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NASA TECH BRIEF



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Improved pH Buffering Agent for Sodium Hypochlorite

The effectiveness of sodium hypochlorite as a water disinfectant is strongly dependent on pH. To maintain the pH of the hypochlorite solution at the desired value, sodium dihydrogen phosphate has been used as a buffer. However, this buffer in the presence of the hypochlorite corrodes aluminum systems (such as the potable water supply system on Apollo). It has been found that sodium citrate /citric acid is an effective buffer for pH control when used with sodium hypochlorite, and the mixture does not corrode aluminum. The buffer consists of 100 to 200 ppm of sodium citrate with sufficient citric acid to bring the pH to 7.0-7.5. In addition, the buffer appears to form a type of conversion coating that may provide corrosion-resistant properties to aluminum in other applications.

Note:

This Tech Brief is complete in itself. No additional information is available.

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

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