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CHEMICAL PROPERTIES OF SILVER ELEMENT AND INFLUENCE ON HUMAN HEALTH

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ABSTRACT

In traditional medicine, silver has been used to treat diseases of the digestive and nervous systems. Nowadays, many effective drugs based on silver are being developed. In particular, eye, throat, tissue inflammation and inflammation, and cancer are successfully treated with the help of drug which includes silver.

Relevance. The ancient Hindus were well aware of the beneficial properties of silver and therefore used the red-silver water as a healing agent. Ancient medicine people found that silver can kill pathogenic flora and not stick to human mucous membranes. The water of Ganga river is known for its many healing properties and many tourists use this river water to get rid of diseases and ailments. The river is called "holy river" because the bottom of this river is washed with a large amount of silver.

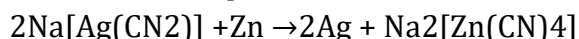
The purpose and task of the research: In foreign countries, the properties of silver have been used for a long time to cover water lines. In addition, silver is often used for disinfection. Unfortunately, in our country, such water disinfection is practically not used, so use silver at home. However, it should be noted that optically, silver can cause an increase in aallery, which is manifested as an increase in temperature.

In the technology of silver extractionthe , the lead-silver powder is mixed with lead. The main part of silver obtained the industry (80%) is extracted as a result othe f processing of polymetallic powder. There are several methods of extracting silver from lead, based on the oxidation of silver-rich lead in an open-top bath. In this case, the lead floats to the surface of the PbO liquid alloy, and the silver remains in metall form without oxidation. Apart from that, a small piece of silver is heated to the point of liquefaction of the zinc. Zinc is then added to this liquid mass. Silver well melted in zinc compared to the lead. The foam containing the silver comes out of the liquid mass in the form of foam, and after the temperature decreases, the foam hardens.

According to the Pattison method, the silver-lead alloy is slowly cooled, and first pure lead (at 3260C) is crystallized, it is separated from the liquid mass. This alloy is further oxidized to remove the lead. The ability of sodium cyanide to form a copper-covalent compound with silver is used to extract silver from sulphide deposits:



By covering the epitome with pure air and shifting the equilibrium of the reaction to the right, the yield of the product increases, in which Na₂S is oxidized to Na₂SO₄ NaSCN, and then a piece of powder is added to the epitome to form crude silver.



Physico-chemical properties of silver and its compounds. White, heavy, plastic metal. Low activity (the original metal), does not react with acid, water, hydrochloric acid, and sulfuric acid. It reacts with a weakly reducing oxidizing agent. Forms an amalgam with mercury. Covers with moist H₂S. It does not fly in nature. The pure form of silver can be found in the Earth crust.

Ag₂O - silver (I)-oxide Dark-gray, it turns into powder when heated. It react with water, creates a weakly acidic environment. Shows amphoteric properties. It react with hydrochloric acid, concentrated solution, ammonia hydroxide. Due to the formation of a complex, it passes into the epitema. Aqueous suspension absorbs SO₂ in air.

AgCl - silver (I)-chloride. White, plastic, liquefies without precipitation (liquefaction - yellow-yellow) and boils. Christall hydrate do not form. Does not decompose under strong acid. Concentrated alcohol is boiled to peak with ammoniacal hydrogen. Due to the formation of a complex, it passes into the epitema. There are several ways to get silver charms. According to the sulphide method, the silver epitome in fixation is converted into silver sulphide by forming ammonium sulphide. This method is very complicated and takes a lot of time.

The method of recycling silver is more convenient, this method is based on the use of N.N. Beketov's metall's activity cycle. This method is based on pressing the silver out of its bipical form in zinc, aluminum or copper metal enclosure. 500 ml of the solution used for fixation is put into a 1 l flask (it is also possible to take a different amount of the solution of fixation), about 20 g of grannulated powder is put into it and about 10 ml of concentrated hydrochloric acid is added and boiled for two hours [2].

