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## **Quantification of particles in “rb bertomeu” beco Mg product**

**Product:** "rb bertomeu" beco Mg

### **Introduction**

We have received a sample corresponding to “rb bertomeu” beco Mg product. This formulation is described by the supplier as a true solution which should be free of particles in suspension. All magnesium detected in the product is in a particle-free molecular solution. Characterizations of the product by using *Nanoparticle Tracking Analysis (NTA)* and *Dynamic Light Scattering (DLS)* have been carried out. Both techniques permit to characterize colloidal systems and determine particle size (NTA and DLS) and concentration (NTA) and hence can permit to quantify the presence of particles in suspension in the range 0.3 nm - 10 µm and also find evidence of bigger particles.

### **Main findings**

Results obtained by NTA show that concentration of particles is equivalent when “rb bertomeu” beco Mg is compared with ultrapure Milli-Q water. Ultrapure Milli-Q water is a standard material free of particles in lab conditions available for the NTA equipment. According to these results, “rb bertomeu” beco Mg and ultrapure Milli-Q water present the same order of concentration of particles, therefore it is considered that “rb bertomeu” beco Mg is free of particles and consist of a true solution.

DLS measurements confirm qualitatively the absence of particles in the “rb bertomeu” beco Mg product. Size quality report notifies that measurement does

not comply quality criteria very likely for the absence of particles. Comparatively, analysis of ultrapure Milli-Q water detects a PSD curve assignable to a measurement artefact and does not comply quality criteria due to the absence of particles. Equivalent results with DLS technique between "rb bertomeu" beco Mg and ultrapure Milli-Q water verify the no presence of particles in the product.

## **Conclusions**

After integrating the results of different techniques and by comparison with Milli-Q water as free of particles liquid medium, it is concluded that the "rb berteomeu" beco Mg sample does not present particles in suspension that could affect its industrial use (see results and discussion in report n°270/18-IR-01).

Diffusion of this document is authorised for the purpose of references that it deems appropriate

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