



LIGHT WATER:

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H₂O LIGHT AND HEAVY

Everybody knows the formula of water - H₂O. But it turns out that the water we drink is not so uniform in its chemical composition. Actually, natural water is a mix of nine varieties of H₂O molecule. Scientists call this complex mix of different types of water molecules **isotopes**.

Molecule ¹H₂¹⁶O is interesting for us as it makes 99.7% of water volume, that is the main volume and mass of water. The remaining 0.3% represent a mix of other eight types of molecules.

It is accepted to call water consisting of ¹H₂¹⁶O molecule light-isotope water -

light water, and the mix of the eight other molecules – heavy-isotope water.

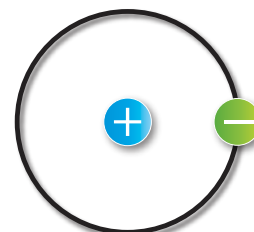
When water is called light water, its molecules consist of atoms of light hydrogen and light oxygen. The light atom of hydrogen is called **protium**, and the heavy atom of hydrogen is called a **deuterium**. The difference between them is in the fact that the nucleus of heavy atom of hydrogen (deuterium) has a neutron particle, and the atom of light hydrogen (protium) does not have it (fig. 1).

Atoms of heavy oxygen are represented by two types. The nucleus of the first one has one neutron called **oxygen-17** (¹⁷O), and the nucleus of the other heavy

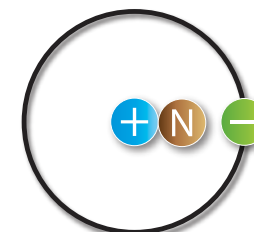
atom of oxygen has two neutrons, and it is called **oxygen-18** (¹⁸O).

Neutrons have no electric charge and therefore don't break the balance of power of atoms, but they have weight, and that is why heavy atoms of hydrogen and oxygen and are so called.

These two types of water have different, even opposite influence on live organisms. Light water stimulates biological processes in organisms and is useful (we will talk about it later), and heavy water on the contrary suppresses these processes inflicting damage to organisms in people and animals.



+ protium - electron



+ protium - electron N neutron

Fig. 1. Protium (the light atom of hydrogen) and deuterium (the heavy atom of hydrogen)



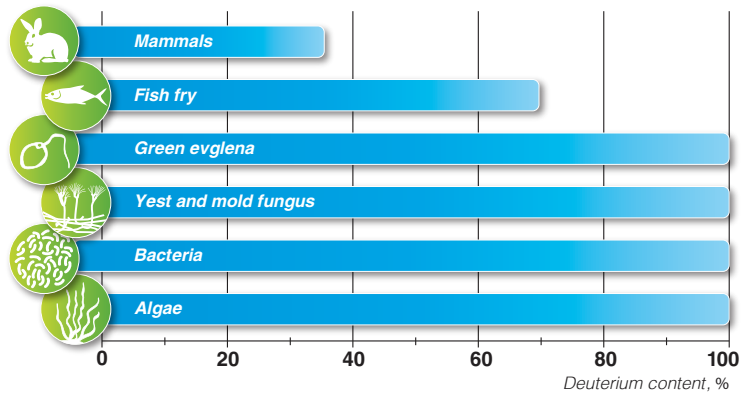
Thus light and heavy water have opposing influence on live organisms.

Light water activates protective functions of organism, increasing immunity quickly and effectively removes dangerous products from the metabolism, leading to normalization of metabolism in cells, and reducing body weight. Light water is most natural for organic cells, it prevents and considerably slows down development of diseases as diabetes, cardiovascular, carcinolytic, and other diseases. In case of the corresponding symptoms of diseases light water helps to recover from such diseases by itself or as an addition to other medical means.

Heavy water quite the contrary negatively influences on the organisms of people, animal, plants, and suppresses their vital functions.

