CLAIMS

1. A cleaning liquid for removing cerium oxide remaining on a surface of an object to be cleaned, comprising:

(1) hydrogen fluoride; and

(2) at least one ammonium salt selected from the group consisting of ammonium chloride, ammonium nitrate, and ammonium sulfate~~, tetramethylammonium chloride, tetramethylammonium nitrate, and tetramethylammonium sulfate~~.

2. The cleaning liquid according to claim 1, wherein the hydrogen fluoride has a concentration of 0.001 to 5% by weight, and the ammonium salt has a concentration of 0.1 to 20% by weight.

3. The cleaning liquid according to claim 1 or 2, further comprising a surfactant.

4. A cleaning method, comprising bringing a cleaning liquid into contact with a surface of an object on which cerium oxide is deposited, so that the cerium oxide is dissolved to form cerium ions and removed, wherein

the cleaning liquid comprises:

(1) hydrogen fluoride; and

(2) at least one ammonium salt selected from the group consisting of ammonium chloride, ammonium nitrate, and ammonium sulfate~~, tetramethylammonium chloride, tetramethylammonium nitrate, and tetramethylammonium sulfate~~.

5. The cleaning method according to claim 4, wherein the hydrogen fluoride has a concentration of 0.001 to 5% by weight, and the ammonium salt has a concentration of 0.1 to 20% by weight.

6. The cleaning method according to claim 4 or 5, wherein the cleaning liquid further comprises a surfactant.

7. The cleaning method according to any one of claims 4 to 6, wherein the object is a semiconductor substrate, a glass substrate, a ceramic substrate, a quartz substrate, or a rock crystal substrate.