

## INTERACTION OF LITHIUM NIOBATE AND TANTALATE WITH BROMINE TRIFLUORIDE

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The reaction between powdered and monocrystalline samples of lithium niobate or tantalate and liquid bromine trifluoride was studied by means of chemical analysis, IR-spectrometry, X-ray diffraction and gravimetry. It has been shown that  $\text{LiTaO}_3$  were transformed to  $\text{LiTaF}_6$  and  $\text{LiNbO}_3$  - consequently to  $\text{LiNbOF}_4$  and  $\text{LiNbF}_6$ .

The rate of dissolution of platelike samples at 20 and  $126^\circ\text{C}$  is equal to  $(0,6-1,6) \cdot 10^2$  and  $(0,1-0,5) \cdot 10^2 \mu\text{m} \cdot \text{min}^{-1}$  for niobate and tantalate respectively.

The pyrohydrolysis of fluorination products at  $700^\circ\text{C}$  yields  $\text{LiNbO}_3$  and  $\text{LiTaO}_3$  respectively.

These results are compared with data for reactions of  $\text{LiNbO}_3$  and  $\text{LiTaO}_3$  with gaseous  $\text{F}_2$  and liquid  $\text{NH}_4\text{HF}_2$ .