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IMPROVED MANUFACTURE OF AlF_3 FROM H_2SiF_6

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Experience gathered in aluminum fluoride production during nearly ten years and concurrent development work have resulted in an improved process technology amenable to a reliable large scale production.

The recovery of fluoride values - as aluminum fluoride or cryolite - provides phosphate plants with marketable products and simultaneously alleviates the disposal of a hazardous waste product. Within the next years new plants featuring optimized processing conditions will go on stream.

Within the framework of favorable conditions provided by the phosphate plant (e.g. amount and quality of acid, reuse of side products), process parameters (e.g. reaction, filtration, crystallization), equipment design (e.g. filters, vessels, dryer, calciner) and optimization of process stages were found to be decisive in obtaining reliably a good product at high yields.

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ELECTROLYTIC CELL FOR F_2 PRODUCTION

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In the traditional electrolytic cells for the production of fluorine some inconvenients have been verified such as the deterioration of the contact metal-carbon with following anodes breaking, limiting consequently the duration of the cell to the life of the anodes themselves.

It has been tried to obviate to these and other inconvenients by planning a cell with the following characteristics:

- anodes independents among them by a connection singly executed by direct welding of the current-holder on the copper lamina in touch with the carbon; such a connection facilitates a better current distribution and a higher contact surface.
- the lifting on the bath area of the whole contact part, in a gathering fluorine higher room, gives a lower possibility to the deterioration of the metal-carbon contact.

The advantages found are a higher anodes duration as well as the possibility of identifying and substituting in less time the eventually damaged anode. The cell constructive drawings are furnished.