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Interactive comment on "Technical Note: Could benzalkonium chloride be a suitable alternative to mercuric chloride for preservation of seawater samples?" *by* J. Gloël et al.

Anonymous Referee #1

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The authors tested if BAC is a suitable alternative chemical for the preservation of seawater samples for the measurement of oxygen to carbon ratios. They concluded that this is possible for the preservation of samples with low Chl a up to 3 days. The advantage of BAC compared to HgCl2, which is commonly used, is that it is less hazardous and the disposal of the waste is less expensive. This might be a small advantage but the careful use of HgCl2 is not dangerous for an experienced person. The preservation of seawater samples with HgCl2 is more reliable especially when you are not sure that samples can be analyzed within the short time frame. The authors themselves recommend "further tests with BAC on a case basis because of cross-reactions especially under higher Chl a concentrations." It is unrealistic that you can test during field studies

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which method would be the best. Then you need to know, for example, the Chl a and nutrient concentration. Therefore, you have to use the safest method which is HgCl2 preservation. I don't think that it is necessary to publish this technical study as a full paper. It is helpful as a discussion paper, and the method may be briefly explained if it is used for a scientific study of the oxygen to carbon ratio.

Overall, the study was well performed and the paper is clearly written. It would be helpful to know more about the samples such as nutrient concentrations, the influence of salinity because the method may be better used in estuarine and coastal regions which are closer to the lab. It would be good to know if bacterial cells are inactive and dead by treatment with HgCl2. The dilution effect can be simply calculated and don't need to be assumed. The use of SI units (cm3, dm3, etc.) is of course correct but quite unusual for this kind of papers. There are some other uncertainties as also mentioned by the authors which would be good to be tested.

Interactive comment on Ocean Sci. Discuss., 12, 1953, 2015.