CLAIMS

1. A method for removing a metal compound, comprising bringing at least one metal compound selected from oxides of a metal, nitrides of a metal, and oxynitrides of a metal into contact with a treatment liquid to remove the metal compound from a treatment object, wherein:

the metal is at least one selected from tungsten, cobalt, nickel, tantalum, titanium, iron, ~~copper,~~ and molybdenum,

the treatment liquid is an aqueous solution containing at least one compound for removal selected from carboxylic acids and salts of the carboxylic acids, wherein the carboxylic acids are selected at least one from α-hydroxycarboxylic acids, α-amino acids, citric acid, tartaric acid, malic acid, glutaric acid, lactic acid, and glycine,

pH of the treatment liquid is 7 or more, and

the treatment liquid contains the compound(s) for removal at a total concentration of 2 mass% or more.

2. The method for removing a metal compound according to Claim 1, wherein the treatment liquid contains the compound(s) for removal at the total concentration of 3 mass% or more and 70 mass% or less.

3. The method for removing a metal compound according to Claim 1, wherein the treatment liquid

contains the compound(s) for removal at the total concentration of 5 mass% or more and 50 mass% or less.

4. The method for removing a metal compound according to any one of Claims 1 to 3, wherein the carboxylic acids are polycarboxylic acids.

~~5. The method for removing a metal compound according to any one of Claims 1 to 3, wherein the carboxylic acids are α-hydroxycarboxylic acids.~~

~~6. The method for removing a metal compound according to any one of Claims 1 to 3, wherein the carboxylic acids are α-amino acids.~~

~~7. The method for removing a metal compound according to any one of Claims 1 to 3, wherein the carboxylic acids are at least one selected from citric acid, tartaric acid, succinic acid, malic acid, glutaric acid, lactic acid, and glycine.~~

~~8~~5. The method for removing a metal compound according to any one of Claims 1 to ~~7~~4, wherein the compound for removal contains at least one selected from ammonium salts of the carboxylic acids, sodium salts of the carboxylic acids, and potassium salts of the carboxylic acids.

~~9~~6. The method for removing a metal compound

according to any one of Claims 1 to ~~8~~5, wherein the treatment liquid has a pH at 25°C of ~~1~~ 7 or more and 9 or less.

~~10~~7. The method for removing a metal compound according to any one of Claims 1 to ~~9~~6, wherein the treatment liquid has a temperature of 0°C or more and 100°C or less.

~~11~~8. The method for removing a metal compound according to any one of Claims 1 to ~~10~~7, wherein a contact time between the metal compound and the treatment liquid is 1 second or more to 60 minutes or less.

~~12~~9. The method for removing a metal compound according to any one of Claims 1 to ~~11~~8, wherein a ratio of a removal rate of the metal compound as a removal object to a removal rate of a non-removal object is 10 or more and the non-removal object is at least one selected from silicon dioxide, silicon nitride, polysilicon, a simple substance of tungsten, a simple substance of cobalt, a simple substance of nickel, a simple substance of tantalum, a simple substance of titanium, a simple substance of iron, a simple substance of copper, and a simple substance of molybdenum.

~~13~~10. The method for removing a metal compound according to any one of Claims 1 to ~~12~~9, wherein the metal compound is a contaminant for an electronic device.

~~14~~11. The method for removing a metal compound according to any one of Claims 1 to ~~13~~10, wherein the treatment liquid contains a fluoride ion at a concentration of 1 mass% or less.

~~15~~12. The method for removing a metal compound according to any one of Claims 1 to ~~14~~11, wherein the treatment liquid contains an oxidizing agent at a concentration of 1 mass% or less.

~~16~~13. The method for removing a metal compound according to Claim ~~15~~12, wherein the oxidizing agent is hydrogen peroxide.