP-MS).
- BET specific surface area analysis, particle size analysis (laser granulometry).
- Thermal analysis: ATG, DSC.
- μ -tomography.
- Isotope platform.



*Purple eye shadow under the scanning electron microscope (SEM).
© BRGM – Guillaume Wille*



ACCREDITATION

BRGM's laboratories are ISO 17025 accredited by COFRAC.



EDUCATION & TRAINING,
one of BRGM's missions

BRGM helps to develop scientific and technical skills through both "off-the-shelf" and "tailor-made" training courses, provided by its specific professional training branch: BRGM Formation.

Training course themes :

Geology | Sustainable management of groundwater resources | Mineral resources and circular economy | Environment, land-use projects | Energy transition and underground space | Natural risks, impacts of climate change.



Geoscience for a sustainable Earth

brgm

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