

World Hydrogen Technologies Convention Montecatini Terme - Italy

Montecatini Terme

Italy

WHTC 2007

WORLD HYDROGEN TECHNOLOGIES CONVENTION

4 - 7 November 2007



FORUM

Guest Event



BOOK OF ABSTRACTS



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NEW REACTOR DESIGN FOR CATALYTIC SODIUM BOROHYDRIDE HYDROLYSIS

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Abstract: Hydrogen supply to a fuel cell for portable consumer products requires a simple and safe technology for its storage. Hydrogen production by hydrolysis of sodium borohydride solution in the presence of metal catalyst could be a promising and feasible method.

In previous research activities at ENEA, the catalytic hydrolysis of alkaline NaBH₄ solution was studied using a non-noble catalyst and the hydrogen production tested on bench scale in a tubular fixed-bed reactor.

Present work is focused on the design of a new portable fuel cell power generator with the technology of NaBH₄ to produce hydrogen.

Present work will report the design criteria and preliminary catalyst characterization testing.