

The non-obstructed cross-section of the plasma body offers many advantages compared to more traditional discharges. However, since the operation of the device greatly relies on the pressure of the surrounding gas, it is not suitable for a low-pressure environment [3]. In conclusion, the radio-frequency plasma torch poses a great interest for both theoretical and practical research. Although the electronic circuit designs of such devices are well-known and diverse, the physical explanation of the process is still not fully developed. The mentioned plasma source also has many potential applications, including surface treatment, ignition, and energy transfer.

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NON-USEFUL PROPERTIES OF "USEFUL" ALUMINUM

The following facts are well-known about aluminum: it is an element of the IIIA group of the Periodic Table; it is the most abundant metal and the third most abundant element in the Earth's crust; its characteristic oxidation state is +3.

Aluminum is the most versatile and widely used metal on the planet. It is the material № 1 in aircraft construction, food industry, and the production of tableware. This success is due to the fact that it is easily separated from its ores, is resistant to corrosion and has high thermal and electrical conductivity; has a low density and is extremely plastic, as well as perfectly amenable to pressure treatment in the cold state. However, the efficiency of extraction and utilization of this metal by the aluminum industry does not align with the geochemical cyclicity of aluminum, as nearly half of it constitutes non-recyclable waste, which imposes a significant burden on landfills. The decomposition period of aluminum cans exceeds 200 years.

Therefore, there is an urgent need to understand how to live safely and efficiently with aluminum. There is an opinion that aluminum is a "safe" metal which does not have any particular negative effects on human health. However, in

reality, the assumed "safety" of aluminum is just a successful marketing ploy. In reality, aluminum is an immunotoxic bioelement with a mutagenic effect, capable of accumulating in the human body. It is known that aluminum is a cause of dialysis encephalopathy and contributes to the development of Alzheimer's disease. Depending on the concentration, aluminum has an inhibitory or activating effect on digestive enzymes; it blocks the active centers of enzymes involved in hematopoiesis, affects metabolism (especially mineral), participates in the regulation of nervous system functions, reveals the competing action of P, Ca and Fe, affects cell reproduction and growth, as well as reproductive capacity, embryonic and post-embryonic development [1, p. 73].

As is known, each of the external surfaces of the human body (skin, nose, lungs, and gastrointestinal tract) can serve as a route for aluminum entry into the body, promoting its absorption and subsequent systemic accumulation. In this way, they become targets themselves for the biological activity, and thus, the toxicity of aluminum. In the human body, aluminum is concentrated in bones, liver, lungs, and gray matter of the human brain. The sources of aluminum intake by the body are air, drinking water (the main source of intake), food, medicines, cosmetics and perfumes. It can also enter the body from aluminum dishes and aluminum foil, because it penetrates into the food during hot processing of food products or baking bread. The average aluminum content is 61 mg per 1 kg of body weight, and the daily requirement is 35–49 mg.

Therefore, a question arises if we should be afraid of aluminum. In order to understand to the full extent, or at least estimate, the effects of aluminum on humans and its importance to human health, two aspects must be taken into account. The first is that no organism needs aluminum to complete its life cycle. The second is that aluminum is not apparently toxic to humans. The biggest harm from aluminum is that it is poorly excreted. It is capable of accumulating and triggering negative processes in the body, which manifest themselves in the form of various diseases. In this way aluminum reveals its hidden toxic effect [2].

Summing up, we should point out that the issue of the effect of aluminum on the human body has not been investigated thoroughly and requires further scientific research. It is necessary to determine the specific biological role of aluminum, to find out whether certain physiological systems may be more susceptible to aluminum "attack" than others, as well as to understand the nature of any increased vulnerability.

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THE USE OF ALBUVIR TO PRODUCE A LIFE-SUSTAINING YOUNG CRAYFISH

Marbled crayfish or Marmorkrebs (*Procambarus virginalis*) is a perspective species in aquaculture and water areas because a single individual is only needed to establish a new population, and they can reproduce asexually. Therefore, it is important to clarify the biological aspects of its breeding and the influence of biological additives «Albuvir» on the young generation's vitality. Albuvir is a broad-spectrum antiviral agent. The drug is a composition of acidic peptides capable of self-organization and self-adaptation in the body. Their mechanism is based on the blockade of nuclear import peptides and prevents import from the viral genome from crossing the nuclear membrane. An interesting detail is that adaptation to the drug is impossible for the virus and for the animal organism because the drug is a quasi-living self-organizing system and its composite pharmacophore is unique for each animal and virus. Marbled crayfish is reproduced by means of parthenogenesis – an asexual reproduction in which a female can produce an embryo without fertilizing an egg with sperm. As a result, their offspring is genetically identical, which makes this species the best research object.

To determine the most optimal conditions for marbled crayfish breeding, a number of experiments were carried out and the following results were obtained:

4. The water temperature in the tank is 21° C.
5. The water is changed of necessity but at least once a week.
6. The compressor maintains oxygen supply in the water.
7. Decorative water plants, including plastic ones, must not be placed into the tanks as crayfish are very active and can eat them up.
8. The feeding of the species is carried out once a day. The amount of food should equal 5% of the total mass of the population.