

THE BELGIAN NANOREGISTER IN FIGURES TRADE YEAR 2017

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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 information on:

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

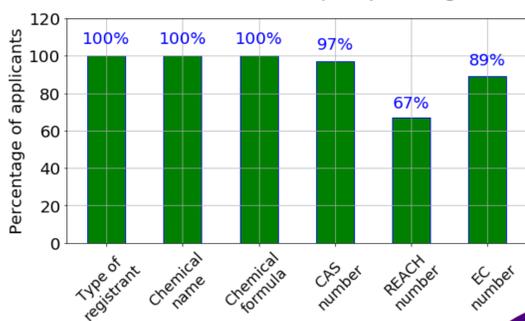
The sector of use and quantity of the produced materials in nanoparticulate state have also to be reported.

Registrations

Submission of **454** registrations during the trade year 2017

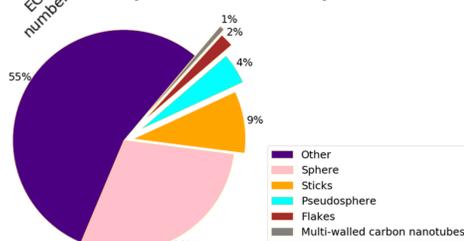
- **158** complete (including physicochemical characterization)
- **227** limited (referring to a previous registration)
- **69** simplified (only declaration of honour)

Physicochemical characterization (complete registrations)

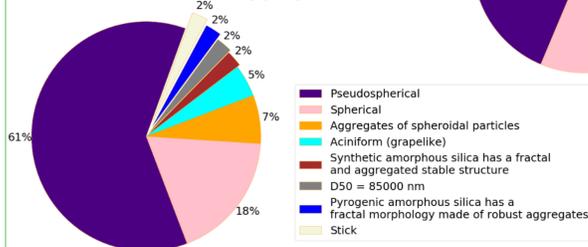


Compliance of the category
chemical identification

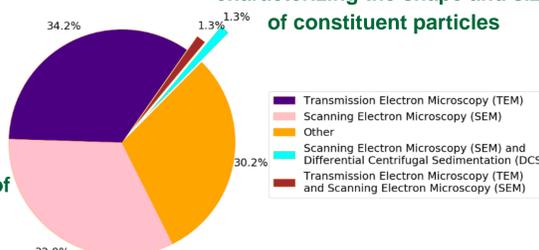
Shapes of constituent particles



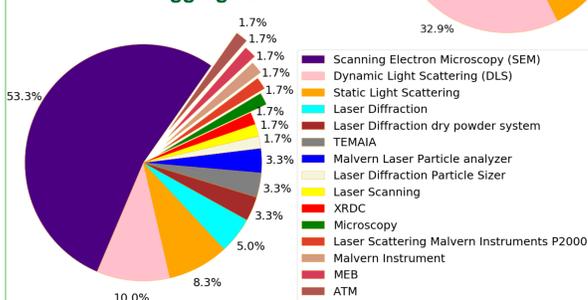
Shapes of aggregates



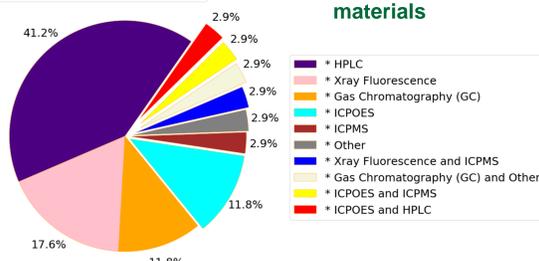
Determination methods used for characterizing the shape and size of constituent particles



Determination methods used for characterizing the shape and size of aggregates

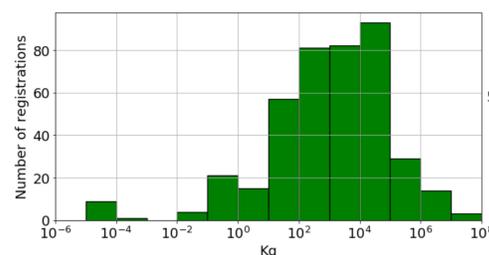


Determination methods of impurities of the registered materials

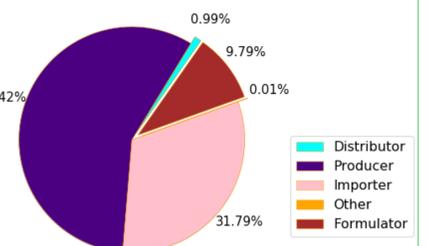


Quantities and roles in the supply chain

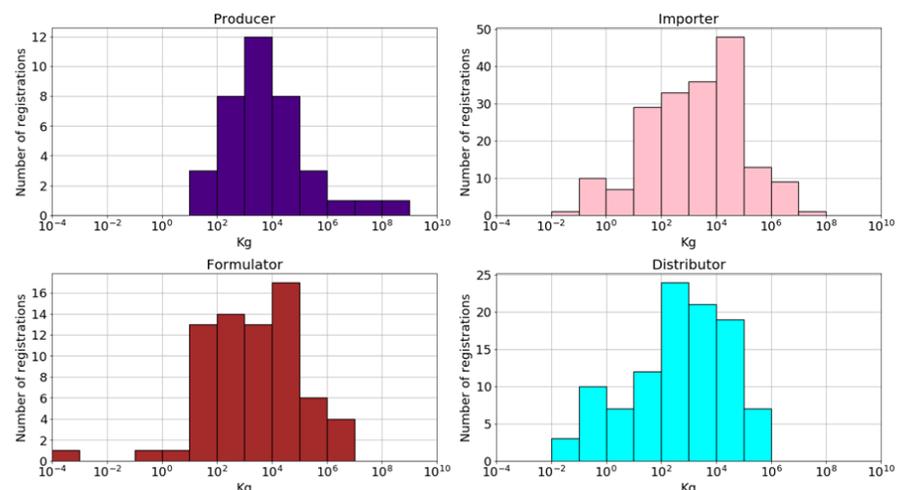
Number of registrations per interval quantity imported or produced



Quantity percentage registered from the different roles for the trade year 2017



Quantity distributions of materials containing nanomaterials per role in the supply chain



Generic name of the nanomaterials that were produced and/or imported in quantities >1000 tons in the trade year 2017

Iron hydroxide oxide yellow

Calcium carbonate

Di-iron tri-oxide

Calcium carbonate treated with stearic acid

Silicon dioxide

Carbon black

Key points

• Registrations

- During the trade year 2017, 454 registrations were submitted.
- The declaration of honour for the simplified registrations was undersigned by all applicants (100%).
- In the complete registrations, most of the obligatory field were completed, as indicated by the compliance check.
- In 92% of the limited registrations the applicants provided the previous registration numbers and the compliance check revealed that the physicochemical characteristics of the substances were present (100%).

• Material properties

- In total 179 different materials (chemical substances) were identified.
- Evaluation of the determination methods (complete registrations) used to characterize the physicochemical characteristics of the nanoparticulate materials showed that the majority of applicants employed well established methods, such as EM (67%) for the characterization of the constituent particle size and BET (94%) for the calculation of the mean specific surface area.

• Quantities

- Recorded data estimate that the total quantity of substances in the nanoparticulate state, which was introduced on the Belgian market in 2017 was 201.430 tons.
- In most of the registrations (78%), the applicants declared quantities that range between 10 and 100000 kg.
- About 46% (190 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

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