

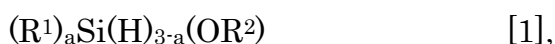
ABSTRACT

METHOD FOR CLEANING WAFER, AND CHEMICAL USED IN SUCH CLEANING METHOD

Provided herein is a water-repellent protective film-forming chemical
5 that forms a water-repellent protective film on an uneven patterned surface
of a wafer without deteriorating vinyl chloride resin when used to clean a
wafer with a wafer cleaning device that includes a vinyl chloride resin as a
liquid contacting member. A wafer cleaning method using the chemical is
also provided. The method is for cleaning a wafer having a fine uneven
10 surface pattern that at least partially contains a silicon element using a
wafer cleaning device that includes a vinyl chloride resin as a liquid
contacting member, and includes retaining a water-repellent protective
film-forming chemical in at least a recessed portion of the uneven pattern to
form a water-repellent protective film on a surface of the recessed portion,
15 the water-repellent protective film-forming chemical containing:

a monoalkoxysilane represented by the following general formula [1];
a sulfonic acid represented by the following general formula [2]; and
a diluting solvent,

wherein the diluting solvent contains 80 to 100 mass% of alcohol with
20 respect to the total 100 mass% of the diluting solvent,



wherein R^1 each independently represent at least one selected from
monovalent hydrocarbon groups having 1 to 18 carbon atoms in which
hydrogen elements may partially or totally be replaced with a fluorine
25 element, R^2 represents a monovalent hydrocarbon group having 1 to 18
carbon atoms in which hydrogen elements may partially or totally be
replaced with a fluorine element, and a is an integer of 1 to 3,



wherein R^3 represents a group selected from the group containing a
30 monovalent hydrocarbon group having 1 to 8 carbon atoms in which
hydrogen elements may partially or totally be replaced with a fluorine
element, and a hydroxyl group.

FIG. 4