What is claimed is:

1. A system for supplying a rinsing liquid comprising ultrapure water and an ammonia gas, the system comprising:

an ultrapure water source in fluid communication with a contactor, wherein the ultrapure water source is configured to supply ultrapure water to the contactor;

a gas mixture source in fluid communication with the contactor, wherein the gas mixture source is configured to supply the ammonia gas and a carrier gas to the contactor;

a control unit in fluid communication with the contactor, wherein the control unit is configured to adjust a flow rate of the ultrapure water such that an operational pressure of the contactor remains below a pressure threshold;

a compressor in fluid communication with the contactor, wherein the compressor is configured to remove a residual transfer gas out of the contactor;

the contactor configured to generate a rinsing liquid, wherein the rinsing liquid comprises the ultrapure water and a concentration of the ammonia gas dissolved therein; and

a pump in fluid communication between the contactor and an outlet, wherein the pump is configured to deliver the rinsing liquid comprising a gaseous partial pressure below the pressure threshold at the outlet.

2. The system of claim 1, wherein the control unit is configured to adjust the flow rate of the ultrapure water at an inlet of the contactor.

3. The system of claim 1, wherein the liquid level of the contactor is controlled by adjusting a flow rate of the carrier gas.

4. The system of claim 1, wherein the liquid level of the contactor is controlled by adjusting a flow rate of the residual transfer gas.

5. The system of claim 1, wherein the operational pressure of the contactor comprises a pressure ranging from about 0.4 to about 0.95 bar absolute.

6. The system of claim 5, wherein the operational pressure of the contactor comprises a pressure of about 0.6 bar absolute.

7. The system of claim 1, wherein the pressure threshold is about atmospheric pressure.

8. The system of claim 1, wherein the rinsing liquid is delivered to a wafer.

9. The system of claim 1, further comprising a nozzle in fluid communication to the outlet, wherein the nozzle is configured to deliver the rinsing liquid to a wafer.

10. The system of claim 1, further comprising a membrane contactor in fluid communication with the outlet, wherein the membrane contactor is configured to strip oxygen from the rinsing liquid.

11. The system of claim 1, further comprising a pressure sensor in fluid communication with the contactor, wherein the pressure sensor is configured to monitor the operational pressure of the contactor.

12. The system of claim 1, wherein the gas mixture source comprises an ammonia gas source and a carrier gas source, wherein the ammonia gas source is configured to supply the ammonia gas to the contactor and the carrier gas source is configured to supply the carrier gas to the contactor.

13. The system of claim 1, wherein the ultrapure water, the ammonia gas, and the carrier gas are mixed prior to entering the contactor.

14. The system of claim 1, wherein the contactor is a packed column or packed tower type contactor.

15. A method for supplying a rinsing liquid comprising ultrapure water with a desired concentration of an ammonia gas dissolved therein having a gaseous partial pressure below atmospheric pressure, the method comprising:

supplying ultrapure water and a gas mixture to a contactor, wherein the gas mixture comprises the ammonia gas and a carrier gas;

monitoring an operational pressure of the contactor using a pressure sensor in fluid communication with the contactor;

generating a rinsing liquid within the contactor, wherein the rinsing liquid comprises the ultrapure water and a concentration of the ammonia gas dissolved therein;

adjusting a flow rate of the ultrapure water using a control unit in fluid communication with the pressure sensor such that the operational pressure of the contactor remains below atmospheric pressure;

removing a residual transfer gas out of the contactor using a compressor in fluid communication with the contactor; and

delivering the rinsing liquid at an outlet using a pump in fluid communication between the contactor and the outlet, wherein the rinsing liquid comprises a gaseous partial pressure below the atmospheric pressure.

16. The method of claim 15, wherein the contactor is a packed column or packed tower type contactor.

17. ~~A system for supplying a rinsing liquid, t~~The system of claim 1, further comprising:

~~a rinsing liquid source in fluid communication with~~ a membrane contactor configured to receive~~, wherein~~ the ~~rinsing liquid source is configured to supply a~~ rinsing liquid comprising a first concentration of oxygen;

a nitrogen gas source in fluid communication with the membrane contactor, wherein the nitrogen gas source is configured to supply nitrogen gas to the membrane contactor;

a nozzle in fluid communication with the membrane contactor, wherein the nozzle is configured to adjust a flow rate of the nitrogen gas; and

the membrane contactor configured to generate a stripped rinsing liquid from the rinsing liquid, wherein the stripped rinsing liquid comprises a second concentration of oxygen that is less than the first concentration of oxygen.

18. The system of claim 17, further comprising a pump in fluid communication between the membrane contactor and an outlet, wherein the pump is configured to deliver the stripped rinsing liquid at the outlet.

19. The system of claim 18, wherein the pump is a vacuum pump.

20. The system of claim 19, wherein the vacuum pump is one of a chemically inert diaphragm pump or a water ring pump.