



## Internship DRX 2020

### ARKEMA:

As France's leading chemist and a major player in world chemistry, ARKEMA invents the chemistry of tomorrow every day.

A modern and responsible specialty chemical company focused on innovation, which provides its customers with concrete solutions to meet the challenges of climate change, access to drinking water, the energies of the future, the preservation of fossil resources and the reduction of materials.

As part of our development projects, we offer a 6-month internship.

You will be located within the Lacq Research Group (140 people).

You are a 3rd year graduate of an engineering school/university Master's degree or equivalent in mineral and/or analytical chemistry.

You have good dialogue skills and enjoy teamwork.

**You are open and autonomous.**

### Context & environment:

Clays are used in many industries such as ceramics, paints, adsorbents etc.

The analysis of clay phases and other crystalline phases such as quartz or titanium is quite complex, especially in the presence of zeolite.

X-ray diffraction (X-ray diffraction) allows rapid mineral identification and reveals detailed information about the chemical composition and crystallographic structure of the samples: raw materials (clay, zeolite) as well as adsorbent containing clay in mixture with zeolite.

### Main missions:

The objective is to further develop a protocol for qualitative and quantitative analysis by DRX of different types of clay (kaolin, palygorskite, etc.) alone or in mixture with zeolites.

Under the responsibility of the laboratory engineer, you will be responsible for the following tasks:

- Bibliographical research
- Development of the preparation and processing protocol according to the type of sample.
- Qualitative analysis / identification of the phases involved.
- Impact of the matrix used for standards in the method of external quantification of certain phases such as crystalline silica, titanium, etc.
- Statistical analysis of the results: measurement accuracy and precision, r&R study, quantification (Rietveld method) /detection limits (QL/DL).
- Preparation of technical and research reports.
- Participation in the management of laboratory safety and quality.

## Contact:

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