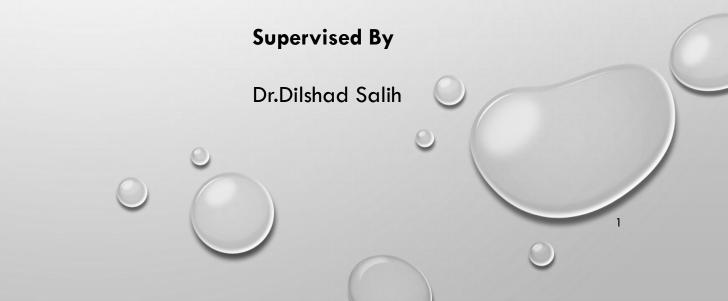
UNIVERSITY OF SALAHADDIN COLLEGE OF SCIENCE DEPARTMENT OF PHYSICS STAGE: FOURTH STAGE



Magetization of Water and its biological effects

Prepared By

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Aim of Project

The aim of this study is to make a review about magnetic water and Methods of Making magnetic water and their effect on the human body.

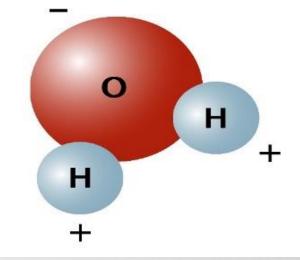
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Water and Structure of Water

The scientific name for water is **H2O**. It is called H2O because it has two atoms of hydrogen (H) and one atom of oxygen (O)

The chemical formula of water is H 2 O . Water can exist in all three forms of matter i.e. solid, liquid, and gas. At room temperature, water exists in the liquid form.

Water **helps improve the circulation of oxygen throughout the body**. It also plays a crucial role in the digestion of food. Water is a very important component of saliva, which helps break down food. The excretion of waste in the human body requires water



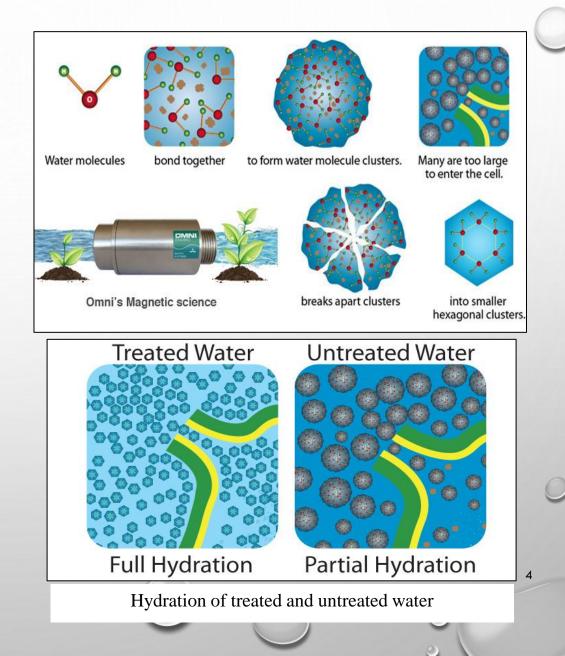
The bent shape of the water molecule is critical because the polar O–HO–H bonds do not cancel one another and the molecule as a whole is polar.

WHAT IS WATER MAGNET?

Two main ways of making Magnetized water have been reported. The first is passing water through a Magnetic field and the other is using a static magnet near a certain volume of water. The Magnetic field strength and the time of magnetization have a great impact on the properties of Magnetized water.

Water (H_2O) is made up of hydrogen and oxygen. These elements bond together. Typical H_2O groups together in *clusters* of 10-12 molecules. These clusters are held together by surface tension. Magnets will affect this surface tension and the angle that hydrogen and oxygen stick together, causing them to group together in smaller *clusters*, about 6-7 molecules. Essentially breaking up larger clusters of molecules into smaller clusters.

- The degree of magnetization depends on three things:
- The quantity of liquid put on the magnet
- The power of the magnet used for the purpose
- The duration of the contact of the liquid container with the magnet.



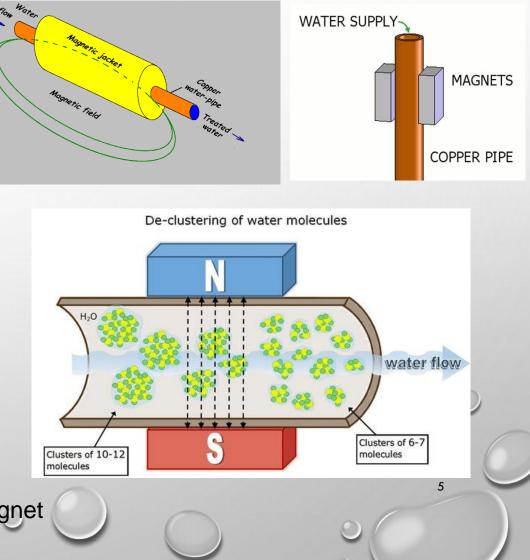
Methods of Making Water

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- 2. The power of the magnet used for the purpose.
- 3. The duration of the contact of the liquid container with the magnet



