

CLAIMS

1. A dry etching agent composition, comprising:

1,3,3,3-tetrafluoropropene; and

5 a hydrochlorofluorocarbon represented by $\text{CH}_x\text{Cl}_y\text{F}_z$ (wherein x, y and z are integers of 1 or greater and $x + y + z = 4$),

wherein a concentration of the hydrochlorofluorocarbon relative to 1,3,3,3-tetrafluoropropene is 3 volume ppm or greater to less than 10000 volume ppm, and

10 wherein the hydrochlorofluorocarbon is chlorodifluoromethane.

2. The dry etching agent composition according to claim 1, wherein a concentration of the hydrochlorofluorocarbon in the dry etching agent composition is 3 volume ppm or greater to less than 1000 volume ppm.

15

3. A storage container, wherein a dry etching agent composition according to claim 1 or 2 is filled and sealed therein.

4. The storage container according to claim 3, wherein, relative to

20 1,3,3,3-tetrafluoropropene, 10 volume ppm or greater to 10000 volume ppm or less of oxygen is contained, and 1 volume ppm or greater to 10000 volume ppm or less of water is contained in the storage container.

5. A dry etching method, comprising the steps of:

converting a dry etching agent to plasma, the dry etching agent in which 1,3,3,3-tetrafluoropropene and a hydrochlorofluorocarbon represented by $\text{CH}_x\text{Cl}_y\text{F}_z$ (wherein x, y and z are integers of 1 or greater and $x + y + z = 4$) are contained, and a concentration of the hydrochlorofluorocarbon relative to 1,3,3,3-tetrafluoropropene is 3 volume ppm or greater to less than 10000 volume ppm; and

etching silicon oxide or silicon nitride by using plasma gas converted into plasma,

wherein the hydrochlorofluorocarbon is chlorodifluoromethane.

6. The dry etching method according to claim 5, wherein the concentration of the hydrochlorofluorocarbon in the dry etching agent is 3 volume ppm or greater to less than 1000 volume ppm.

7. The dry etching method according to claim 5 or 6, wherein, relative to 1,3,3,3-tetrafluoropropene, 10 volume ppm or greater to 10000 volume ppm or less of oxygen is contained and 1 volume ppm or greater to 10000 volume ppm or less of water is contained in the dry etching agent.

8. The dry etching method according to any one of claims 5 to 7, wherein the etching agent contains an additive gas, and

wherein the additive gas is selected from the group consisting of O_2 , O_3 , CO , CO_2 , COCl_2 , COF_2 , $\text{CF}_2(\text{OF})_2$, CF_3OF , NO_2 , NO , F_2 , NF_3 , Cl_2 , Br_2 , I_2

and XF_n (wherein, in a formula, X represents Cl, Br, or I, n is an integer, and $1 \leq n \leq 7$).

9. The dry etching method according to any one of claims 5 to 8,
5 wherein the dry etching agent further contains an inert gas, and
wherein the inert gas is selected from the group consisting of N_2 , He, Ar, Ne, Kr and Xe.