

ABSTRACT

**METHOD FOR THE PRODUCTION OF ULTRAFINE PARTICLES AND
NANOCOMPOSITES**

A method for the production of ultrafine particles, comprising the steps of:

- 5 providing a precursor derived from a chemical precipitation process;
 mechanically milling said precursor with a solid matrix such that said
precursor is dispersed throughout said solid matrix;
 dehydrating said precursor during and/or after said mechanical milling step;
and
10 removing said solid matrix from a final mass comprising said solid matrix and
said ultrafine particles to obtain said ultrafine particles. A method for the production of a
nanocomposite consisting of ultrafine particles dispersed throughout a solid matrix, said
method comprising the steps of:
 providing a precursor derived from a chemical precipitation process;
15 mechanically milling said precursor with a solid matrix such that said
precursor is dispersed throughout said solid matrix; and
 dehydrating said precursor during and/or after said mechanical milling step.

(Fig. 6 is to be published.)