

ABSTRACT

ETCHING AGENT, ETCHING METHOD AND LIQUID FOR PREPARING ETCHING AGENT

5

The present invention is directed to provide an etching agent for a semiconductor substrate, which is capable of etching a titanium (Ti)-based metal film or a tungsten (W)-based metal film on a semiconductor substrate and an etching method using relevant etching agent, and relates to a liquid for preparing the etching agent for a
10 semiconductor substrate composed of a solution comprising (A) hydrogen peroxide, (B) a phosphonic acid chelating agent having a hydroxyl group, (C) a basic compound, and (D-1) a copper anticorrosive and/or (D-2) 0.01 to 3 % by weight of two or more kinds of anion species other than
15 phosphonic acid chelating agents having a hydroxyl group, in which anion species have no oxidizing power, an etching method characterized by etching a titanium (Ti)-based metal film or a tungsten (W)-based metal film on a semiconductor substrate using relevant etching agent for a semiconductor substrate, further, a solution comprising (B) a phosphonic
20 acid chelating agent having a hydroxyl group, (C) a basic compound, and (D-1) a copper anticorrosive and/or (D-2) anion species other than phosphonic acid chelating agents having a hydroxyl group, in which anion species have no oxidizing power.

25 No Figure