The diagram (fig. 2) shows survival rate of various organisms at different con-

Fig. 2. Survival rate of various organisms at various concentration of deuterium in water



centration of heavy water. Figure 3 shows slow down in plant growth after increase of concentration of a deuterium in water. Even very small reduction of molecules

of heavy water in the total water volume has a very positive influence on human health and considerably increases average life expectancy.



Fig. 3. Slows down plant growth after increase of concentration of deuterium

APPLICATION OF LIGHT WATER IN TREATMENT OF DIABETES

Diabetes is a serious disease. Deficiency of **insulin** hormone in human body first causes violation of carbohydrate metabolism, and then of other metabolism processes resulting in harm to all functional systems of organism. Diabetes mortality is on the 3rd place after ischemia and cancer.

Light water in treatment of diabetes means that a diabetes patient together with a diet and insulin injections should drink 1-1.5 liter of light water daily.

The best effect were observed during applying water with the deuterium content less than 100 ppm and the oxygen-18 content less than 1800 ppm.

Light water is the most optimum drinking water with no restrictions. Regular drinking water results in removal of heavy isotopes from biological liquids of organism. Light water changes the structure of water in organism that results in changes in the properties of cell membranes and in improvement of metabolism processes at the cell level. A positive effect of application of light water is in normalization of carbohy-

drate metabolism, permeability of cell membranes due to improvement of functioning of various enzyme systems responsible for transport of hydrogen and oxygen ions, of glucose and insulin to cells.

Diagram (fig. 4) illustrates results of clinical tests. Blue color shows the level of sugar in blood before drinking light water, green color – after drinking water. The difference is especially obvious in results of the test group which was drinking light water, and insignificant difference can be observed in results of the control group which was drinking common water.

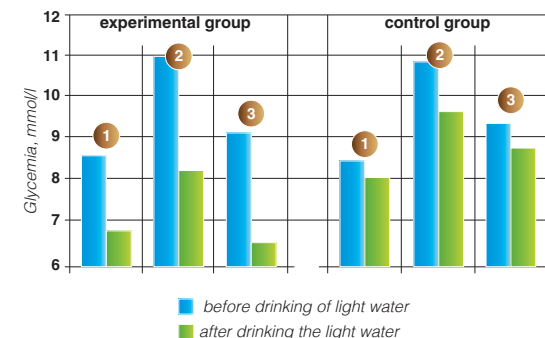


Fig. 4. Dynamics of carbohydrate exchange of the 2nd type diabetes patients before and after taking light water:

1 – on an empty stomach, 2 – in 1 hour, 3 – in 2 hours

APPLICATION OF LIGHT WATER IN CANCER TREATMENT

Antitumor properties of light water were discovered in 1993 by G. Somloi, a Hungarian microbiologist. In his opinion, regular drinking of light water makes it possible to reduce concentration of deuterium in cells of organism and thereby to slow and even to halt cancer development.

Results of experiments indicated the following:

- in an environment with lower than natural content of deuterium, division of tumor cells of adenocarcinoma of mammary glands starts with 5-10 hours delay;
- almost 60% of mice with suppressed immunity and transplanted human mammary tumor demonstrated complete extinction of tumor after application of light water (30 ppm);
- mice with transplanted human prostate tumor demonstrated increase of survival rate by 40% after application of light water (90 ppm).

Clinical tests of light water demonstrated the following:

- survival rate of the patients taking light water in combination with traditional methods of treatment is much higher than of the patients treated with chemical or radiation therapy;
- the survival rate of the patients with the 4-th stage mammary gland cancer taking light water during treatment was 3 times higher in two years than that of the patients only under traditional methods of treatment;
- application of light water during or after chemotherapy sessions makes it

possible to remove adverse side effects of chemical preparations. In all cases, significant increase in duration and improvement of quality of life of patients was observed.

In the process of research of light water, Russian scientists confirmed inhibiting effects of light water on the processes of reproduction of tumor cells and growth of tumor. Presently, Russian scientific centers proceed with the research related to application of light drinking water in complex treatment of tumor diseases.



