

## ABSTRACT

**SILICA-BASED COMPOSITE FINE-PARTICLE DISPERSION, METHOD FOR  
PRODUCING SAME, AND POLISHING SLURRY INCLUDING SILICA-BASED  
COMPOSITE FINE-PARTICLE DISPERSION**

A subject of this invention is to provide a dispersion liquid of a silica-based composite particle, which can rapidly polish silica film, Si wafer or even hard-to-process material, can concurrently achieve high surface accuracy (less scratches, etc.), and can suitably be used for surface polishing of semiconductor devices including semiconductor substrate and wiring board, by virtue of its impurity-free nature. The subject is solved by a dispersion liquid of a silica-based composite particle that contains a silica-based composite particle that has a core particle mainly composed of amorphous silica, and bound thereto a ceria particle mainly composed of crystalline ceria, further has a silica film that covers them, and has the features below. The mass ratio of the core particle and the ceria particle falls within a specific range. X-ray diffractometry allows detection of a crystal phase of ceria only. The crystallite size of crystalline ceria on the (111) plane (at around  $2\theta = 28^\circ$ ) falls within a specific range. The content rate of Na, etc. is low. The ratio of Si atomic percentage relative to Ce atomic percentage of the silica film falls within a specific range.

[Fig. 11]