

Sieve catalysts for Mobil's gasoline-from-methanol process?

The patent literature is shedding light on Mobil's proposal to the Energy Research and Development Administration on making gasoline from methanol and related oxygenated compounds (*CW Technology Newsletter*, June 18). Indications are that the proprietary catalyst is a molecular sieve. One Mobil patent (Belgian 818,708) describes a process for converting methanol or dimethyl ether into durene and other aromatics. Key is a crystalline aluminosilicate catalyst having a silica-to-alumina ratio greater than 12:1 and having a controlled pore size. Another patent (Belgian 818,709) shows how a similar catalyst can be employed to go from synthesis gas to gasoline.

New process uses alkaline solution and heat to remove sulfur from coal

Removal of 99% of pyritic sulfur and up to 70% of organic sulfur from coals may be possible with the hydrothermal coal process developed at Battelle (Columbus, O.). Inventor Edgel P. Stambaugh says the technique (patent applications have been filed) was developed in a \$2-million, six-year research effort. It involves heating a water slurry of coal and an alkaline chemical leachant to temperatures below 300 C to dissolve the pyritic and organic constituents, which are filtered out. Costs of the process are not detailed but are said to be "fully competitive with stack-gas scrubbing systems and more attractive than known sulfur removal methods."

Floating LNG plants are wave of the future

Two German consortia have developed plans for floating plants to exploit hitherto uneconomic deposits of offshore natural gas. Marketable products are expected within three years. In one arrangement, Germany's Preussag is joined by shipbuilder Blohm & Voess and German Gas Utilities subsidiary Natural Gas Service. In the other, Preussag is joined by electrical equipment supplier Linde and France's Technigaz.

Environmental groups call for limiting use of PCB

Polychlorinated biphenyls (PCB) are in the spotlight again. The Lake Michigan Toxic Substances Committee, an interstate advisory group to the Environmental Protection Agency, recommends that PCB use be limited, although it doesn't seem to be able to come up with an alternative for transformers and capacitors. Monsanto, sole U.S. manufacturer, says the study tends to support what the company is already doing—limiting sales to insulating fluids or hermetically sealed devices. EPA sources indicate some PCB is entering the U.S. from foreign suppliers for coatings, hydraulic fluids for mining equipment and for wax process castings. The committee's concern seems to be about the continuing high level of PCB in lake fish. But Monsanto says that's not surprising because it would be many years before the effect of PCB use limitations are felt on fish and wildlife. That answer hasn't satisfied the Michigan Natural Resources Council, which is recommending to the state legislature a complete ban on PCB. Such a ban would severely restrict electrical power distribution, say utility sources. Reason: no materials have shown the all-round coating, heat-transfer and fire-resistance properties of PCB. But Dow thinks it may be near marketing a viable alternative. After five years of research the company is promoting its polydimethyl siloxane for use as a transformer fluid.