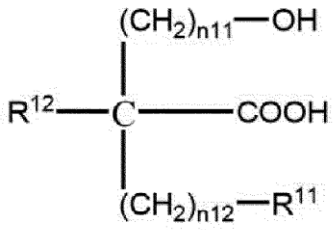
CLAIMS

1. A polishing liquid comprising: abrasive grains containing a metal oxide; at least one hydroxy acid compound selected from the group consisting of a hydroxy acid having a structure represented by General Formula (A1) below and a salt thereof; and water:



(A1)

wherein in the formula, R^{11} represents a hydrogen atom or a hydroxy group, R^{12} represents a hydrogen atom, an alkyl group, or an aryl group, n11 represents an integer of 0 or more, and n12 represents an integer of 0 or more; however, a case where both of R^{11} and R^{12} are a hydrogen atom is excluded and a case where R^{11} is a hydrogen atom, R^{12} is a methyl group, n11 is 0, and n12 is 0 is excluded, and

a ratio of a content of the hydroxy acid compound with respect to a content of the abrasive grains is 0.01 to 0.50.

2. The polishing liquid according to claim 1, wherein the n11 in the General Formula (A1) is 0 or 1.

3. The polishing liquid according to claim 1, wherein the n12 in the General Formula (A1) is 1.

4. The polishing liquid according to claim 1, wherein the hydroxy acid compound contains at least one selected from the group consisting of glyceric acid, 2,2-bis(hydroxymethyl)propionic acid, 2,2-bis(hydroxymethyl)butyric acid, and hydroxyisobutyric acid.

5. The polishing liquid according to claim 1, wherein a content of the hydroxy acid compound is 0.01 to 1.0% by mass.

6. The polishing liquid according to claim 1, wherein the metal oxide contains cerium oxide.

7. The polishing liquid according to claim 1, wherein a content of the abrasive grains is 0.10 to 3.0% by mass.

8. The polishing liquid according to claim 1, further comprising an amino acid component.

9. The polishing liquid according to claim 8, wherein the amino acid component contains glycine.

10. The polishing liquid according to claim 1, wherein a pH is 1.0 to 7.0.

11. The polishing liquid according to claim 1, wherein a pH is 3.0 to 5.0.

12. The polishing liquid according to claim 1, further comprising an alkali component.

13. The polishing liquid according to claim 12, wherein the alkali component contains aminothiazole.

14. The polishing liquid according to claim 12, wherein the alkali component contains dimethylpyrazole.

15. The polishing liquid according to claim 1, wherein the hydroxy acid compound contains at least one selected from the group consisting of glyceric acid, 2,2-bis(hydroxymethyl)propionic acid, 2,2-bis(hydroxymethyl)butyric acid, mandelic acid, and hydroxyisobutyric acid.

16. A polishing method comprising a step of polishing a material to

be polished by using the polishing liquid according to claim 1.

17. The polishing method according to claim 16, wherein the material to be polished contains silicon oxide.

18. The polishing liquid according to claim 1, wherein the hydroxy acid compound contains hydroxyisobutyric acid.

19. The polishing liquid according to claim 1, wherein the hydroxy acid compound contains mandelic acid.