

American Chemical Society President Dr. Eli M. Pearce states: "Green chemistry provides unique opportunities to change the way we operate within the chemical enterprise. Green chemistry highlights chemistry's role as the enabling science that advances humanity through its discoveries and processes."

APPLICATIONS

These patented technologies protect several inorganic catalyst materials. Not only do they provide an effective and valuable entre' into the tremendous potential of "Green Chemistry", they are also expected to find significant uses as catalysts, catalyst carriers, adsorbents, and separating materials.

PATENTED TECHNOLOGY

U.S. patents protecting the technology include:

<i>US Patent</i>	<i>Features</i>
5,214,012	<ul style="list-style-type: none"> • Method for production of silicate interlayer cross-linked smectite. • Controllable spacing of 0.5nm to 2.5nm. • Enables tailored spacing in a variety of cationic hydroxide oligomers.
5,084,428	<ul style="list-style-type: none"> • Method for enhancing cation-exchange capacity of montmorillonite decreased by fixation of ion. • Hydrothermal treatment at 100 to 350 deg C in 1-150 kg/cm² atmosphere. • Assures restoration and enhances exchange capacity of montmorillonite compounds. • Nickel, sodium, calcium, and aluminum cations employed to compensate for negative charge between layers.

The technology is supported by an impressive research team and related patents including:

- US **5,612,269** Stably retaining an interlayer cross-linked clay under hydrothermal reaction; and
- US **5,369,069** Production of pillared clay having cation-exchange capacity.



INTELLECTUAL CAPITAL

On April 1, 2001, the National Institute of Advanced Industrial Science and Technology began operations as the "new" AIST. The AIST is a research organization that comprises 15 research institutes previously under the former Agency of Industrial Science and Technology in the Ministry of International Trade and Industry and the Weights and Measures Training Institute.

AIST is Japan's largest public research organization with research facilities and more than 3,200 employees across Japan.

FOR MORE INFORMATION

AIST is seeking to license these technologies and assist with their commercialization success to qualified organizations. A number of investment options are currently under consideration.

Consideration will be provided to a range of financial, strategic, and commercial investment partnerships.

Contact:

Michael F. Allan
 Vice President
 First Principals, Inc.
 1768 East 25th Street
 Cleveland, OH 44114
 Tel: 216-881-8526
 Fax: 216-881-8522
 email: mfallan@firstprincipals.com
 Website: <http://www.firstprincipals.com>