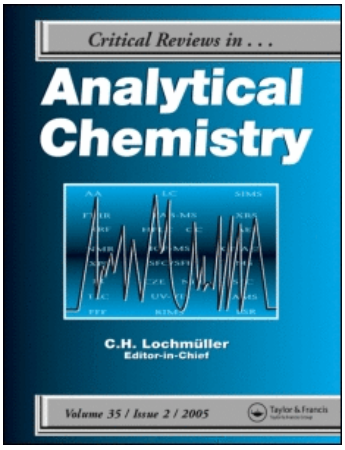

Critical Reviews in Analytical Chemistry
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713400837

Green Chemistry Invitiaties at Los Alamos National Laboratory

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Online publication date: 03 June 2010

To cite this Article Hjeresen, Dennis L.(1999) 'Green Chemistry Invitiaties at Los Alamos National Laboratory', Critical Reviews in Analytical Chemistry, 28: 4, 348 — 349
To link to this Article: DOI: 10.1080/10408349891199176
URL: http://dx.doi.org/10.1080/10408349891199176

Critical Reviews in Analytical Chemistry, 28(4):348–349 (1999)

Green Chemistry Initiatives at Los Alamos National Laboratory

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Los Alamos National Laboratory is working with the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy to promote fundamental breakthroughs in chemistry that accomplish pollution prevention and energy conservation through source reduction and are useful to industry. Green Chemistry is defined as the use of chemical principles and methodologies for source reduction. The Los Alamos Green Chemistry Program encompasses all aspects and types of chemical processes---including synthesis, catalysis, analysis, monitoring, separations, and reaction conditions---that reduce impacts on human health, energy consumption, and the environment relative to the current state of the art.

In this talk I will focus on processes to replace conventional hazardous organic solvents with specific applications in waste treatment, cleaning, catalysis, waste minimization, and materials processing. This discussion will explore both chemical studies at Los Alamos and the development of a national and international program in Green Chemistry.

I will discuss LANL Green Chemistry studies that include applications in

1. Cleaning
2. Extraction/Separation
3. Polymer Synthesis and Processing
4. Materials Synthesis and Modification
5. Chemical Synthesis and Catalysis
6. Delivery Technologies
7. Reaction Engineering
8. Theory, Computation, and Modeling
9. Equipment Technology

I will focus portions of the presentation on the application of Green Chemistry principles in radioactive materials processing and waste minimization as well as to the cleanup of nuclear waste.