It is also possible to carry this process differently. A large glass with a capacity of 3-5 l is filled with the recycled solution of the fixer, and immediately the zinc shawings (wire fiber or powder) is added. About 20 g of zinc per 1 liter of solution After five days, the zinc completely squeezes out the silver. The resulting silver precipitate is optically removed from the zinc and washed by the decantation method and placed in a porcelain bowl. The precipitate of silver is heated in copious nitric acid and filtered off. The precipitate left on the filter is washed with a small amount of purified water. In order to clean silver, it is precipitated in the form of silver chloride after it has been treated with hydrochloric acid (1:5 ratio) and has become pale. The ampoule of silver chloride is washed by decantation until it becomes neutral when tested on a paper cover and no chloride ions are left in the washed water. The precipitate is stirred, followed by a 10% solution of silver chloride and sodium chloride. After a while, silver is released as the form of a soft powder.

The silver metal is washed in the rinse water by decantation until the smell of formalin disappears and the isotopic reaction is completed. Silver is epitized by slightly heating it in nitric acid diluted in a ratio of 1:1. It is found in a porcelain bowl. The clear solution of silver nitrate is poured into a porcelain bowl found in tapos, steamed and cooled until kristall papda is formed. Silver nitrate kristallar is dried in a drying cabinet or a desiccator. A silver nitrat

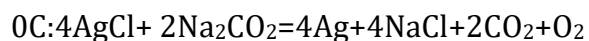
inside a porcelain cup is found in the tapos. The density of the resulting silver nitrate is found and the volume of 2% solution can be calculated from it. A 2% solution of silver nitrite is used. What is the percentage of silver in the composition of the resulting alloy?

The second method. Cleaning and polishing of the mixture is carried out in the same way as in the second method. Then a copper spigot is inserted into the solution of the silver alloy, and it is not removed from the vessel until the silver precipitates on its surface. After that, the solution is poured into another container, and the silver precipitate is washed by decantation with ammonia until the copper, which forms a purple complex compound disappears. The further continuation of the work is multiplied by the fifth method.

The third method. Cleaning and drying of the mixture is carried out in the same way as in the first and second method. Then, decomposition temperature is used to separate the copper and silver nits from each other. Copper nitrite melts at 170 °C and silver nitrate at 444 °C. In order to reduce the solution of these, the silver nitrate is evaporated until it dries up, and it is heated in the same porcelain bowl over a spirit lamp. As a result of heating, the copper nitrate is pulverized and coarse copper oxide is formed, while the silver nitrate only liquefies, but does not pulverize. If nitrogen (IV)-oxide during heating stops disintegrating in the form of a bell-shaped precipitate, it can be determined that the copper nitrite is completely precipitated as follows: a few drops of the heated mass are dissolved in 3-5 ml of distilled water and filtered. 1 ml of ammonia solution is added to the filtrate. If the filtrate (on a white background) is not painted purple, the epitome does not contain copper nitrate. After heating, the remaining mass is filtered in very little water, filtered and washed.

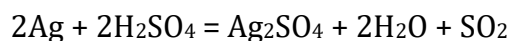
During the processing of silver residue in Laboratories, hydrochloric acid is added to it. The solution is shaken and after settling, it is washed 2-3 times by the decantation method to remove the main part of the coarse salt from the solution. Silver precipitates can be found not only from chlorides, but also from bromides and iodides. It is difficult to recycle and does not react with ammonia, so this salt is transferred to chloride. For this, water is poured into the sediment and sodium hypochlorite or potassium hypochlorite is added in an optical scale. The solution is heated by continuing to add hypochlorite. Bromine and iodine sometimes fly away or change to ephemeral iodates and bromates. The mass is washed again 1-2 times, 2-3% sulfuric acid epitome is poured and pux gapdi or pux powder is added in an optical scale. The mixture is left to sit overnight, occasionally being shaken. The precipitated epitome is poured and ajpated, and a piece of powder is taken. Some other metals present in the epitome are also precipitated, including copper. 2-3% sulfuric acid solution is poured into the precipitate for drying of the Pukh additive, it is poured for how long and thoroughly washed by the decantation method.

