C l a i m s

1. A composition for the purification of flue gas, said composition containing, in each case based on the total weight of the composition:
   a. 10 to 25 wt.% of a powder of a sodium salt of carbonic acid; and
   b. 75 to 90 wt.% of a powder of an absorptive material;

wherein said powder of said absorptive material has a specific pore volume that is equal to or greater than 0.1 cm^3/g and wherein said absorptive material is an absorbent for sulfur oxides and/or an absorptive material for hydrogen chloride and/or hydrogen fluoride, and wherein said powder of said sodium salt of carbonic acid has a particle size d_{50} of less than 50 µm.

2. The composition according to claim 1, wherein said composition contains 13 to 20 wt.% or 13 to 18 wt.% or 15 to 25 wt.% or 15 to 20 wt.% or 15 to 18 wt.%, of said powder of said sodium salt of carbonic acid, based on the total weight of the composition, and/or wherein said composition contains 80 to 87 wt.%, or 82 to 87 wt.% or or 75 to 85 wt.% or 80 to 85 wt.% or 82 to 85 wt.%, of said powder of said absorptive material, based on the total weight of the composition.

3. The composition according to claim 1 or claim 2, wherein said powder of said sodium salt of carbonic acid has a particle size d_{50} of less than 45 µm, in particular less than 40 µm or less than 35 µm or less than 30 µm or less than 25 µm or less than 20 µm or less than 15 µm or less than 12 µm; and/or wherein said powder of said sodium salt of carbonic acid has a particle size d_{97} of less than 180 µm, in particular less than 170 µm or less than 160 µm or less than 150 µm or less than 140 µm or less than 125 µm.

4. The composition according to any one of the preceding claims, wherein said sodium salt of carbonic acid is selected from the group consisting of sodium hydrogen carbonate, sodium carbonate, sodium sesquicarbonate, and mixtures

thereof.

5. The composition according to claim 4, wherein said sodium salt of carbonic acid is sodium hydrogen carbonate and/or sodium sesquicarbonate.

6. The composition according to any one of the preceding claims, wherein said absorptive material is selected from the group consisting of limestone, quicklime, hydrated lime, dolomite, dolomitic quicklime, dolomitic hydrated lime, magnesium carbonate, magnesium oxide, magnesium hydroxide, and mixtures thereof.

7. The composition according to claim 6, wherein said absorptive material is hydrated lime.

8. The composition according to any one of the preceding claims, wherein said absorptive material, in particular said hydrated lime, has a particle size d_{50} of less than 50 μm, in particular less than 40 μm, or less than 30 μm, or less than 20 μm, or less than 10 μm; and/or wherein said absorptive material, in particular said hydrated lime, has a particle size d_{97} of less than 150 μm, in particular less than 140 μm, or less than 130 μm, or less than 120 μm, or less than 110 μm, or less than 100 μm, or less than 90 μm; and/or wherein said absorptive material, in particular said hydrated lime, has a surface area that is equal to or greater than 20 m^2/g, in particular equal to or greater than 30 m^2/g, or equal to or greater than 40 m^2/g, or equal to or greater than 45 m^2/g; and/or wherein said absorptive material, in particular said hydrated lime, has a specific pore volume that is equal to or greater than 0.11 cm^3/g or equal to or greater than 0.12 cm^3/g or equal to or greater than 0.13 cm^3/g or equal to or greater than 0.14 cm^3/g or equal to or greater than 0.15 cm^3/g or equal to or greater than 0.16 cm^3/g or equal to or greater than 0.17 cm^3/g or equal to or greater than 0.18 cm^3/g or equal to or greater than 0.19 cm^3/g or equal to or greater than 0.2 cm^3/g.

9. The composition according to any one of the preceding claims, wherein the composition contains clay and/or active carbon and/or zeolites in an amount of

up to 30 wt.%, based on the total weight of the composition.

