

Interactive comment on “Corrosion control using hydroxide and bicarbonate alkalising agents in water drinking processes” by P. Torres-Lozada et al.

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I think this is an interesting paper on a relevant topic. I strongly support the main finding that a revision of the Colombian Water code and other international rules are necessary in order to provide optimum control of water quality in the distribution network. In particular pH values of 8,5-9 should be allowed. I have 3 main points of criticism and suggestions for improvements: 1. you focus too much on the water quality indices. I feel that these are not adequate for a proper prediction of corrosion control in the drinking water distribution system. They only provide a very simplified picture, whereas in actual practice corrosion control should be based on thorough research on the actual

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corrosion of the actual piping materials and the actual water quality, including such aspects as biofilmcontrol etc. 2. you focus too much on creating conditions that form protective CaCO_3 layers. This may lead to problems with scaling in the network and the household plumbing systems and many complaints from customers on hardness, scaling and turbidity. In actual practice it seems much wiser to not use ca-containing chemicals and only use a small dose of NaOH or Na_2CO_3 to increase the pH and alkalinity somewhat. This will in most cases limit corrosion and prevent scaling 3. you do not use the available PHREEQC-software, which would allow you to make all the chemical calculations exactly and to calculate the chemical equilibrium with respect to CaCO_3 .(refer to the DWES paper 6(2) 115-124, 2013 in your references)

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