

SORBENTS FOR THE REMOVAL OF ORGANIC COMPOUNDS THAT INTERFERE WITH THE DETERMINATION OF BROMIDE IN NATURAL WATERS

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References:

1. Butler R., Godley A., Lytton L., Cartmell E. Bromate environmental contamination: review of impact and possible treatment. *Crit. Rev. Environ. Sci. Technol.* 2005, 35, 193-217.
2. Xu C., Shi J., Zhou W., et al., Bromate removal from aqueous solutions by nano crystalline akaganeite (-FeOOH)-coated quartz sand (CACQS) *Chem. Eng. J.* 2012, 187, 63-68.
3. Huang W.J., Chen C.Y., M.Y. Peng M.Y. Adsorption/reduction of bromate from drinking water using GAC: effects on carbon characteristics and long-term pilot study. *Water SA.* 2004, 30 (3), 369-375.
4. Hajizadeh S., Kirsebom H., Galaev I.Y., et al. Evaluation of selective composite cryogel for bromate removal from drinking water. *J. Sep. Sci.* 2010, 33, 1752-1759.
5. Chitrakar R., Makita Y., Sonoda A., et al. Adsorption of trace levels of bromate from aqueous solution by organo-montmorillonite. *Appl. Clay Sci.* 2011, 51, 375-379.
6. Ozekin K., Amy G.L. Threshold levels for bromate formation in drinking water. *Ozone Sci. Eng.* 1997, 19 (4), 323-337.
7. Nollet L.M.L., De Gelder L.S.P. *Handbook of Water Analysis, 3rd edn.*, CRC Press, Taylor & Francis: Boca Raton, 2014, 979 p.
8. Jones D.R. Difficulties with the chloramine-T-Phenol Red method for bromide determination. *Talanta.* 1989, 36 (12), 1243-1247.
9. Lepore B.J., Barak P. A colorimetric microwell method for determining bromide concentrations. *Soil Sci. Soc. Am. J.* 2009, 73 (4), 1130-1136.
10. Baird R.B., Eaton A.D., Rice E.W. *Standard Methods for the Examination of Water and Wastewater, 23rd edition*, APHA, AWWA, WEF: Washington, DC, 2017, pp. 4-30 – 4-31.
11. Ateia M., Erdem C.U., Ersan M.S., et al. Selective removal of bromide and iodide from natural waters using a novel AgCl-SPAC composite at environmentally relevant conditions. *Water Research.* 2019, 156, 168-178.
12. Andersson A., Lavonen E., Harir M., et al. Selective removal of natural organic matter during drinking water production changes the composition of disinfection by-products. *Environ. Sci.: Water Res. Technol.* 2020, 6, 779-794.
13. Pilipenko A.T., Terletskaia A.V., Zui O.V. Determination of iodide and bromide by chemiluminescence methods coupled with dynamic gas extraction. *Fresenius Z. Anal. Chem.* 1989, 335 (1), 45-48.
14. Gorbunova M.O., Garshina M.S., Kulyaginova M.S., et al. A dynamic gas extraction-assisted paper-based method for colorimetric determination of bromides. *Anal. Methods.* 2020, 12 (4), 587-594.
15. Maznaya Yu.I., Zuy O.V., Goncharuk V.V. Monitoring of drinking waters for the content of bromide, iodide, bromate and iodate ions. *Journal of Water Chemistry and Technology.* 2018, 40 (6), 379-385.