

ABSTRACT

The present disclosure provides a semiconductor process apparatus and an ignition chamber thereof. The ignition chamber includes a chamber body and a delivery pipeline, the chamber body includes an inner wall of a combustion chamber and an outer wall of the combustion chamber surrounding the inner wall of the combustion chamber, a diluent gas channel is formed between the inner wall of the combustion chamber and the outer wall of the combustion chamber, the outer wall of the combustion chamber is connected to a diluent gas pipeline communicating with the diluent gas channel, the inner wall of the combustion chamber is connected to a combustible gas pipeline and a combustion-supporting gas pipeline, and the combustible gas pipeline and the combustion-supporting gas pipeline both communicate with an interior of the combustion chamber; and the delivery pipeline is configured to be connected to a process chamber of the semiconductor process apparatus, the delivery pipeline is connected to the outer wall of the combustion chamber and communicates with the diluent gas channel, and the inner wall of the combustion chamber is provided with an outlet port, which communicates the interior of the combustion chamber with an interior of the delivery pipeline. A combustible gas and a combustion-supporting gas react in the combustion chamber to generate a reaction product. A diluent gas can be heated by heat generated during reaction, so that a temperature of the heated diluent gas is higher than a dew point temperature of the reaction product, which can prevent the reaction product from condensing and avoid a problem of excessive particles.