A summary of new products and services for materials research...

Rare Earth Materials: Megon A/S of Norway is now offering its rare earth products in the United States through Crystalox, Ltd. Megon supplies materials for the growth of laser and microwave crystals and for producing ceramic parts for microwave systems. Employing a patented process, Megon can meet individual customer's specifications from 4N (99.99%) to 6N (99.9999%) purity. Other technical services include custom process development for purification of rare earth mineral resources and concentrates, or material recovery. Crystalox, Ltd., Suite 101, 100 Brush Creek Rd., Santa Rosa, CA 95404-2709; (707) 539-2508.

$LaGaO_3$ Crystal Substrates: Substrates for superconducting thin films are 1.6 cm diameter with (100) orientation. Larger sizes and different materials will be available later. The company's product line also includes crystals and melt cast samples of: $Y_1Ba_2Cu_3O_x$, $Bi_2Ca_1Sr_2Cu_2O_x$, CuO, Cu_2O, and long, thin superconducting crystals of proprietary composition. SuperconiX Inc., 261 East 5th St,, Saint Paul, MN 55101; (612) 222-0046.

SQUID-Based Magnetometer: SQUID-based variable temperature magnetometer measures the dc magnetic susceptibility of small samples in a wide range of applied magnetic fields and can also be configured for other measurements, including resistivity and Hall Effect. The $MPMS_2$ magnetometer uses a low T_c SQUID amplifier to measure magnetic moment over a dynamic range of 10^7 to 1.25 emu. With a differential sensitivity of 10^{-8} emu, the $MPMS_2$ can characterize samples in both thin film and bulk forms up to 8 mm diameter and 7 mm long. During measurement, materials can be exposed to applied magnetic fields, up to +/-10,000 Oe, and temperatures from 5 to 350 K. The $MPMS_2$ can be easily programmed to run standard tests completely unattended, and can be used for characterizing high T_c superconductors, spin-glass materials, and hard or soft magnetic materials. The competitively priced system can be configured with several options which allow it to measure permanent or ferromagnetic materials (to +/-300 emu), quickly collect magnetic hysteresis data, or measure resistivity and magnetoresistance. Quantum Design, 11578 Sorrento Valley Rd., Suite 30, San Diego, CA 92121; (619) 481-4400.

Ultrathin Flexible Zirconia Ceramic: Commercially available ultrathin zirconiunm oxide material formed into sheets 0.05 to 0.10 mm thick features high strength and toughness, high resilience and flexibility, and ease of fabrication. The 0.05 mm sheets can be bent around a radius of 5 mm and will return to their original shape when released. CERAFLEX sheets can be formed into rings, spring shapes, corrugated sheets, short tubes, and other curved configurations. Holes can be machined as close as 0.2 mm apart with diameters from 0.01 to 4 mm. The materials is easily laser machined with automatic processing equipment. Applications include superconductor substrates, fuel cells, wafers and substrates for hybrid circuits, and parts for precision instruments and electronics. Marketech International, 414 South Craig St., Suite 300, Pittsburgh, PA 15213; (412) 3103.

High Pressure Oxygen System for Superconductors: Self-contained bench-top unit has been developed for the synthesis and high temperature treatment of high temperature superconductors in high pressure oxygen. Along with the ability to change samples rapidly and to change pressure during system operation, features include programmable multi-step intelligent temperature control, and accessories capable of extending the range of measurements and applications. No special installation, utilities, or support services are necessary because the system is a standard oxygen cylinder and is powered by a standard electrical wall outlet. Maximum pressure available is 200 atm of pure oxygen at temperatures up to 1,000°C. Models compatible with U.S., European, and Japanese electric supplies are available. Accessories under development include a quench option for rapid cooling, high pressure oxygen flow-through system for continuous purge, and sample resistivity vs. temperature and oxygen pressure. Morris Research, Inc., 1862 Euclid Ave. #240, Berkeley, CA 94709; (415) 486-4142.

Solid Arsenic Charges for Ion Implantation: Solid arsenic charges designed to increase the efficiency of ion implantation manufacturing and operations are available in sizes to fit all major ion implantation units. A one-piece design simplifies handling of toxic material and eliminates difficult, time-consuming vaporizer loading. The high-density charges have a minimum exposed surface area, virtually eliminating surface oxidation and contamination problems. All charges are individually vacuum packaged in laminated poly/foil bags for easy storage and loading. Johnson Matthey, AESAR Group, Eagles Landing, P.O. Box 1087, Seabrook, NH 03874; (800) 343-1990, in New Hampshire (603) 474-5511.

Ceramic Abstracts Online: CERAB, the American Ceramic Society's online version of Ceramic Abstracts, has been added to STN International, a scientific and technical information network operated in North America by Chemical Abstracts Service. CERAB contains more than 100,000 bibliographic records from books, conference proceedings, journals, patents, reports, and trade literature. Coverage spans worldwide scientific, commercial, and engineering literature on ceramics, glass processing, magnetics, materials, superconductors and many other ceramics-related topics. Materials can be searched by chemical formulas, and the 24-hour service covers Ceramic Abstracts since 1976. Reference Services Department, American Ceramic Society, 757 Brooksedge Plaza Drive, Westerville, OH 43081-6136; (614) 890-4700.

Directory of Ceramics Products and Services: *Ceramic Source '90*, an annual reference guide for the ceramics field, provides comprehensive alphabetical listings of products, services, product tradenames, and technical data, and an international company directory of over 3,500 listings. The product directory covers raw materials/ceramic powders, production equipment and supplies, coatings and finishings, testing and evaluation, and ceramic components and devices. The technical data section provides tables on ceramic properties published over the last several years. $28 per copy. American Ceramic Society, 757 Brooksedge Plaza Drive, Westerville, OH 43081-6136; (614) 890-4700.

Optics/Optoelectronic Network: New electronic networking service is designed to link optical and optoelectronic scientists and engineers worldwide with a full menu of services and databases offered by SPIE, The International Society for Optical Engineering. OPTO-LINK includes an electronic mail service, the Society's Working Group bulletin boards, membership directory, publications listings, and conference and technical exhibition schedules as well as resume files and job postings. A major expansion is planned in 1990. For access, dial (206) 733-2998 via modem from any computer. SPIE, P.O. Box 10, Bellingham, WA 98227-0010; (206) 676-3290. □