

CLAIMS

1. A nitrogen ion implantation composition for combating glitching in an ion implantation system when nitrogen ion implantation is followed by another ion implantation operation susceptible to glitching when following the nitrogen ion implantation, the nitrogen ion implantation composition comprising nitrogen (N_2) dopant gas and a glitching-suppressing gas comprising NF_3 , wherein the glitching-suppressing gas is present in the nitrogen ion implantation composition in an amount of from 2 vol. % to 15 vol. %, and wherein the ion implantation system is configured such that, when nitrogen ion implantation is followed by another ion implantation operation susceptible to glitching, the nitrogen ion implantation composition suppresses glitching.
2. The nitrogen ion implantation composition according to claim 1, wherein the glitching-suppressing gas is present in an amount of from 2 vol. % to 8 vol. % of the nitrogen ion implantation composition.
3. The nitrogen ion implantation composition according to claim 1, wherein an amount of NF_3 gas in the composition ranges from 2 vol. % to 8 vol. %.
4. The nitrogen ion implantation composition according to claim 1, wherein an amount of NF_3 gas in the composition is 5 vol. %.
5. A gas supply package for supplying a nitrogen ion implantation composition to an ion implantation system, in which the gas supply package comprises a gas storage and dispensing vessel containing the nitrogen ion implantation composition of claim 1.
6. A method of supplying gas for nitrogen ion implantation, comprising:
 - delivering such gas to an ion implantation system in a packaged form comprising at least one of:
 - (i) a gas supply package comprising a gas storage and dispensing vessel containing a nitrogen ion implantation composition comprising nitrogen (N_2) dopant gas and a glitching-suppressing gas comprising NF_3 , wherein the glitching-suppressing gas is present in the nitrogen ion implantation composition in an amount of from 2 vol. % to 15 vol. %; and
 - (ii) a gas supply kit for supplying a nitrogen ion implantation composition to an ion implantation system, in which the gas supply kit comprises a first gas storage and dispensing

vessel containing nitrogen (N_2) dopant gas, and a second gas storage and dispensing vessel containing a glitching-suppressing gas comprising NF_3 ;

performing a nitrogen ion implantation process with the nitrogen (N_2) dopant gas and the glitching-suppressing gas; and

- 5 performing a second ion implantation process with a dopant gas prone to cause glitching, whereby the glitching is suppressed.