LIGHT WATER AND LONGEVITY

Common tap water consists of various molecules a considerable part of which doesn't participate in metabolism because their size is incompatible with the size of cell membranes of human body. If all molecules of water were less than opening of cell membrane and freely passing through it, metabolism processes in organism would run faster.

Such ideal water is present in the nature. It is thaw or light water. The diameter of molecules of frozen and then thawed water changes and they completely fit the size of cell membrane openings. That is why thawed water much easier than common water reacts with various substances and organism doesn't need to spend energy on reconstruction of it. Indeed, uniform molecules don't disturb each other and move in a resonance, producing more energy than during chaotic movement.

Thawed water, unlike tap water, contains little of deuterium a considerable concentration of which is equivalent to the most dangerous poisons. Deuterium is hard to digest and demands additional consumption of energy. Active metabolism removes from organism old and destroyed cells which disturb formation of new ones. As a result of it, **the process of aging is slowing down.**

A common criterion for all groups of **long-living**

people on our planet is drinking thawed water from glacial rivers. For example, inhabitants of Khunzaket, a small town in Pakistan, live for 100-120 years, and there are records indicating men above 100 years old becoming fathers.

The table below shows gradual decrease of deuterium in human body during 1.5 months of light water treatment. Optimum deuterium content in light water is 60 ppm.

| Days | Residual deuterium content in water | | |
|--|-------------------------------------|---------|---------|
| | 60 ppm | 100 ppm | 100 ppm |
| | Consumption of light water in 1 day | | |
| | 1 l | 1 l | 1,5 l |
| Residual deuterium content in human body | | | |
| 1 | 148,1 | 148,9 | 148,4 |
| 2 | 146,3 | 147,9 | 146,9 |
| 7 | 139,5 | 143,6 | 140,55 |
| 14 | 131,46 | 138,3 | 134,07 |
| 21 | 125,96 | 135,68 | 129,6 |
| 28 | 122,2 | 133,9 | 126,6 |
| 35 | 119,6 | 132,66 | 124,55 |
| 45 | 117,3 | 131,55 | 122,63 |

COSMETIC PROPERTIES OF LIGHT WATER

Clean, smooth, and elastic skin is an indicator of good health and normal functioning of the main systems of organism. Over the years, the quantity of water in organism decreases, and the same affects condition of skin: elasticity decreases, skin becomes dry and flabby, wrinkles, folds, pigment spots start to develop. In addition, appearance of skin is affected by various metabolic disorders and even by insignificant failures in functioning of gas-

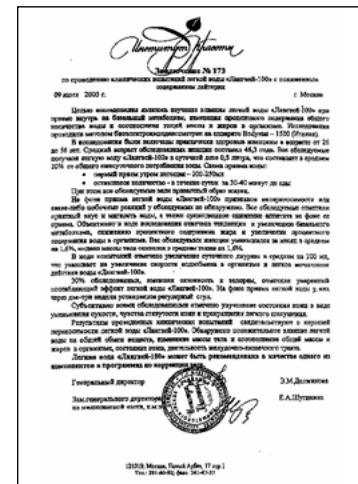
trointestinal tract and kidneys. Daily consumption of light water helps to normalize metabolism, to improve functioning of kidneys, of gastrointestinal tract, helps to remove slags and toxins from organism that is immediately reflected in appearance: elasticity of skin increases, puffiness disappears, probability of superficial inflammatory processes decreases considerably.

Regular external application of light water:

- good skin humidifier and toner;

- reduces skin puffiness and reddening;
- has anti-inflammatory effect;
- accelerates epithelization process after cosmetology operations;
- effectively narrows pores;
- reduces greasiness of skin in the T-zone.

Unique properties of light water were **confirmed by clinical tests** in the Beauty Institute clinic. (Moscow. Conclusions No. 127 dated 23.04.2003, No. 173 dated 09.07.2003. See **Fig. below**).



TEST SPROUTING OF OATS SEEDS IN COMMON AND LIGHT WATER

According to academic Varnavsky I. N., water with the content of deuterium at the level of 130-35 ppm increases germination and growth rate of sprouts of bean, sunflower, and wheat seeds surpassing in functioning such well-known plant growth stimulants as Fumar and Fumarine.

