


[Here's how you know](#) An official website of the United States government

FULL TEXT LINKS

[Appl Environ Microbiol.](#) 1990 May;56(5):1363-6. doi: 10.1128/aem.56.5.1363-1366.1990.

## Inactivation of human and simian rotaviruses by chlorine dioxide

Y S Chen <sup>1</sup>, J M Vaughn

Affiliations

PMID: 2160222 PMID: [PMC184410](#) DOI: [10.1128/aem.56.5.1363-1366.1990](#)

### Abstract

The inactivation of single-particle stocks of human (type 2, Wa) and simian (SA-11) rotaviruses by chlorine dioxide was investigated. Experiments were conducted at 4 degrees C in a standard phosphate-carbonate buffer. Both virus types were rapidly inactivated, within 20 s under alkaline conditions, when chlorine dioxide concentrations ranging from 0.05 to 0.2 mg/liter were used. Similar reductions of 10(5)-fold in infectivity required additional exposure time of 120 s at 0.2 mg/liter for Wa and at 0.5 mg/liter for SA-11, respectively, at pH 6.0. The inactivation of both virus types was moderate at neutral pH, and the sensitivities to chlorine dioxide were similar. The observed enhancement of virucidal efficiency with increasing pH was contrary to earlier findings with chlorine- and ozone-treated rotavirus particles, where efficiencies decreased with increasing alkalinity. Comparison of 99.9% virus inactivation times revealed ozone to be the most effective virucidal agent among these three disinfectants.

[PubMed Disclaimer](#)

### Related information

[PubChem Compound \(MeSH Keyword\)](#)

### LinkOut - more resources

Full Text Sources

[Atypon](#)[Europe PubMed Central](#)[PubMed Central](#)

Other Literature Sources

[The Lens - Patent Citations](#)