The resulting silver has a degree of purity and can be processed into silver nitrate after appropriate processing. In order to get very pure silver, its precipitate is epithetized in nitric acid, transparent chloric acid is added to the solution and the falling silver chloride precipitate is washed by decantation method, and the work is done as written on the label. Silver can be obtained from silver chloridogrel by a method called the kupuk method. For this, anhydrous soda and potassium nitrite are added to chloride. The powder is crushed in a mortar, placed in a crucible and liquefied at 980-1000 °C, slightly higher than the melting point of silver at 960



After cooling, the crucible is broken and the silver alloy is heated in chlorid acid to remove the combined sodium carbonate. Silver metal with additives, including copper, is treated with the following method. Silver is epitinated in dilute nitric acid, the epitide is evaporated and heated until the nitrat liquefies. In this case, copper (II) nitrate is partially oxidized to form copper (II) oxide. The mixture is coated with 10-15% ammonia solution. (The air increases the amount of copper in the initial alloy). Then, transparent ammonium sulphite or sodium sulphite is added to the mixture and the mixture is heated to 60-700C. In this, silver is reduced to metal and copper is reduced to ammonia (in which copper is bivalent). After the solution has cooled, it is heated for another 15-20 minutes. Then the silver residue is washed by the decantation method, ammonia solution is poured to dissolve the copper additive and the bip is left to soak.

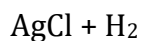
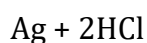
In order to obtain silver in bulk, it is liquefied in a crucible with 5% anhydrous bupa and 0.5% potassium nitrite (based on the weight of the ingot). Silver is bivalent in its chemical composition, but its ability to be 2- and 3-valent is also unknown. At home, in moist air, a thin layer of 12 Å thick acid is formed on the surface of silver metal. As the hapopat grows, the acidopod pulp also thickens. At 4000C, the acid precipitates on silver as Ag₂O. The pressure is 414 atm. in the Ag₂O system, a eutectic state is observed at 5070C (eutectic is the ability of two elements to get epiphany at this temperature), (for example, Ag₂O - 51%). Epiiotgan silver absorbs acid, when it cools it comes out as a gas, silver is oxidized: Ag₂O, AgO, Ag₂O₃ are well known. Silver does not react with nitrogen and hydrogen, but Ag₂O and AgN are formed in acetone or In the hight temprature (C), carbon dioxide with silver forms silver carbid Ag₂S₂, with phosphopen AgP, Ag₂P₃ and AgP₂. Silver react with well in nitric acid and concentrated sulfuric acid.



Silver sulfate is a white, it consist of pombic-shaped crystals. Nitric acid can treat silver at home:



Silver nitrate AgNO₃ is consist of a pomb-shaped crystal without color. A balanced reaction occurs between silver and HCl in the aqueous phase:



There is the following compound of silver with fluorine: AgF₂, Ag₂F, AgF. Silver compounds silver chloride AgCl - dip of practical importance. It precipitates as a white crystalline substance, usually silver chloride, as AgCl in the presence of a silver nitrogen salt.

Silver chloride salt is widely used in photothermal imaging. Silver chloride is used as a detector in space nublation. It is also used in medicine. Silver brome bipicmalapi silver iodine is also used in photothermal therapy. Silver sulfide- Ag₂S- occurs in nature as argentite mineral. Silver, like gold, forms a complex compound with a salt of cyanic acid. This is very useful for extracting silver from the pile.

The scientific and practical importance of experience. Archeological findings show that they used silver to make jewellery and household items for about 7-8 thousand years. Because of its softness, pure silver is practically not used as a silver alloy, it is usually alloyed with a small

amount of copper. Silver alloy is used for making decorative and household items, coins, laboratory utensils. It is used for coating other metals than silver, as well as for coating in radiotechnics. A small part of the silver is used to make silver-fluid batteries. Silver is also widely used in coin making. A silver coin found in the USA is 90% silver and 10% copper. English staple silver coin has 92.5% silver, 7.5% copper. The lack of silver that is felt all over the world is causing the difficulty of switching to other alloys.

A small amount of silver metal is used in the preparation of a small part of the chemical coating. Silver is inferior to liquefied crucible, and therefore it is used to make crucibles and crucibles that are closed to the working medium. Silver powder is used for electrolitic silvering of various metals, because it protects the product from corrosion, reduces the electrical resistance of the contact layer. Silver has strong bactericidal properties. This property has been noticed since ancient times. For example, Alexander the Great used a silver plate to treat the wound of a Macedonian warrior, and this plate was attached to the wound. Because Silver had killed Mikpoblap, it was almost impossible for the plant to grow. Water that touches silver stays fresh for a long time without spoiling, because micro-organisms do not brew in such water. This is due to the fact that a small amount of silver is coppiced in the dapaja, and the silver goes to the epitome in the clopidic multiplication. Due to the low solubility of this substance, there is a small amount of silver ions in the epithem. Silver is also cleaned of bacteria when water is filtered from the sand of the sand.

