

FOR IMMEDIATE RELEASE

Silicon Nitride ALD Process Using High Purity Hydrazine for Low Temperature Deposition

Direct comparison with ammonia, shows superiority of Brute® Hydrazine for growth rate, wet etch rate and index of refraction

Bellevue, Washington – July 23rd to 26th, 2023 - Leading experts in the field of atomic layer deposition (ALD) are gathering in Bellevue, Washington for the AVS 23rd International Conference on Atomic Layer Deposition (ALD 2023). Among the cutting-edge research being presented at the conference, is the poster titled "Silicon Nitride ALD Process Using High Purity Hydrazine for Low Temperature Deposition".

The research, conducted by Hayato Murata, Y. Koda, Y. Wada, and N. Tomita from Taiyo Nippon Sanso Corporation, Japan, in collaboration with J. Spiegelman of RASIRC, focuses on the utilization of high purity Brute® Hydrazine in the ALD process for low temperature deposition of silicon nitride. This innovative approach has shown promising results, highlighting the superiority of hydrazine over ammonia in the growth of low temperature nitrides. Comparison data presented will include wet etch rate, index of refraction, and growth rate. The temperature range of the study was 550-650°C and the co-reactant was dichlorosilane (DCS).

Jeffrey Spiegelman, CEO and Founder of RASIRC, expressed his enthusiasm for the findings, stating, "The results prove again that hydrazine is a better choice than ammonia for the growth of low temperature nitrides." This affirmation further solidifies the significance of this research, which has significant implications for a wide range of industries, including semiconductor manufacturing, microelectronics, and optoelectronics.

The paper, with poster reference number AF-MoP-6, will be presented at the AVS 23rd International Conference on Atomic Layer Deposition (ALD 2023), taking place from July 23 to 26, 2023, in Bellevue, Washington. Attendees of the conference will have the opportunity to engage with the researchers and gain further insights into their findings.

About Taiyo Nippon Sanso Corporation:

Taiyo Nippon Sanso Corporation is a global supplier of industrial gases and related equipment. With a rich history and a commitment to technological innovation, the company plays a vital role in various industries, including electronics, healthcare, and energy.

About RASIRC:

RASIRC transforms liquids into dynamic gases that power process innovation in semiconductor and adjacent markets. By commercializing molecules for lower temperature processes, RASIRC patented technology enables the manufacture of atomic-scale oxides, nitrides, and metals. Innovative products such as BRUTE Peroxide, BRUTE Hydrazine, the Peroxidizer®, and Rainmaker® Humidification Systems are being used to develop solutions for 6G, AI, IOT, and advanced automation.

What makes RASIRC a unique industry leader is our technical expertise and commitment to solving complex industry challenges for our customers. Our team of industry experts has a proven track record of being first to market by efficiently delivering state of the art technology that reduces cost, improves quality, and dramatically improves safety. With our customers at the forefront of all we do, we continue to research, develop, and design innovative products that purify and deliver ultra-pure gas from liquids for the semiconductor and related markets.

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