FOR IMMEDIATE RELEASE

RASIRC Presents New Oxidant Options for Low Temperature Dielectric ALD

CTO shares studies of film growth and characteristics using novel hydrogen peroxide oxidizing agent

San Diego, Calif – October 18, 2018–RASIRC will showcase novel approaches for low temperature dielectric ALD at the AVS 65th International Symposium & Exhibition, to be held October 21 through October 26, 2018 in Long Beach, CA. RASIRC Chief Technology Officer Daniel Alvarez, Jr. will present ALD results for growth of dielectric oxides with anhydrous H_2O_2. Excellent high k values and other material properties for ZrO_2 and SiO_2 will be compared to traditional deposition methods. RASIRC will also participate in the exhibition.

"Development of new three dimensional structures and temperature sensitive materials has driven the need for better oxidants in ALD," said Jeffrey Spiegelman, RASIRC President and Founder. "Our hydrogen peroxide delivery systems meet this need by delivery of anhydrous hydrogen peroxide gas from ampoules or as a high concentration, wet hydrogen peroxide vapor from a standard liquid source. The ability to control the water content in the H_2O_2 vapor may create similar oxides that have very different etch characteristics."

Technical Presentation

Alvarez will present "*Low Temperature Dielectric ALD with the use of Hydrogen Peroxide: Comparison of Growth and Film Characteristics for Anhydrous H2O2, H2O2/H2O Mixtures, and H2O*" on Monday October 22 at 9:20am. The presentation is part of the Precursors and Surface Reactions Session (TF1-MoM) within the Thin Films Division. Co-authors are Keisuke Andachi and Jeffrey Spiegelman of RASIRC. An abstract of the session is available in the AVS Technical Program.

Alvarez and Spiegelman are also co-authors of "*Low Temperature Atomic Layer Deposition of Silicon Nitride using Hexachlorodisilane and Ultra-High Purity Hydrazine*", which will be presented Monday October 22 at 11am. The presentation is part of the Precursors and Surface Reactions Session (TF1-MoM) within the Thin Films Division. Authors are Aswin Kondusamy, Antonio T. Lucero, Su Min Hwang, Xin Meng, Harrison Sejoon Kim, Jiyoung Kim (University of Texas at Dallas); Daniel Alvarez Jr., Jeffrey Spiegelman (RASIRC). The abstract is available in the AVS Technical Program.

Exhibition

RASIRC representatives will be available at Booth #125 to answer questions and discuss RASIRC products including BRUTE® Peroxide and the Peroxidizer® (hydrogen peroxide delivery systems), BRUTE Hydrazine (anhydrous hydrazine delivery system) and the RainMaker Humidification System (water vapor delivery system).

About BRUTE Peroxide

RASIRC Brute Peroxide is a novel oxidant that improves passivation and nucleation density at film interfaces when compared to other oxidants. Surface functionalization is denser and initiation is faster using this anhydrous hydrogen peroxide gas compared with alternatives. This high reactivity allows for less chemistry use, and higher throughput due to shorter required purge times.

About the Peroxidizer

The RASIRC Peroxidizer provides high volumes of reactive H_2O_2/H_2O mixtures for high throughput ALD. This reactive gas generator is ideal for roll-to-roll ALD coatings that require high speed deposition at reduced temperatures.

About BRUTE Hydrazine

BRUTE® Hydrazine enables conformal growth with low wet-etch-rates for SiN. BRUTE Hydrazine gas is virtually water free and has a relatively high flash point for safer handling. Highly reactive, BRUTE Hydrazine creates uniform nitride deposition for advanced materials at low temperature.

About RASIRC

RASIRC specializes in products that generate and deliver gas to fabrication processes. Each unit is a dynamic gas plant in a box—converting common liquid chemistries into safer and reliable gas flow for most processes. RASIRC technology delivers water vapor, hydrogen peroxide gas and hydrazine gas in controlled, repeatable concentrations. RASIRC gas delivery systems, humidifiers, and closed loop humidification systems are critical for many applications in semiconductor, photovoltaic, pharmaceutical, medical, biological, fuel cell, and power industries. Call 858-259-1220, email info@rasirc.com or visit http://www.rasirc.com.

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Contacts:

RASIRC
Jeffrey Spiegelman
Phone: 858-259-1220
E-mail: jeff@rasirc.com