Biological activity of medical decoctions prepared from vegetable or herbal raw materials with such water is 1.5 times higher than of decoctions prepared with common distilled water.

The diagram in Figure 5 represents considerably indicative results of cultivation of Arabidopsis thaliana (oats) in water with various content of deuterium: both heavy and light water were tested.

Fig. 5. Cultivation of Arabidopsis thaliana (oats) in water with various content of deuterium

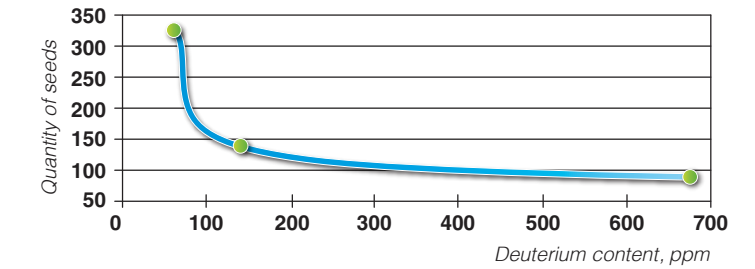


Fig. 6. A bright example of difference between sprouting of oats seeds moistened with common and light water. T - samples of oats seeds moistened with light water; B - samples of oats seeds moistened with common water

TEST WATERING GIVING LIGHT WATER FOR RACE HORSES TO DRINK

In 1999, light water passed a horse race test at the Moscow Racetrack.

Light water was given to drink during preparation for race of Natisk bay stallion of the Russian trotter breed, born 1995. Five hours prior to races the stallion was given drank 10 liters of light water in 3 stages within 20 minutes, that was approximately from 20 to 50 of its daily norm. According

to observers, Natisk stallion drank water willingly, felt vigorously, and before the start showed physical activity and readiness for running. There were stallions known for their good results which participated in the 3200 meters lap.

Natisk set **a new All-Russia record** - 4.12.0 at 3200 meters for four-year old stallions. Thus it broke the oldest record of Russia - 4. 20 6/8 at 3200 meters set by the well-known Guron stallion in 1941 and standing for more than **58 years!** The record set by Natisk after consumption of

superpure light water still remains unsurpassed.

As far as the mechanisms of influence of light water on organisms of people and animals are similar, improvement of health, physiological and sporting parameters of the people who are professionally going in for sports, and of amateur sportsmen too is demonstrated with excellent results. Moreover, a Russian professor Sinyak proved through his experiments the need of light water for space medicine and in space flights.



Fig. 7. Photo of Natisk stallion run at the Moscow Racetrack

RECTIFICATION – THE BEST WAY TO PRODUCE LIGHT WATER

The best industrial way to produce light water is rectification, i.e. evaporation of water and running of steam through a vertical column filled with special composition, and subsequent condensation of the same.

Rectification (Lat. Rectus - straight, and facio - I do) is a heat and mass exchange process resulting in separate condensation of different components of steam. **Rectifying column** - an apparatus for separation of liquid mixes the components of which have different temperature of boiling.

Classic Column is a vertical cylinder with contact devices inside. The tank for heating and evaporation of initial water is filled with filtered natural water. Heating mode is selected and the control panel is used for switching of the corresponding system.

The initial water is heated and transformed into steam. After that water steam moves from the heating tank (still) to the lower part of rectifying column filled with a reagent increasing contact surface of the steam ascending along the column axis with descending water.

The steam ascending along the axis in the active zone of the rectifying column passes through descending water flow while filtering through the reagent layer. At this time, they interchange light and heavy molecules. The ascending steam takes light-

er molecules from descending water and transfers heavier molecules to water.