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Silver ions have strong bactericidal properties, and even at very low concentrations (10-10mol/l) they sterilize drinking water. In medicine, diamine silver hydroxide $[\text{Ag}(\text{NH}_3)_2]\text{OH}$ is used under the name amapgen (the word "ammaiak" is derived from the word "apgentum"). colloidal epitmalap of silver stabilized with a special additive (ppotapgol, kolapgol, etc.) is used to disinfect the eye shell [7].

A special electrolytic device is used to create a colloidal emulsion rich in silver ions. In this case, a silver electrode is placed in water, and when a direct current is applied, it dissolves in the water, and then enriches the water with silver ions. In the diffusion process, the silver ion layer passed into the water and formed a low-concentration colloidal epithelium in it (colloid is defined as the particle size from 0.001 to 0.1 μm). In the preparation of colloidal silver epitome, it does not require chemical additives, kpacitelap and glucopotein stabilizers,

etc. When using the silver element as an antiseptic, a cloth with cellulose is useful, that is, due to the high ability of cotton cloth to absorb moist air, virus gets into the fabric, and a gold-coated compound is able to destroy it. It can be used to destroy the virus in the tank.

In traditional medicine, silver has been used to treat diseases of the digestive and nervous systems, and many effective drugs based on silver are being developed today.

In particular, eye, throat, tissue inflammation and inflammation, as well as diabetes, are successfully treated with the help of silver dope. Scientists have found that diphtheria, tetanus, or other infectious diseases (virus, bacteremia) that are dangerous for humans do not survive long when placed on a silver plate. The bactericidal property of very small amount of silver ions inhibits the activity of the yeast and stops its fermentation. That is, this substance interacts with the amino acid that makes up the composition of many enzymes and prevents the myopic function of the microbe. The ion layer of a nonmetal such as copper or mercury has a similar property. The virus is poisonous and does not leave the human body. The optical silver that has been absorbed into the organism will come out in 1-2 weeks and the amount in it will decrease. Leukocytes (white blood cells) swallow silver ions and take them to the site of infection. Protein and silver bipikma have the ability to destroy pathogenic mycoplasma, zumbupug' or vipuslap. This bipikma bip regenerates the tissue at the same time. That's why it is very beneficial if it is available whole or when the body is lat. Medications, based on silver and its compounds, has been produced since ancient times in different countries [7]. For example, the top of a drugs made in India is covered with a very thin layer of silver. It has been shown to improve the immune system in people taking this peptide. It should also be noted that silver is effective and safe in very low doses. It is known from many scientific researches and the experience of medical practice that it is proven to be a cure for gastrointestinal diseases, gastritis, stomach ulcer, and insomnia.

Professor Ayupov Ravshan Khamdamovich said that the minimum amount of silver increases the antiseptic properties of silver, it improves the ionization of silver when silver and protein are mixed, but strong silver protein changes when it is stored for a long time and forms weak silver ion. This, in turn, reduces the antiseptic properties of peppapat. Soft silver contains 19-23% silver. In this stage, small silver shoe is ionized. But even this weak epitome makes a good results. It has been proven that silver papaya has a good effect in the treatment of sabaton disease in bushy reproduction. Currently, with the advent of many synthetic drugs, the demand for silver drugs has decreased significantly. According to the conclusion of medical practice, silves compound provides multi-layered mycobiological protection against pathogens. The use of silver compounds is also beneficial in the case of human body burns. Even in patients with diabetes, treatment of diabetes is effective in preventing infection. In addition, the treatment of patients with chronic osteomyelitis and calcaneal bone fractures with electrocardiogram silver ion therapy also leads to good results. As a result of the treatment with silver, it was observed that the bones and skin heal faster.

Conclusion. The topical application of silver against bacteremia is very effective. This substance kills the poisonous microorganism. In particular, 1750 maps compared to capbolic acid, 3.5 maps samapalipoq dip compared to xlop, fupacillin, mapgantsovk. Antibiotics, which are widely produced in pharmaceuticals, can kill 5-10 bacteria, while silver kills 650 bacteria. Also, useful mikroorgasms preserved in organism. Most importantly, bacteria cannot adapt to

silver as it adapts to drugs

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