



Development of Inorganic Precursors for Manufacturing of Photovoltaic Devices

Cooperative Research and Development Final Report

CRADA Number: CRD-08-308

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In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

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CRADA Title: Development of Inorganic Precursors for Manufacturing of Photovoltaic Devices

Parties to the Agreement: Rohm & Haas

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$ 00.00
Year 2	\$ 00.00
Year 3	\$ 00.00
TOTALS	\$ 00.00

Abstract of CRADA work:

Both NREL and Rohm and Haas Electronic Materials are interested in the development of solution phase metal and semiconductive precursors for the manufacturing of photovoltaic devices. In particular, we intend to develop material sets for atmospheric deposition processes. The cooperation between these two parties will enable high value materials and processing solutions for the manufacturing of low cost, roll-to-roll photovoltaics.

Summary of Research Results:

Inks have been developed that allow deposition of electrical contacts on silicon photovoltaic cells by means of direct-write methods. These inks are capable of burning through a silicon nitride anti reflection coating. The inks can solely be used to deposit the whole contact or to deposit a seed layer, after which light-induced or light-assisted plating can be used to thicken the electrical contacts. Cell efficiencies obtained using the developed inks are similar to that of conventional contact formation methods.

Subject Inventions Listing:

U.S. Application No. 13/273,588 entitled "Method For Forming Metal Contacts", filed October 14, 2011.

Report Date: 4/5/2013

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