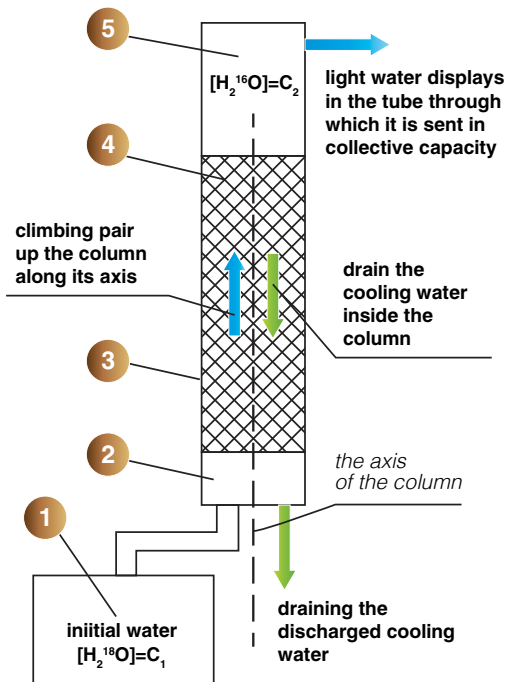
After that, light water steam gets to the condensation chamber in the top part of the rectifying column. The steam is cooled in the chamber and transforms to the liquid state becoming light water.

The produced light water is transported to the vacuum chamber, and then gets through pipeline to accumulation tank for ready product. Detailed diagram of the process is shown in fig. 9.



Fig. 8. The appearance of the distillation column

Fig. 9. Diagram of rectifying column and rectification process



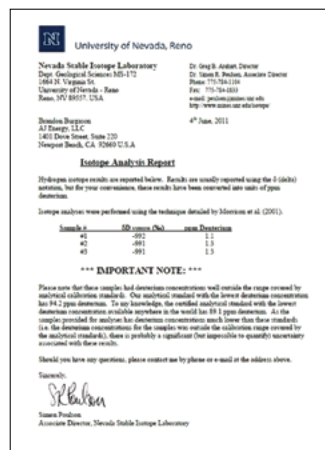
1. Tank with initial water (in the location of heaters and evaporators).
2. The lower part of rectifying column where steam is fed to.
3. Stainless steel rectifying column body.
4. Filler (small metal particles of spiral and prismatic form from copper or stainless steel).
5. The top part of column (condenser) -- the place where light steam is condensed and transformed into light water.

CONCLUSION ON THE ISOTOPE ANALYSIS OF LIGHT WATER OF RUSSIAN PRODUCTION (MOSCOW) IN ISOTOPE LABORATORY OF THE UNIVERSITY OF NEVADA (USA)

In 2012, by request of the Versatile Engineering Center (Russia, Moscow), in Isotope Laboratory of the University of Nevada, USA, research of the samples of light water produced by rectifying column in Moscow was conducted.

Results of the research indicate practical possibility of producing of light water with almost zero residual content of heavy hydrogen (deuterium).

Fig. 10. Samples of Moscow light water and expert conclusion



PROBABLE USE OF LIGHT WATER

- **Production of bottled drinking water.**
Household, limited-edition and large scale industrial production of drinking water for retail sale. Franchise production by different firms is possible.
- **Production of soft drinks.**
Offer for production of well known drinks like Coca-Cola, Pepsi Cola, Sprite, Fanta, lemonade, soda, and to other companies.

- **Production of cosmetics, perfumery, and of hygiene means on the basis of light water.**
It is possible to offer new types of products for such companies as Procter & Gamble, L'Oreal, and to other brands.

- **Production of medical solutions on liquid basis.**
Probable production of physiological, pharmacological water solutions. For the USA,

it is possible to produce solutions for hemodialysis, with assistance of the National Kidney Fund of the USA.

- **Production of light water for agriculture.**
It is necessary for soaking of plant seeds before their planting or for watering of already planted hothouse plants. Besides, it is possible to give light water to poultry and cattle to increase their weight and rate of their growth.

- **Beer brewing and production of alcohol-free drinks.**
Light and strong alcohol drinks prepared with light water can reduce the negative impact on human the body.
- **Production of dairy food.**
Possible production of dry milk re-hydrated with light water for use in baby food manufacturing.



