**ULTRAFINE SILICA GELS**

**Description**
A technology for producing IK-01-2 aerosil-like silica gels was designed. The silica gel performance is highly competitive with the best foreign analogs (pore volume up to 4 cm$^3$/g, specific surface area up to 500 m$^2$/g, bulk density 0.1-0.15 g/cm$^3$, and grain size 5-30 µm).

**Technical appraisal and economic benefits**
The silica gel:
- is produced in the form of a high-porosity, fine powder with controlled grain composition;
- has a high sorption capacity with respect to gaseous and liquid substances;
- is characterized by satisfactory gelling and structure-forming properties;
- is highly competitive with the best similar fillers and aerosils produced by chlorosilane pyrolysis.

**Application areas**
The silica gels can be used as
- fillers for polymers, elastomers, mechanical rubber goods;
- catalyst supports;
- adsorbents;
- components of medicinal and pharmaceutical preparations and cosmetic formulations;
- thickener for sealing components, dyes, and composite materials;
- anticaking agents in the production of granular materials (fertilizers).

**Development stage**
The production technology has been tested on a pilot plant. Experimental batches of the silica gels have been successfully tested at a number of enterprises as filling agent, dyes, enamels, flattering additives to lacquers, fillers for toothpastes and component of protective creams. Full-scale production has been launched in Berdsk.

**Patent situation**
A patent was granted in the Russian Federation (1996).
Commercial offers
Silica gel supply.
Sale of licenses.
Selection of optimal silica gels for particular fields of applications.

Estimated cost
To be negotiated

Contacts
Dr. Sc. Valentina I. Simagina, Head of Coordination Laboratory,
Boreskov Institute of Catalysis, Siberian Branch of the Russian Academy of Sciences
5, Prosp. Akademika Lavrentieva, Novosibirsk 630090, Russia
Phone: (383) 330-73-36
Fax: (383) 330-80-56
E-mail: bic@catalysis.nsk.su
http://www.catalysis.nsk.su