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Lyndon B. Johnson Space Center



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Iodine Generator for Disinfecting Reclaimed Water

A new iodine generating and dispensing system has been developed which disinfects reclaimed water to make it drinkable. The system dispenses iodine into a water tank automatically in quantities varying from 0.5 to 20 ppm. It stores a 180-day supply of iodine crystals, a quantity that is sufficient to support six people consuming water at the rate of from 4.5 to 13.6 kg (10 to 30 lb) per person per day.

Basically, the system consists of an accumulator which stores 50 cm³ (3 in.³) of iodine crystals and an electrolytic valve which dispenses iodine into a water tank. The valve is an anion exchange membrane located between two noble-metal screen electrodes. In operation, water is passed through a distribution compartment that is connected to the electrode which forms the iodine. The valve operates on less than 1 watt and dispenses iodine automatically when its concentration falls below 0.5 ppm.

Note:

This technique is described in the following report:
"Development of an Iodine Generator for Reclaimed Water Purification in Manned Spacecraft Applications"

Reference: NASA CR-134219 (N74-19763).

This report may be obtained from:

National Technical Information Service
Springfield, Virginia 22151
Single report price \$9.25
(or microfiche \$1.45)

Patent status:

This invention is owned by NASA, and a patent application has been filed. Inquiries concerning non-exclusive or exclusive license for its commercial development should be addressed to:

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