CLAIMS

1. A detergent composition for fibers comprising component (A): an internal olefin sulfonate having 17 or more and 24 or less carbon atoms,

optionally comprising component (B): a nonionic surfactant,

optionally comprising component (C): a metal ion chelating agent, and

optionally comprising, as a component (D), one or more surfactants selected from a component (d1), a component (d2), a component (d3) and a component (d4):

component (d1): alkyl or alkenyl sulfate,

component (d2): polyoxyalkylene alkyl ether sulfate or polyoxyalkylene alkenyl ether sulfate,

component (d3): an anionic surfactant having a sulfonate group (except for the component (A)), and

component (d4): a fatty acid or a salt thereof,

wherein the content of the component (A) in the total mass of the component (A) and the components (d1) to (d4) is 50% by mass or more and 100% by mass or less, and wherein a mass ratio (B)/(A) of the component (B) to the component (A) is 0 or more and 0.6 or less, the composition contains a nonionic surfactant having an HLB of more than 10.5 [hereinafter referred to as a component (B1)] when the composition contains the component (B), a content of the component (C) is 20% by mass or less, and

the composition is a composition for use in washing fibers in water containing a hardness component.

2. The detergent composition for fibers according to claim 1, wherein a content of the internal olefin sulfonate with the sulfonate group at position 5 or higher in the component (A) is 60% by mass or less and more than 0% by mass.

3. The detergent composition for fibers according to claim 1 or 2, wherein a mass ratio of a content of the internal olefin sulfonate with the sulfonate group at position 2 or higher and position 4 or lower to a content of the internal olefin sulfonate with the sulfonate group at position 5 or higher and position 9 or lower in the component (A), that is, (content of the internal olefin sulfonate with the sulfonate group at position 2 or higher and position 4 or lower)/(content of the internal olefin sulfonate with the sulfonate group at position 5 or higher and position 9 or lower) is 0.5 or more and 20 or less.

4. The detergent composition for fibers according to any one of claims 1 to 3, wherein a content of an olefin sulfonate with the sulfonate group at position 1 in the component (A) is 10% by mass or less and 0.01% by mass or more.

5. The detergent composition for fibers according to any one of claims 1 to 4, wherein the component (B1) is a nonionic surfactant represented by the following general formula (b1):

$$R^1(CO)_mO-(A^1O)_n-R^2 \quad (b1)$$

wherein R^1 is an aliphatic hydrocarbon group having 9 or more and 16 or less carbon atoms, R^2 is a hydrogen atom or a methyl group, CO is a carbonyl group, m is 0 or 1, A^1O group is one or more groups selected from an ethyleneoxy group and a propyleneoxy group, and n is an average number of added moles and is 6 or more and 50 or less.

6. The detergent composition for fibers according to any one of claims 1 to 5, wherein the component (C) is one or more metal ion chelating agents selected from (C1) a metal ion chelating agent which is an inorganic compound and (C2) a metal ion chelating agent which is an organic compound.

7. The detergent composition for fibers according to claim 6, wherein (C1) the metal ion chelating agent which is an inorganic compound is one or more selected from (C1-1) an alkali metal silicate, (C1-2) an aluminosilicate and (C1-3) a tripolyphosphate.

8. The detergent composition for fibers according to claim 6 or 7, wherein (C2) the metal ion chelating agent which is an organic compound is one or more organic compounds selected from:

(C2-1) a divalent or higher and tetravalent or lower carboxylic acid having 4 or more and 12 or less carbon atoms and containing no amino group, or a salt thereof,

(C2-2)a divalent or higher and tetravalent or lower carboxylic acid having 4 or more and 10 or less carbon atoms and containing an amino group, or a salt thereof, and

(C2-3) a compound having a phosphonate group or a salt thereof in the molecule.

9. The detergent composition for fibers according to any one of claims 1 to 8, further comprising water.

10. The detergent composition for fibers according to any one of claims 1 to 9, wherein the detergent composition contains the component (B), and the content of the component (B1) in the component (B) is 60% by mass or more and 100% by mass or less.

11. The detergent composition for fibers according to any one of claims 1 to 10, wherein the mass ratio (B)/(A) of the content of the component (B) to the content of the component (A) is 0.05 or more and 1.0 or less.

12. The detergent composition for fibers according to any one of claims 1 to 11, wherein a mass ratio (C)/(A) of the content of the component (C) to the content of the component (A) is 1 or less and 0 or more.

13. A method for washing fibers with a detergent liquid comprising the following component (A) and water, wherein a hardness of the detergent liquid is more than 0°dH:

component (A): an internal olefin sulfonate having 17 or more and 24 or less carbon atoms, and

wherein the detergent liquid is obtained by using the detergent composition for fibers according to any one of claims 1 to 12.

14. The method for washing fibers according to claim 13, wherein the fibers are fibers containing cotton.

15. The method for washing fibers according to claim 13 or 14, wherein the fibers are textile products.

16. The method for washing fibers according to any one of claims 13 to 15, wherein a mass ratio (C)/(A) of the content of the component (C) to the content of the component (A) in the detergent liquid is 2 or less and 0 or more.