**The method of further stabilize highly concentrated hydrogen peroxide for its storage and transportation in stainless steel**

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**Keywords:** phosphonic acids, hydrogen peroxide, stabilizers, storage.

Investigations possibility of storage national production hydrogen peroxide with a concentration 85% (PV-85) in stainless steel. Have developed a simple, cheap, safe and environmentally friendly way to further stabilization highly concentrated hydrogen peroxide for its long-term storage and transport practices in containers made of stainless steel with a guaranteed preservation of the whole complex of properties of hydrogen peroxide. It is shown that the use of an additional stabilizer complex phosphonic acids and surface treatment of stainless steel tanks can significantly increase the shelf life of hydrogen peroxide in these containers.

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**Advances in MQ-resins manufacturing and use**

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**Keywords**: MQ-resins, trimethylsiloxysilicate oligomers, manufacturing, use

The paper deals with a brief history and current state-of-the art of organosilicon resins related to trimethylsiloxysilicate class and known under the trade name MQ-resins. The data presented show that at the beginning of the 21st century there has been a notable increase in interest in the MQ-resins and related technologies. A wide range of the produced MQ-resins and certain products based on them is shown. The largest MQ-resin manufactures include: Dow Corning (USA), Momentive Performance (USA), Wacker Silicones (Germany), Shin-Etsu (Japan), Shandong Dayi Chemical (China), Miliken (USA), Siltech (Canada), KCC (South Korea). Great demand for MQ-resins is satisfied by advanced industries and medicine. The current state-of-the art of the MQ-resins in this country is highlighted. The role of GNIIChTEOS in the development of domestic MQ-resins industry is specified.

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**History and prospects of continuous organomagnesium synthesis of**

**triorganochlorostannanes**

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**Keyword**s: organotin compounds, continuous organomagnesium synthesis of triorganochlorostannanes, process selectivity.

We have studied various parameters effects of continuous organomagnesium synthesis of triorganochlorostannanes in the same reactor where the continuous organomagnesium synthesis of tetraorganochlorostannanes was worked out. Meanwhile the influence of RX/SnCl4 molar ratio, temperature in the reaction zone and other factors on the yield and composition of organotin compounds was investigated. While developing tributyl-, triphenyl and tricyclohexylchlorostannanes process the previous results of continuous organomagnesium compounds syntheses were taken into consideration. The conducted research resulted in the development of directed continuous organomagnesium synthesis of triorganochlorostannanes, R3SnCl (R = n-Bu, c-Hex, Ph). Organotin compounds process differs from the conventional methods by high specific output (mole.h-1**.**l-1) safety thus allowing to refer it to the technologies of the 21 century, corresponding to “Green Chemistry” concept.

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**Synthesis of mono-, tricyclic esters silicon and protothronos on the basis of biogenic alcohols**

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**Keywords**: physiological activity, silatrane, heterostracan, alkoxysilanes, prototron, quasipatterns, aminoalcohols.

On the basis of the corresponding alkoxysilanes, tri-, and diethanolamines synthesized biologically active compounds which are mono- or tricyclic silicic esters - silatranes and geterosilokany. Were also prepared: silatranovye derivatives of ortho-cresol, ortho-methacrylic acid krezoksiuksusnoy imidazole, dimethylpyrazole. The optimal methods for their synthesis. Compositions of physiologically active substances based on organometallic and organic ionic complexes. Studied the physiological activity of several compounds.

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**Synthesis of decahydro-*closo*-decaborate anion derivatives. Development and investigation**

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**Keywords**:2-*closo*-decaborate group, cyclic oxonium derivatives, polyhedral boranes.

The history of the discovery of boron hydrides and a new class of related compounds – polyhedral boron hydrides and carboranes is reviewed. Their synthesis was one of the most important events in the field of inorganic and organometallic chemistry. The main contemporary approaches to the synthesis of functional derivatives of *closo*-decaborate anion are discussed. Nucleophilic disclosure of the cyclic oxonium derivatives resulting in compounds where the boron skeleton is separated from the functional group by a chain of 5-6 atoms minimizing its impact on the properties of boron-containing biomolecules is of the greatest interest. Other approaches include the formation of Schiff bases and their subsequent reduction to benzylamine derivatives and the of activated nitrilase derivatives interaction with various nucleophiles. Analysis of the 1H NMR spectra of the obtained derivatives showed that 2-*closo*-decaborane group has a much larger electron-donor effect as compared to 1-*closo-*decaborane, and most of other polyhedral boron hydrides occupy an intermediate position between them.

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**The combination of denitration of waste sulfuric acid and the concentration centrirovannomu acid**

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**Keywords:** denitration, spent sulphuric acid, oxidation, hydrogen peroxide, acid Caro, concentration.

We investigated the oxidation of nitric oxide (III) containing in the sulfuric acid, by hydrogen peroxide and proximodorsal acid to nitric acid in the stripping hot non-condensable phase and simultaneous concentration of the purified acid. We optimized processes of oxidation of nitric oxide (III) to nitric acid in the liquid phase and the removal of nitric acid hot noncondensable environment with simultaneous evaporation of the acid. At a temperature of 20 ° C the introduction of peroxide of hydrogen to nitric oxide (III) in a ratio of from 0.85 : 1 to 1.7 : 1 when the duration of the oxidation of 5 - 10 minutes allows you to oxidize nitric oxide (III) 40 - 70 %. Raising the temperature to 80 ° C increases the rate of oxidation of nitric oxide (III) up to 90 % or more. When the temperature is raised to 180 ° C and the purge time of 30 minutes, the content of nitric oxide (III) and nitric acid is less than 1•10-4 %, and acid pariveda up to 80 %. With the introduction of proximodorsal acid such indicators can be achieved at a temperature of 170 ° C and a time of 30 minutes.

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**Distribution of the products in reactions of ethylene and propylene oxides with the alcohols of naphtene series**

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Distribution of the products of oxyalkylation reaction of napthenic acids with α-oxides in the presence of sodium hydroxide. Consecutive–parallel oxyalkylation reaction of napthenic alcohols was conducted. Optimum mode of oxyalkylation reaction was selected. Distribution coefficients of reaction products of oxyethylating and oxypropylation of alcohols were found and analyzed.The content of alcohols and products of their oxyalkylation were determined by gas-liquid chromatography. Dependence of molecular fraction of the oxyalkylation products of alcohols on average degree of oxyalkylation was defined.

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