EQUIPMENT FOR GENERATION OF ELECTRIC POWER FROM WASTE

Rectification of light water requires **a lot of electric power** which makes the biggest and regular item of expenditures on the process of its production. Without application of energy saving technologies, light water

becomes an expensive elite product.

To turn light water into **a mass and readily accessible product** for different categories of consumers, it is necessary to use equipment generating **cheap electric power**. The unit shown below represents a type of such equipment working on household and industrial organic

waste. **Any waste containing carbon C** in proper quantity (70%) can serve. It can be sewage, coal and oil slime, plastic bottles, packages and other products, rubber products (for example old tires), timber waste (sawdust, bark, scraps, and so on), agriculture waste (straw, plant tops, fruits, and so on, as well as dead cattle, poultry, fish, manure, and so on).

PRODUCTION OF THE LIGHT WATER USING THE CHEAP ELECTRICITY COTTAGE SETTLEMENTS

Cottage, holiday villages and townhouses can be successfully applied and installation **of manufacture of light water**, and the installation of **producing electricity from** domestic or industrial organic waste.

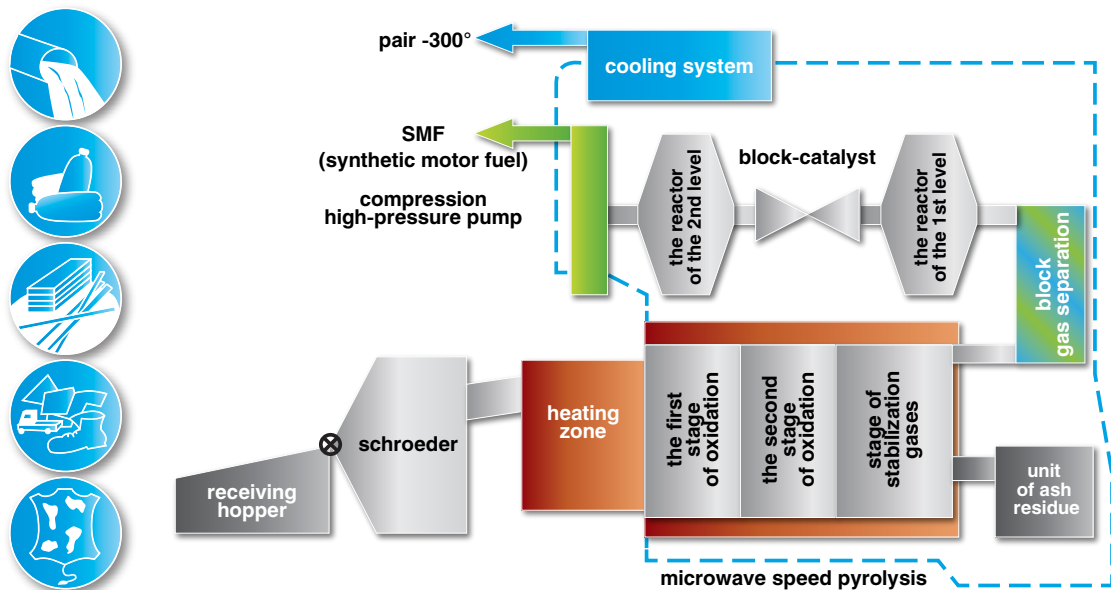
One set of distillation equipment for the production of light water may allow a sufficient quantity of the finished product **at 2-3 home** and will be made available to them for the price.

Equipment for production of cheap electricity is useful for the community, because this setting allows, besides manufacturing of light water, still producing **synthetic engine**

fuel (gasoline, kerosene, diesel fuel). Its capacity is sufficient for maintenance of **the village of 100 houses** with living area of each house is about 150 m².

Either type can be embedded into a General engineering system of the village. They can work together or separately, depending on the decision of the developer or tenants.

Fig. 10. Diagram of the unit for generation of electric power from waste and types of raw materials for the same



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