it picks up hydrogen chloride. Dissolved HCl activates the catalyst (an aluminum chloride–hydrocarbon complex).

Naphtha now enters the reactor at 200° to 250° F. and 700 to 850 p.s.i., along with 60 to 100 cubic feet of hydrogen per barrel (to suppress cracking and catalyst contamination). Reactor effluent is cooled and flashed into a settler where entrained catalyst is separated.

The liquid product is then stripped of hydrogen chloride, cooled, washed, and stabilized. Gases from the settler and stripper, along with some make-up hydrogen chloride, are recycled to the absorber where HCl is redissolved. Excess hydrogen which passes through the absorber can be used either for fuel or for hydrogenation.

The once-through product from the Isomate process is a high octane light naphtha ready for use in blending premium motor fuels. The pentane fraction rates about 103 octane (3 cc. of TEL) and the hexane fraction about 94. Combined final product octane runs from 96 to 98.

When a further octane increase is desired, the once-through product is fractionated and the low octane hexane isomers are recycled. Higher octanes can also be obtained by fractionating and recycling *n*-pentane from the overhead product of any primary fractionator. It is possible to make products which range up to 106 octane number.

W.S.F.

Brine Purifies Brines

In the osmionic cell, differences in salt concentration provide the power source

PERMSELECTIVE membrane processes for purifying salt waters make up one of the most promising areas screened for development in the Government's saline water conversion program. One of these processes, "osmionic demineralization," requires no electricity. It makes use of osmotic pressure to move ions

(*Continued on page 28 A*)