Benzoate of lithium may be most advantageously prepared from the carbonate:

$$\underset{74}{L_2CO_3} + \underset{244}{2HC_7H_5O_2} = \underset{256}{2LC_7H_5O_2}$$

In a wedgewood dish put one ounce, avoir, of carbonate, mixed with nine ounces of water. Heat gently by aid of a spirit lamp, and add gradually, and by small portions, benzoic acid until effervescence is no longer produced. About three and a quarter ounces will be required. Evaporate to dryness, stirring constantly, and reducing the heat towards the close of the operation. The product may, for convenience, be powdered. The yield will be nearly three and a half ounces.

By following this process a much less quantity of water and consequently less evaporation will be needed than if the benzoic acid be dissolved and the carbonate added thereto. If, by reason of impurity or discoloration of the benzoic acid, it is necessary to filter the solution, three ounces more water may be added before evaporation; and, if required, a little purified animal charcoal may be used. The benzoate may be obtained in crystals by withdrawing the heat and setting the solution aside immediately after the benzoic acid is all added.

Watts * says the lithium salt of benzoic acid is uncrystallizable. This is incorrect; the benzoate may be crystallized without the slightest difficulty. It takes the form of glistening, pearly scales, or laminæ, somewhat resembles iodide of cadmium, but less lustrous. The crystals feel soapy or greasy to the touch; have a cool, sweetish, and not disagreeable taste, and are perfectly permanent in the air. The solution has an acid reaction.

I have found the salt to be soluble in three and a half parts of water at 60° F.; in two and a half parts at 212° F.; and in ten parts of cold alcohol, sp. gr. 838.

Toronto, Jan. 13, 1875.

* Dict. of Chem. p. 552.