

The Opportunity

Researchers at the National Institute of Advanced Industrial Science and Technology (AIST) have developed **ultrafine gold particles and supports** for the particles that provide unique catalytic properties.

Supports for the particles include a range of metal oxides, metal sulfides, and carbonaceous materials.

Ultrafine particles having a diameter of 250 Angstroms or less have been successfully produced and deposited and demonstrate superior catalytic properties including:

- Fast reaction rate
- High selectivity, and
- Low reaction temperature.

AIST is seeking to license this technology and provide assistance with its commercialization success to qualified organizations.

Technical Features & Applications

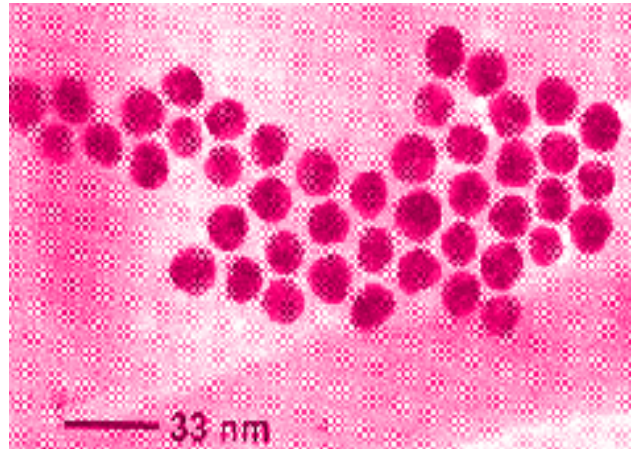
Ultrafine gold particles with particle diameters of about 1 micron (10,000 Angstroms) or less exhibit peculiar physical and chemical properties different from those of ordinary, larger gold particles.

However, the ultrafine particles are difficult to handle because they have a large surface energy and are very susceptible to adhering to one another.

Thus, the type of gold particles which might exhibit the unique physical and chemical properties desired are extremely difficult to obtain.

In combination with a variety of support materials, gold catalysts provide applications in

- Indoor air quality control;
- Pollution abatement;
- Chemical processing (e.g. hydrochlorination; hydrogenation); and
- As a hydrogen energy carrier.



About AIST

Reorganized in 2001, AIST is Japan's extensive public research organization. AIST and its predecessors have advanced technology and supported Japanese industries since 1876.

Although not specifically a government institution, AIST is largely funded by the Japanese government.

To learn more, see the AIST Home Page:

www.aist.go.jp/aist_e/about_aist/index.html.

Intellectual Property

AIST's US **5,789,337** protects the following features:

- Production of ultrafine gold particles of less than 250 Angstroms in diameter.
- Catalyst support material of molybdenum sulfide, tungsten sulfide, iron sulfide, nickel sulfide, or cobalt sulfide.
- Specific claims focused on application to flammable gas sensors.

For More Information

Consideration will be provided to a range of financial, strategic, and commercial investment options. Certain circumstances will warrant consideration for nominal funding from AIST.

Contact:

Mike Allan, Vice President
Tel: 216-881-8526
email: mfallon@firstprincipals.com
Website: <http://www.firstprincipals.com>