CLAIMS

1. Glass for a magnetic recording medium substrate, which comprises SiO_2, Al_2O_3, Li_2O, Na_2O, and MgO as essential components, wherein

a content of SiO_2 ranges from 63 to 75 mol%;

a content of Al_2O_3 ranges from 1 to 10 mol%;

a total content of alkali metal oxides selected from the group consisting of Li_2O, Na_2O, and K_2O ranges from 6 to 10.59 mol%;

a content of MgO ranges from 14 to 30 mol%;

a content of CaO ranges from 0 to 3 mol%;

a total content of alkaline earth metal oxides selected from the group consisting of MgO, CaO, SrO, and BaO ranges from 14 to 30 mol%;

a molar ratio of a content of Li_2O to a total content of the alkali metal oxides $\{Li_2O/(Li_2O + Na_2O + K_2O)\}$ is greater than 0 and less than or equal to 0.3;

a molar ratio of a content of MgO to a total content of the alkaline earth metal oxides $\{MgO/(MgO + CaO + SrO + BaO)\}$ is greater than or equal to 0.80;

a total content of oxides selected from the group consisting of ZrO_2, TiO_2, Y_2O_3, La_2O_3, Gd_2O_3, Nb_2O_5, and Ta_2O_5 is greater than 0 mol% and less than or equal to 3.5 mol%;

a molar ratio of the total content of oxides selected from the group consisting of ZrO_2, TiO_2, Y_2O_3, La_2O_3, Gd_2O_3, Nb_2O_5, and Ta_2O_5 to the content of Al_2O_3 $\{(ZrO_2 + TiO_2 + Y_2O_3 + La_2O_3 + Gd_2O_3 + Nb_2O_5 + Ta_2O_5)/Al_2O_3\}$ is greater than or equal to 0.10 and less than or equal to 0.70;

a glass transition temperature is greater than or equal to 650°C; and

a Young's modulus is greater than or equal to 80 GPa.

2. The glass for a magnetic recording medium substrate according to claim 1,

wherein the molar ratio of the content of Li_2O to the total content of the alkali metal oxides $\{Li_2O/(Li_2O + Na_2O + K_2O)\}$ is greater than 0 and less than or equal to 0.067.

3. The glass for a magnetic recording medium substrate according to claim 2,

wherein the content of Li_2O is greater than 0 mol% and less than or equal to 0.6 mol%.

4. The glass for a magnetic recording medium substrate according to any of claims 1 to 3,

wherein a molar ratio of a total content of MgO, CaO, and Li_2O to a total content of the alkali metal oxides and alkaline earth metal oxides $\{(MgO + CaO + Li_2O)/(Li_2O + Na_2O + K_2O + MgO + CaO + SrO + BaO)\}$ is greater than or equal to 0.50.

5. The glass for a magnetic recording medium substrate according to any of claims 1 to 4,

wherein a molar ratio of a content of CaO to a total content of the alkaline earth metal oxides $\{CaO/(MgO + CaO + SrO + BaO)\}$ is less than or equal to 0.20.

6. The glass for a magnetic recording medium substrate according to any of claims 1 to 5, which has an average coefficient of linear expansion at 100 to 300°C of greater than or equal to 55×10^{-7}/°C.

7. The glass for a magnetic recording medium substrate according to any of claims 1 to 6,

wherein, denoted as mol%:

a content of Li_2O is greater than 0% and less than or equal to 0.6%;

a content of Na_2O ranges from 1 to 10.39%;

a content of K_2O is greater than or equal to 0% and less than 3%;

essentially no BaO is contained,

a molar ratio of a content of K_2O to a total content of alkali metal oxides $\{K_2O/(Li_2O + Na_2O + K_2O)\}$ is less than or equal to 0.08.

8. The glass for a magnetic recording medium substrate according to any of claims 1 to 7, which has a specific modulus of elasticity of greater than or equal to 30 MNm/kg.

9. The glass for a magnetic recording medium substrate according to any of claims 1 to 8, which is glass for chemical strengthening.

10. A magnetic recording medium substrate, which is comprised of the glass for a magnetic recording medium substrate according to any of claims 1 to 9.

11. A magnetic recording medium substrate, which is a substrate that has been obtained by chemically strengthening the glass for a magnetic recording medium substrate according to any of claims 1 to 9.
12. The magnetic recording medium substrate according to claim 10 or 11, which is comprised of glass having a fracture toughness value of greater than or equal to 0.9 $MPa \cdot m^{1/2}$.

13. The magnetic recording medium substrate according to claim 11, which is comprised of chemically strengthened glass in which a tensile stress distribution is convex in shape such that the convex shape does not contain indentations indenting to a compressive stress side in a stress profile in a virtual cross section perpendicular to two main surfaces as obtained by the Babinet method.

14. The magnetic recording medium substrate according to claim 11, which is comprised of chemically strengthened glass in which an average value Tav of a tensile stress obtained by the Babinet method and a maximum value Tmax of the tensile stress satisfy the following expression (1):

$Tav/Tmax \geq 0.4$ ···(1).