CLAIMS

1. A method for manufacturing a solar cell from a silicon wafer comprising a step of etching the silicon wafer with a gas mixture consisting of 0.1 to 20 vol% F_2, 2.5 to 1.000 ppmv HF, optionally a further gas with one or more inert gases being the balance to 100 vol%.

2. The method according to claim 1 wherein the gas mixture consists of 0.5 to 5 vol% F_2, 5 to 100 ppmv HF with one or more inert gases being the balance to 100 vol%.

3. The method of claim 1 or 2 wherein the gas mixture consists of 1 to 5 vol% F_2, 10 to 50 ppmv HF with one or more inert gases being the balance to 100 vol%.

4. The method according to any one of claims 1 to 3 wherein the step of etching the silicon wafer with the gas mixture is a step of texturing the surface of the solar wafer said step being suitable to increase the efficiency of the solar cell.

5. The method according to any one of claims 1 to 4 wherein the one or more inert gas is chosen from N_2 or Ar, preferably the inert gas is nitrogen.

6. The method according to any one of claims 1 to 5 wherein the optionally further gas is chosen from O_2, N_2O, NO, NO_2, NO_3 and NF_3.

7. The method according to any one of claims 1 to 6 wherein the step of etching the silicon wafer with the gas mixture is performed thermally, preferably thermally at a temperature from 200 to 400 °C.

8. A method for manufacturing a solar panel wherein two or more solar cells manufactured by a method according to any one of claims 1 to 7 are assembled.

9. The use of a gas mixture with a defined content of HF for texturing the surface of a silicon wafer, wherein the gas mixture consists of 0.1 to 20 vol% F_2, 2.5 to 1.000 ppmv HF, optionally a further gas with one or more inert gases being the balance to 100 vol%.