Patria Yudhantya Diaz Ayu Cindhesari, 2010. Pengaruh Ukuran Butir Kristal Garam Terhadap Fortifikan. Skripsi ini di bawah bimbingan Dyah Hikmawati, S.Si, M.Si dan Drs. Djoni Izak R, M.Si, staf pengajar jurusan Fisika Fakultas Sains dan Teknologi Universitas Airlangga.

Abstrak

PENGARUH UKURAN BUTIR KRISTAL GARAM TERHADAP FORTIFIKAN. Penelitian ini dilakukan untuk mengetahui waktu optimum pembentukan ukuran butir hasil rekristalisasi garam melalui analisis data hasil XRD (X-ray difraction) dengan metode Rietveld dan untuk mengetahui pengaruh ukuran butir kristal garam pada proses fortifikasi melalui data hasil XRF (X-ray flourescence). Sampel terdiri dari hasil proses rekristalisasi larutan garam merk pasar dengan variasi waktu pemanasan (1jam; 1,5jam; 2jam; 2,5 jam; dan 3jam). Uji XRD dilakukan setelah proses rekristalisasi dan selanjutnya data hasil uji XRD diolah dengan menggunakan metode Rietveld untuk mengetahui ukuran kristal garam. ukuran kristal garam dengan variasi waktu diperoleh 1932,43 Å; 2400,075 Å; 7697,950 Å;1509,44 Å dan 1478,088 Å. Uji XRF dilakukan setelah sampel difortifikasi KIO_3 dengan cara injeksi. Kandungan iodium pada setiap sampel diperoleh 0,74%; 1,52%; 1,75%; 5,56% dan 9,61%. Ternyata dari hasil yang diperoleh proses rekristalisasi dengan variasi waktu pemanasan menghasilkan ukuran butir kristal yang relatif semakin kecil, dan ukuran yang paling optimum mengandung kadar iodium paling banyak pada 1478,088 Å menghasilkan kadar 9,61%. Dengan proses penumbuhan kristal garam yang diatur dapat meningkatkan kualitas garam dalam proses fortifikasi.

Kata kunci: X-ray *difraction*, X-ray *flourescence*, Rekristalisasi, Fortifikasi

Patria Yudhantya Diaz Ayu Cindhesari. 080610319, 2010. ***Influence of Salt Crystal Sizing For Fortification.*** This paper is under guidance by Dyah Hikmawati, S.Si, M and Drs. Djoni Izak R, M.Si,, they are the lecture from Physics Department of Science and Technology Faculty Of Universitas Airlangga

ABSTRACT

Influence of salt crystal sizing for fortification. This research was conducted to determine the optimum time of the formation of recrystallized grain size of salt through the data analysis results of XRD (X-ray difraction) with Rietveld method and to investigate the influence of grain size on the process of fortification of salt crystals through the data results of XRF (X-ray flourescence).. The sample contains salt liquor from recristalitation process with variation heating time (1 hour; 1,5 hour; 2 hour; 2,5 hour and 3 hour). XRD test was performed after the recrystallization process and the subsequent test results of XRD data were processed using the Rietveld method to determine the size of salt crystals. Crystal size of salt obtained by varying the time of 1932.43 Å, 2400.075 Å, 7697.950 Å, 1509.44 Å and 1478.088 Å. XRF test conducted after KIO_3 fortification sampel by injection. The content of iodine in each sample was obtained 0.74%, 1.52%, 1.75%, 5.56% and 9.61%. Apparently from the results obtained rekristalisai process by heating time to produce the crystal grain size is relatively smaller, and the most optimum size containing iodine content of at most at 1478.088 Å yield 9.61% levels. With the growth of salt crystals are arranged could increases its quality in fortification process

Keywords: *X-ray difraction, X-ray flourescence, Recristalisation, Fortification*