

THE BELGIAN NANOREGISTER IN FIGURES TRADE YEAR 2018

S. Mathioudaki, E. Verleysen, J. Mast

Service Trace Elements and Nanomaterials, Sciensano, Brussels, Belgium

Background

The Royal Decree concerning the placing of substances produced in nanoparticulate state on the market was signed on the 27th May 2014. Applicants provide the physicochemical characterization of the nanoparticulate material they produce and/or trade, which includes:

- particle size and shape
- agglomerates and aggregates
- coating
- Impurities
- crystallographic structure
- surface charge

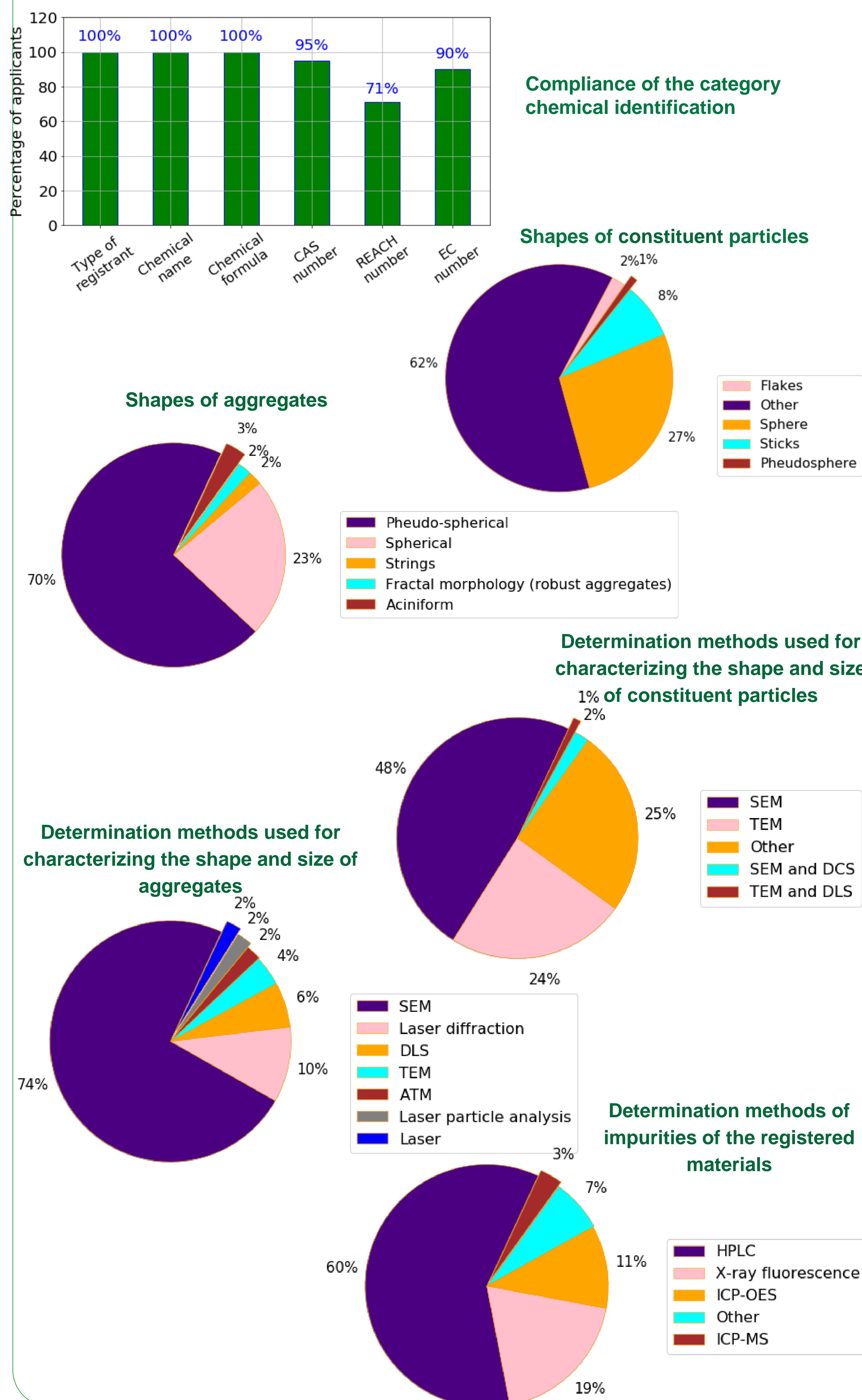
Sector of use and quantity of the materials in nanoparticulate state have also to be reported.

