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THE IMPORTANCE OF DEVELOPING TECHNOLOGY FOR SEPARATION OF CHLORINE AND CHLORINE COMPOUNDS FROM AKTASH ASH SALT

***Abstract**: This article, together with the method of improving the technology of production of chlorine and chlorine compounds, provides for a wide coverage of the spheres of production of chlorine and chlorine compounds and the role in the people's cell.*

***Key words**: Sodium chloride, elektrolyzyer, transformer, chlorine, calcium hypochloride, unchanged vine, plate, alkali, solid cathode, graphite, platinum water basin.*

***Language**: English*

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Introduction

Inventing ways to implement new technologies based on scientific advances has become a key requirement of our time.

Purification of drinking water and purification of drinking water from production processes is one of the main problems of our time. Because all diseases, the spread of bacteria, the disease and death of plants and animals depend on the cleanliness of our water and air. Currently, there are cases of discharge of wastewater from production, sewage and wastewater into lakes or rivers and canals.

When this water is added to rivers or canals, all the animals that consume it can get sick or die. We examined the following cases and focused on the development of technology for the separation of chlorine and chlorine compounds from the salt of the Aktash deposit (sodium chloride).

At present, the world's annual chlorine production has exceeded 25 million tons, but there is still a demand. The electrochemical industry is one of the largest in the industry in terms of chlorine production. In modern industry, the release of chlorine by electrolytic method is 75% worldwide.

The electrolysis method is based on two main applications.

A) Solid cathode (diaphragm)

B) Symbolic cathode (practical)

The main raw material for the production of chlorine and alkalis by electrolysis is an aqueous solution of sodium chloride, rarely used potassium chloride.

These solutions are prepared or a secondary natural wet solution is used.

The solubility of sodium chloride in water is low in temperature: 26.3% NaCl in a saturated solution at

0 0C. At 1000C, a -28.2% saturated solution contains 28.4% NaCl at 108.7 ° C at atmospheric pressure.

Electrochemical chlorination is based on the electrolysis of an aqueous solution of common salt. In general, the reaction is represented by the following equation:

$2\,NaC\ell + 2H_2O \rightarrow C\ell_2 + 2NaOH + H_2$

Regardless of the method of separation, the release of chlorine during electrolysis is accompanied by the release (separation) of chloride ions at the anode.

Molecular chlorine is formed as a result of two successive reactions at the electrode, and the intermediate product includes the ability of the adsorbed atoms to form chlorine:

$C\ell^- \rightarrow C\ell\,(ads) + ye$

$C\ell^- + C\ell\,(ads) \rightarrow C\ell_2 + ye$

In addition, in chlorinated electrolyzers, the anodes must have a highly chemically stable property, and must not be affected or degraded during the separation of wet chlorine, HCl and HClO acids, when oxygen is formed.

Additional sodium hydroxide is formed. Anodes made of magnetite, MnO_2, graphite and platinum can be used to meet these requirements. Additional sodium hydroxide is formed. The electrolysis device offered by us is a comprehensive complex device that can work with diaphragm, membrane, practical, methods of electrolysis. Its advantages are the versatility of the electrolyzer bath, the ability to replace double and series plates (electrodes) in the later stages, high efficiency and the conversion of chlorine into gas or process in the form of chloride, hypochloric acid.

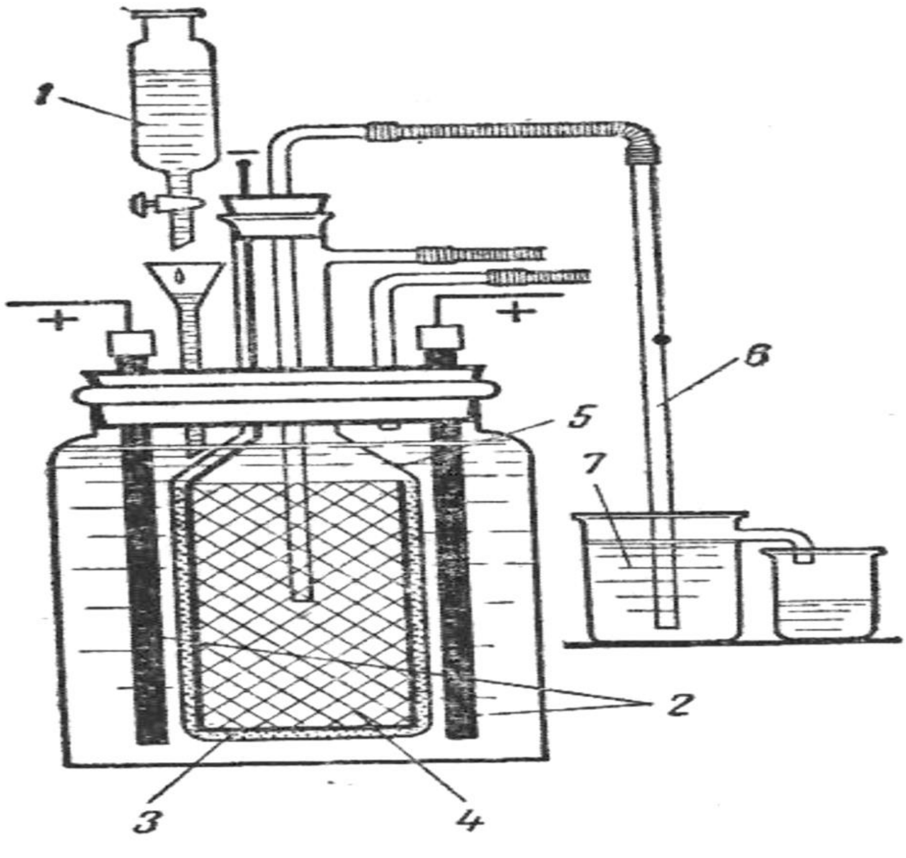

Figure 1. Sketch of the electrolysis device.

1 - saline solution;
2 - anodes made of graphite;
3 - diaphragm made of asbestos cardboard;
4 - cylindrical type of iron or steel;
5 - glass bell;
6 - siphon for solution flowing between the cathodes;
7 - Alkali outlet window.

The technology of electrolysis separation of chlorine and chlorine compounds requires a lot of energy, but the raw materials produced by this method are chlorine and chlorine compounds, hydrogen gas and alkali. Because drinking water is cleaner, it uses less chlorine than wastewater, and the average chlorine content in drinking water should be 0.025% - 0.03%. These percentages may seem low, but they become much higher if we take into account the consumption of water distributed from the reservoir. Water from the waterworks released for daily consumption should be distributed to the population in the amount of chlorine given above. If we take into account the cost of chlorine and chlorine compounds for their disinfection, the products of the double electrolyzer technology itself are in high demand. It is also used in various fields of chlorine production and is currently the main bactericidal disinfectant. In particular, chlorine is also widely used in agriculture for pest control, chlorinated polymers, rubber, in the form of chemical chlorine fibers, bleaching fabric and paper masses, and other industries. The second product is the main consumers of NaOH (caustic soda), which is a synthetic fiber and cellulose - the paper industry and the soap industry. In the chemical industry, caustic soda is used in the manufacture of plastics, insecticides, glycerin, vinyl chloride, hexachlorane and other products. Our conclusion is to preserve the nature, develop production and, most importantly, to organize the production of chlorine from cheap raw materials through a double-plate electrolyzer device by combining theoretical knowledge with practical knowledge so that it does not adversely affect human health.

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