

The exemption application of perfluorosulfonic acid(PFSA) resins and perfluorocarboxylic acid(PFCA) resins and ion exchange membranes for chlor-alkali industry

Xinjiang Zhongtai Chemical Co., Ltd. is located in Urumqi, Xinjiang, It is founded in 2001, and is one of the world's top 500 companies as well as the largest chlor-alkali manufacturer of ion exchange membrane process in China. The Group consists of 7 holding subsidiaries: Xinjiang Huatai Heavy Chemical Co., Ltd., Xinjiang Zhongtai Mining & Metallurgy Co., Ltd., Fukang Boda Coking Co., Ltd., Tuokexun County Zhongtai Chemical Salinization Co., Ltd., Xinjiang Sinochem Import & Export Co., LTD, Qitai County Zhongtai Chemical Mineral Developent Co., Ltd, and Xinjiang Zhonglu Mining Co., Ltd. Xinjiang Zhongtai Chemical Co., Ltd is the most important chemical enterprise in Xinjiang Uygur Autonomous Region, with its main products: vinyl chloride resin (PVC), ionic exchange membrane caustic soda, industrial salt, calcium carbide, coke and other chemical products, all of which are widely used in petroleum, chemical industry, light industry, textile, building materials, national defense and other more than 20 large industries. It has supported the rapid development of the autonomous region, undertaken huge social responsibilities, promoted the rapid economic development of China and the world, and cultivated many cooperative trade partners in China and the world.

The production of chlor-alkali by ion exchange membrane is a mature industry in which caustic soda, chlorine gas and hydrogen gas are produced by electrolysis of salt water, and it plays an important role in the development of human economy. In the future, affected by the incremental demand of downstream petrochemical, new energy, environmental protection and other industries, chlor-alkali industry will has further incremental demand. The core equipment of chlor-alkali industry is the electrolytic cell, and the core device of the electrolytic cell is the chlor-alkali ion exchange membrane, which is called "the chip of chlor-alkali industry" because of its advantages of low energy consumption, low operating cost, low environmental pollution and high purity of caustic soda products.

The ion exchange membrane method, which replaces the traditional mercury method and diaphragm method, is currently the most advanced chlor-alkali industrial electrolysis method in

the world. It is an advanced production process discovered by human beings after a long time of exploration and it is difficult to have a new alternative method in a short time. The ion exchange membrane method improved the structure of the electrolytic cell, and the quality of high-purity caustic soda produced by mercury method was similar to that of mercury method, but it did not have the disadvantages that mercury method might cause mercury pollution in the environment, and also saved the steam consumption of thin NaOH solution concentrated by diaphragm method. In terms of total energy consumption, the ion exchange membrane method is lower than the mercury method and the diaphragm method, if the production of 50%NaOH commodity, the ion membrane method can save 20-25% energy consumption than the mercury method and the diaphragm method.

The ion exchange membrane is composed of perfluorinated sulfonic acid(PFSA) resin and perfluorinated carboxylic acid(PFCA) resin, which is the core component of chlor-alkali industry, and there is no alternative product in a short time. The social benefits brought by the use of this product far outweigh its possible environmental risks. Once banned, it will cause the lack of chlor-alkali industry, and then affect the normal operation of many downstream related industries such as petrochemical, light industry, textile, building materials, metallurgy and so on. Once the chlor-alkali industry returns to the original mercury method or diaphragm method electrolysis, it will have a more serious impact on the environment, energy, human health, industrial development and other aspects. The control of mercury pollution in mercury processing will be an important issue, and we should learn from the history of Minamata disease in Japan in the 1970s. The increase of salt content in diaphragm alkali can not be directly applied to the use of chemical fiber and other sectors, which will affect the development of chemical fiber industry. The accumulation and disposal of asbestos waste is another environmental problem. The high energy consumption of tons of alkali electricity will greatly increase the production cost of each chlor-alkali company, which is also contrary to the current development direction of reducing energy consumption of chlor-alkali industry.

In view of the above, we request a permanent exemption for the following products.

Monomers: tetrafluoroethylene(CAS:116-14-3), Perfluoro (4-methyl-3,6-dioxaoct-7-ene)

sulfonyl fluoride (PSVE)(CAS:16090-14-5), Methyl perfluoro (5-methyl-4,7-dioxane-8-ethyl enoate) (PCVE)(CAS:63863-43-4) and so on.

Polymers□Perfluorosulfonic acid resin□Perfluorocarboxylic acid resin.

Membrane products□Perfluoride ion exchange membrane for chlor-alkali industry.

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