

REPLACEMENT OF MERCURY-BASED TECHNOLOGY TO MEMBRANE-BASED TECHNOLOGY IN ALKALI-CHORINE INDUSTRY IN SÃO PAULO.

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A big chlorine-alkali producing company in Brazil, located in São Paulo, adopted the policy to replace mercury in its fabrication process, following the world trend of extinguishing the use of anthropogenic sources of this toxic metal.

An agreement was entered into between the chlorine-alkali Company **Solvay Indupa do Brasil**, and the **Delegacia Regional do Trabalho de São Paulo/MTE**, on July 19, 2007, through the Mercury National Program and **Cetesb - Companhia de Tecnologia e Saneamento Ambiental do Estado de São Paulo**, to replace the mercury-based production plant for membrane-based technology.

The startup of the plant using this new technology is scheduled for December, 2008. In record timing (about one and half year) the company should build and start the operation of the new membrane-technology plant, and following full deactivation of the production in the electrolytic mercury unit. In this sense, Solvay Indupa do Brasil is an example to be followed, from which, we hope other chlorine-alkali producing companies in Brazil also plan and carry out the replacement of their current processes to membrane-based technology, which is commended all over the world in the manufacture of chlorine-alkali.

The Brazilian production of Chlorine reached 307.3 thousand tons in the first quarter of 2007, according to data from ABICLOR – Associação Brasileira da Indústria de Álcalis, Cloro e Derivados. Solvay Indupa do Brasil S/A is one of the biggest chlorine-alkali producers in Brazil. The other companies that use mercury technology in their production process in Brazil are Braskem S/A, located in Bahia, the Carbocloro Oxipar Indústrias Químicas S/A in São Paulo, the Pan-Americana S/A Indústrias Químicas in Rio de Janeiro and Igarassu Cia. Agro-Industrial in Pernambuco.

Considering that in Brazil there is not prohibitive legislation, the establishment of an agreement of such nature can be considered a big improvement towards the elimination of the risks, particularly, those of dealing with a harmful chemical agent such as mercury.

For many years we have been looking forward to eliminate the use of mercury in many fields of activity, which have already alternative technology available, and in devices containing mercury from the manufacturing process to the use of these products containing this metal that is extremely poisonous to human beings, harmful to animals and a cumulative contaminating element to the environment.

In the industrial sector, the biggest consumers of mercury are the Chlorine-Alkali producers, which utilize mercury technology. The obtainment of Chlorine and Alkali takes place through the passage of an electric current in a concentrated water solution of sodium or potassium chloride, where mercury works as cathode. This method generates big amounts of residue, in which the concentration of mercury ranges from 3 to 7%.

Mercury technology is obsolete and always offers risks, inherent to the process itself, given the peculiar characteristics of the mercury. The inhalation of vapors of metallic mercury may trigger a series of health problems. The invisibility of the vapors and the absence of scent make difficult the association between the exposition to mercury and health alterations, in addition to, the various signs and symptoms that are many times attributed to other pathologies. It is important to remember that many lesions are irreversible, particularly those which affect the nervous system.

The UNEP - Environment United Nations Program Governing Council, after analyzing the reports by the Working Group about the Mercury World Evaluation agreed with the conclusion that *“there was sufficient evidence of significant global adverse impacts from mercury and its compounds to warrant further international action to reduce the risks to human health and the environment”*.

In a report by Ban Mercury Working Group the mercury has been considered “The world’s toxic time bomb”.

The European Community Zero Mercury in a publication regarding the subject concludes that *“In order to create a healthy and equitable living environment for future generations, we must stop the vicious circle of poisoning that mercury use, trade and pollution perpetuate”*.

Humanity has deteriorated the planet in such way that the adoption of urgent measures is necessary to impede or at least to minimize the catastrophic consequences of the pollution.

We hope this news is made public so that more people become aware of this fact.