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Design and construction of an equipment for the radiochemistry process of molecules marked for the sector health

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In the Plant of Radioisótopes Production of the Nuclear Center of México (ININ) of Mexico, they are prepared weekly radiofármacos, the Yodohipurato of sodium and the Meta-yodobencilguanidina. These compounds are so called molecules marked with iodine (^{131}I). Nowadays the processes radioquímicos that are used for the preparation of these compounds are carried out of individual and manual form, in a box of gloves, in spite of it, present risks of radiological safety.

To improve these disadvantages, this work, there presents an equipment who is inside a warm cell in order to minimize the risks of radiological safety, the equipment works of semi-automated form in order which one appears a minimal exhibition to the radiation of direct form, for the responsible personnel of marking molecules. The routine industrial production with this equipment, began with the preparation of 9 Yodohipurato of sodium doses of sodium of 2.73 mCi of iodine each one in flasks with saline solution of 4.5 ml and the product that was containing the molecule marked with 0.5 ml, a percentage was obtained of marked with 95.6 %.

The innovation of this work, it consists of presenting a new design of an equipment, where two radichemistry processes are carried out of marked molecules, composed of mechanical, electrical systems and air system.

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