BC SEALER REFERENCE LIST *(as of March 2020)*:
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IRRIGATION

The irrigation with phosphate buffered saline (PBS) is suggested as hydraulic sealers interact with the environment thus they would interact with the PBS and deposit a calcium phosphate deposited on the surface making the material stable. But PBS also reduces the PH and this is crucial in the root canal. In fact microbial growth in tubules was shown when PBS was used as final irrigant.
https://www.ncbi.nlm.nih.gov/pubmed/27377571

Another problem is the EDTA as EDTA removes the smear layer and this can also lead to calcium chelation of the hydraulic sealer. Furthermore the dentine substrate is devoid of the inorganic component and has collagen exposed. The alkalinity of the hydraulic sealers affects the collagen matrix.
https://www.ncbi.nlm.nih.gov/pubmed/22595120

OBTURATION

Obturation with hydraulic cement and single cone leads to large volumes of sealer present in the canal. In the apical area this sealer can be washed away. The sealer will interact with the environment, The environmental interaction varies but can be summarized as follows:

- Non setting as P ions are known to delay cement setting
- Reduction in antimicrobial properties in contact with blood and tissue fluids. This has been reported for MTA.

https://www.ncbi.nlm.nih.gov/pubmed/28128328

- The nature of the precipitate is not known. As although the claims are that at the apex calcium phosphate forms this has not been proven to be true as calcium silicates in contact with tissue fluids and blood preferentially form calcium carbonate.

https://www.ncbi.nlm.nih.gov/pubmed/26786381
https://www.ncbi.nlm.nih.gov/pubmed/?term=camilleri+J%2C+Meschi

- Solubility. The solubility is a big issue. The material is soluble but the precise amount cannot be quantified as the ISO standards are not appropriate since they use water and the behavior of the material in water is different to physiological solution

https://www.ncbi.nlm.nih.gov/pubmed/29263328