

DEDICATION

To my father, mother, siblings, my beloved wife, my son, and my friends.

I dedicate this work.

ACKNOWLEDGEMENTS

My thanks to Allah, the almighty for giving me strength, patience, and health to accomplish this work.

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My deep indebtedness goes to my family including my parents, mother in law brothers, sisters, beloved wife, and my son.

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THESIS ABSTRACT

Bread is considered an important resource of food in Sudan.

Bottled water is also in great demand due to improperly disinfected water supply.

Potassium bromate is banned by the International Research Agency on Cancer despite this Potassium bromate is used in the baking process in Sudan, it is also in present in bottle water as water disinfected by ozone. Which convert Bromide to bromate by the oxidation process. This study compares bromate ion concentration in bread and bottled water in Khartoum state.

The method used in this study was Measurement of Bromate in Bread by Liquid chromatography with post- Coolum flow detection and modified method used for bottled water.

The result of this study showed that high concentration ions of bromate in bottled and bread were found using statistical analysis to compare with SPSS program.

مُلخص

يُعتبر الخُبز من أهم مصادر الغذاء للإنسان في السودان ، كما أن المياه المُعبأة ذات أهمية خاصة وذلك لكثرة الطلب عليها في الأونة الأخيرة والإعتقاد السائد بأنها خالية من المُلوّثات الكيميائية .

يتم إستخدام مادة برومات البوتاسيوم كمادة مُحسنة في صناعة الخُبز في السودان على الرغم من تحذيرات الجهات الدولية المُختصة ، كما أن تعقيم المياه المُعبأة بالأوزون يتم بطريقة حذرة ، وذلك لإحتمال وجود تراكيز عالية من البروميد الذي يتحول أثناء عملية التطهير بالأوزون إلى أيون البرومات .

بحث الدراسة مُقارنة مُتبقي تركيز أيون البرومات من خلال إستخدام مادة برومات البوتاسيوم كمُحسن في صناعة الخُبز بولاية الخرطوم وتقدير تركيز أيون البرومات في المياه المُعبأة .

تم إستخدام طريقة الكشف عن مادة برومات البوتاسيوم في الخبز بواسطة تقنية الفصل الكروموتغرافي السائل وعمل وتطوير طريقة جديدة للكشف عن البرومات بالمياه المُعبأة . نتائج هذه الدراسة أثبتت وجود تراكيز عالية من أيون البرومات في الخُبز والمياه المُعبأة وعمل تحاليل إحصائية للمُقارنة ببرنامج . SPSS.