Abstract

A semiconductor surface treatment agent containing a fluorine compound, a water-soluble organic solvent and an inorganic acid, with the balance being water and a method for manufacturing a semiconductor device by etching a high dielectric constant insulating material using the subject semiconductor surface treatment agent are provided. According to the present invention, it is possible to selectively and efficiently etch a high dielectric constant insulating material to be used in a transistor formation process of the semiconductor device manufacture; and it is also possible to achieve etching with ease within a short period of time even for a high dielectric constant insulating material to which etching is hardly applied.