10. The composition according to any one of the preceding claims, wherein the composition has a flowability value, in particular an FFC value, in particular determined using an RST-XS ring shear tester, of 0.2 or more, in particular of 0.3 or more, or of 0.4 or more, or of 0.5 or more, or of 0.6 or more, or of 0.7 or more, or of 0.8 or more, or of 0.9 or more, or of 1.0 or more, or of 1.1 or more, or of 1.2 or more, or of 1.3 or more.

11. A process for the manufacture of a composition for the purification of flue gas according to any one of claims 1 to 10, comprising:

a. providing a composition containing, in each case based on the total weight of the composition:
   - 10 to 25 wt.% of a powder of a sodium salt of carbonic acid, and
   - 75 to 90 wt.% of a powder of an absorptive material; and

b. applying mechanical and/or thermal energy to the composition;

wherein said powder of said absorptive material has a specific pore volume that is equal to or greater than 0.1 cm^3/g and wherein said absorptive material is an absorbent for sulfur oxides and/or an absorptive material for hydrogen chloride and/or hydrogen fluoride, and wherein said powder of said sodium salt of carbonic acid has a particle size d_{50} of less than 50 µm.

12. The process of claim 11, wherein the composition in step a. contains 13 to 20 wt.% or 13 to 18 wt.% or 15 to 25 wt.% or 15 to 20 wt.% or 15 to 18 wt.%, of said powder of said sodium salt of carbonic acid, based on the total weight of the composition; and/or wherein the composition in step a. contains 80 to 87 wt.%, in particular 82 to 87 wt.% or 70 to 85 wt.% or 80 to 85 wt.% or 82 to 85 wt.%, of said powder of said absorptive material, based on the total weight of the composition.

13. The process according to any one of claims 11 or 12, wherein said sodium salt of carbonic acid is as defined in any one of claims 3 to 5 and/or said powder of said

absorptive material is as defined in any one of claims 6 to 8.

14. The process according to any of claims 11 to 13, wherein thermal and/or mechanical energy is applied to said powder of a sodium salt of carbonic acid and/or to said powder of an absorptive material.

15. The process according to any one of claims 11 to 14, wherein step b. comprises a mixing and/or grinding step, and, optionally, wherein, in the grinding step, the composition is ground to a particle size d_{50} of equal to or less than 50 µm, in particular less than 45 µm or less than 40 µm or less than 35 µm or less than 30 µm or less than 25 µm or less than 20 µm or less than 15 µm or less than 12 µm; and/or wherein the composition is ground to a particle size d_{97} of less than 180 µm, in particular less than 170 µm or less than 160 µm or less than 150 µm or less than 140 µm or less than 125 µm.

16. A process for the purification of flue gas, wherein the flue gas is brought into contact with a composition according to any one of claims 1 to 10.

17. Use of a composition according to any one of claims 1 to 10 for the purification of flue gas, in particular for HF containing flue gas.

18. Use of a powder of an absorptive material having a specific pore volume that is equal to or greater than 0.1 cm^3/g, wherein said absorptive material is an absorbent for sulfur oxides and/or an absorptive material for hydrogen chloride and/or hydrogen fluoride, in an amount of 75 to 90 wt.%, based on the total weight of the composition, to improve the flowability, in particular after some storage time, and/or storability and/or HF absorptivity of a powder of a sodium salt of carbonic acid having a particle size d_{50} of less than 50 µm, in particular less than 45 or less than 40 µm.

19. Use according to claim 18, wherein said powder of said absorptive material is used in an amount of 80 to 87 wt.% or 82 to 87 wt.% or 75 to 85 wt.% or 80 to 85 wt.% or 82 to 85 wt.%, based on the total weight of the composition; and/or

wherein said powder of said absorptive material is as defined in any one of claims 6 to 8; and/or wherein said sodium salt of carbonic acid is sodium hydrogen carbonate and/or sodium sesquicarbonate.