Registrations

Submission of **540** registrations during the trade year 2018

- **100** complete (including physicochemical characterization)
- **424** limited (referring to a previous registration)
- **16** simplified (only declaration of honour)

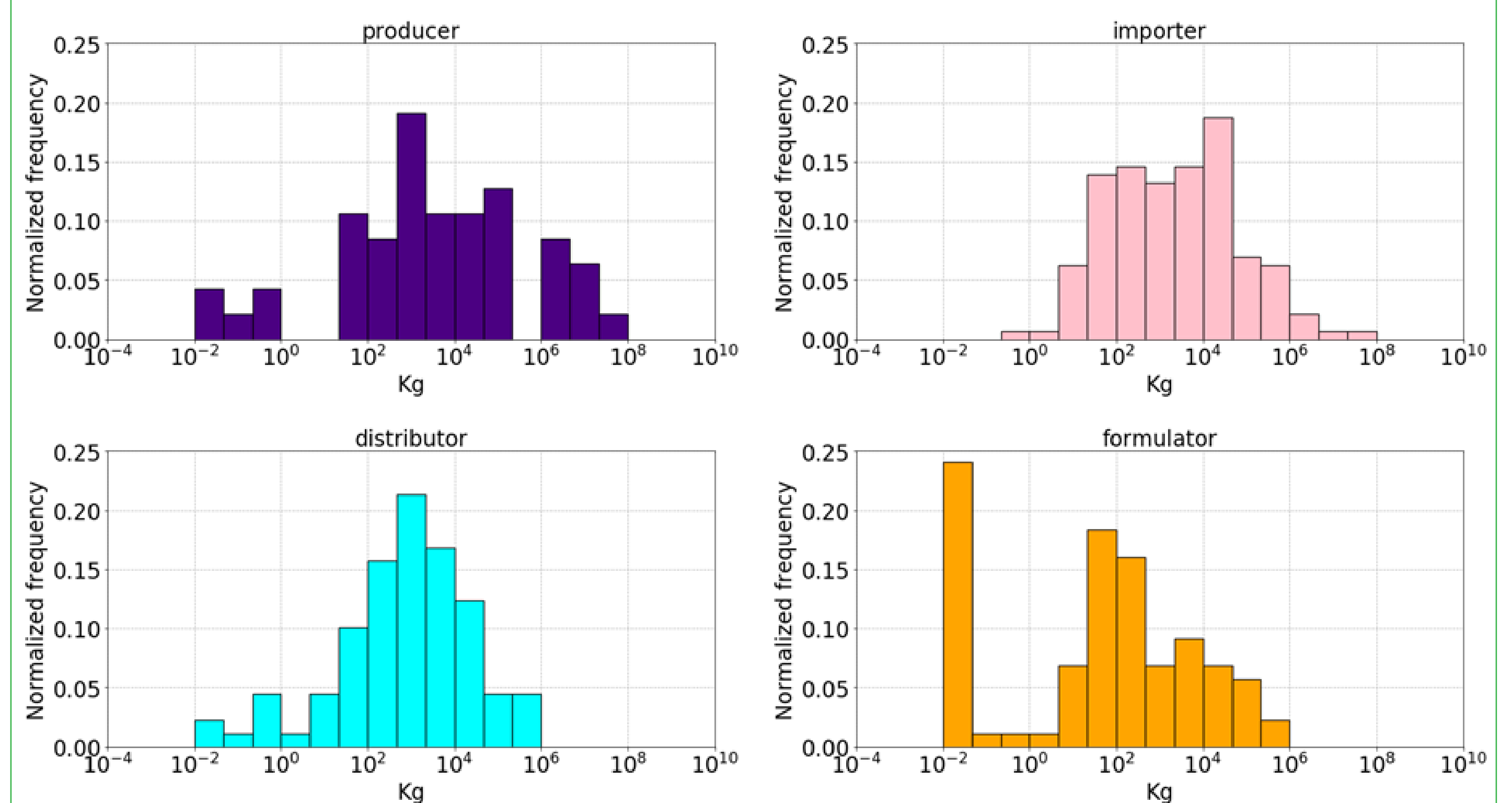
Physicochemical characterization (complete registrations)



Quantities and roles in the supply chain



Normalized registrations of quantities of materials in the nanoparticulate state per role in the supply chain.



Key points

- During the trade year 2018, 540 registrations were submitted.
- The declaration of honour for the simplified registrations was undersigned by 94% of the applicants.
- In the complete registrations, most of the obligatory information was present, as indicated from the compliance check.
- In 98% of the limited registrations the applicants provided the previous registration numbers and the compliance check revealed that the physicochemical characteristics of the substances were mostly present (compliance >93%) with only two parameters showing decreased compliance (median size of dimension 1 (88%) and standard deviation (80%)).
- Evaluation of the determination methods (complete registrations) used to characterize the physicochemical characteristics of the nanoparticulate materials showed that the applicants employed well established methods, such as EM (72%) for the characterization of the constituent particle size and BET (88%) for the calculation of the mean specific surface area.
- In total 190 different materials (chemical substances) were identified.
- The total quantity of substances in the nanoparticulate state, which was introduced on the Belgian market during the trade year 2018 was 120734587.2 kg (120734.5872 tons) based on the recorded data.
- In most of the registrations (77%), the applicants declared quantities that range between 10 and 100000 kg.
- About 51% (187 registrations) of the submitted registrations reported quantities below 1 ton and would therefore be considered to be out of the scope of the REACH-regulation.

ACKNOWLEDGEMENTS

This research was funded by the Federal public service Health, Food Chain Safety and Environment, DG5, Victor Hortaplein 40, bus 10, 1060 Brussels