

## ABSTRACT

The present disclosure discloses a liquid for circulating cooling of semiconductor etching equipment, including at least one organosilicon compound, and the chemical formula of the organosilicon compound is  $(R_1)_3Si-[OSiR_2R_3]_n-OSi(R_4)_3$ , wherein  $R_1$ ,  $R_2$ ,  $R_3$ , and  $R_4$  are each independently selected from alkyl or alkoxy groups, and  $2 \leq n \leq 5$ ; and the relative dielectric constant  $\epsilon_r$ , volume resistivity  $\rho_r$ , dynamic viscosity  $\mu$ , and density  $\rho_g$  of the liquid for circulating cooling satisfy the following relationship:  $28 \leq 3 \log \rho_r - \epsilon_r (\mu / \rho_g) \leq 32$ . The liquid for circulating cooling of semiconductor etching equipment of the present disclosure not only has good heat exchange performance, but also can meet the requirements on electrical properties of the cooling liquid for semiconductor equipment. Furthermore, the liquid has good thermal stability, is not easy to evaporate, and is friendly and safe to the environment and workers.

No Figure