CHARACTERISTICS OF MAGNETIZED WATER

- OXYGEN RADICAL WITH FREE ELECTRONS IS DECREASED IN THE MAGNETIZED WATER.
- THIS DOES NOT MEAN HIGH OXYGEN CONCENTRATION BUT RATHER REDUCED OXYGEN CONCENTRATION.
- THE MAGNETIZED WATER HAS HIGHER ACTIVATION TO REINFORCE THE RESISTANCE OF THE BODY.
- THE MAGNETIZED WATER MAINTAINS LONG VISCOSITY. (NOT EVAPORATED).
- THE MOLECULAR STRUCTURE OF THE MAGNETIZED WATER IS CONCENTRATED FOR SLOW FREEZING AND FAST MELTING.
- VISCOSITY INCREASES.
- SOLUBILITY INCREASES.
- CONDUCTIVITY INCREASES.

MAGNETIC TREATMENT

MAGNETISM IS A UNIQUE PHYSICAL PROPERTY THAT INDEPENDENTLY HELPS IN WATER PURIFICATION BY INFLUENCING THE PHYSICAL PROPERTIES OF CONTAMINANTS IN 14 WATER. IN ADDITION, ITS COMBINATION WITH OTHER PROCESSES ENABLES AN IMPROVISED EFFICIENT PURIFICATION TECHNOLOGY.34 THIS PHYSICAL TREATMENT HELPS TO AVOID THE USE OF CHEMICALS SUCH AS POLYPHOSPHATES CORROSIVE SUBSTANCES, WHICH ARE EXPENSIVE AND CAN BE HARMFUL TO HUMAN LIFE OR DISRUPTIVE TO THE ENVIRONMENT



BIOLOGICAL EFFECTS OF MAGNETIC WATER ON HUMAN AND ANIMALS

Experience has shown that magnetized water contributes and helps in the treatment of many diseases. It is especially beneficial in treating digestive, nervous and urinary disorders. Generally speaking, water magnetizeMost of the literatures studied the effects of magnetic water on organs of a certain animal, but few of them, which studied the beneficial effects of magnetic water on different organs in animals, and human.

Experience has shown that magnetized water contributes and helps in the treatment of many diseases. It is especially beneficial in treating digestive, nervous and urinary disorders. Generally speaking, water magnetized by the North Pole stops the growth of bacteria and works as antibiotics. Water magnetized by the South Pole takes care of pain, swelling and weakness.

Biological Effects of Magnetic Water on Human and Animals

- Effect of Magnetic Water on Feed Intake, Water Consumption and Body Weight
- Effect of Magnetic Water on Milk Yield and Composition.
- Effect of Magnetic Water on Hematological Parameters.
- Effect of Magnetic Water on Biochemical Parameters.
- Magnetized Water and Oxidative Stress.
- Effect of Magnetic Water on Histological Structure of Heart, Lung and Spleen.
- Effect of Magnetic Water on Reproductive System.
- Effect of Magnetic Water on the Bones; Neto et al., [56] reported that the consumption of water treated by magnetic field for 45 d provided an effective way to improve the bone mineral density, bone mineral content, and bone resistance in Wistar rats.

DISADVANTAGE

 HARD WATER ISN'T NECESSARILY BAD FOR YOU, BUT IT CAN POSE PROBLEMS WITH THE PLUMBING IN YOUR HOME. IT CAN FORM HARD DEPOSITS OF CALCIUM CALLED SCALE, AFFECTING FAUCETS, SHOWER-HEADS, DISHWASHERS, AND HEATING ELEMENTS OF WATER HEATERS. THIS CAN REDUCE WATER FLOW, HEATING EFFICIENCY, AND LEAVE SPOTS ON DISHES

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- Shaban Ali Ebrahim, Azab Elsayed Azab.12 Sep 2017 'Biological Effects of Magnetic Water on Human body'
- Craus, Cristian.2003 <u>'Magnetic properties of nanocrystalline materials for high frequency applications</u>
- Bennington-Gray, Suzanne 2019. <u>'</u>Magnetic Characterisation of Nanostructured Magnetic Systems Using SQUID Magnetometry<u>'</u>
- B. Siva Konda Reddy, Vaishali G. Ghorpade and H. Sudarsana Rao (2014) Vol. 7, pp. 14–18 Influence of Magnetic Water on Strength Properties of Concrete, Indian Journal of Science and Technology.
- Hameda El Sayed Ahmed El Sayed (2014) Vol. 4, pp. 476-496

Reference

- Impact of Magnetic Water Irrigation for Improve the Growth, Chemical Composition and Yield Production of Broad Bean (Viciafaba L.) Plant, American Journal of Experimental Agriculture.
- Ahmed Ibrahim Mohamed and Bassem Mohsen Ebead (2012). *Effect of magnetic treated irrigation water on salt removal from a sandy soil and on the availability of certain nutrients.*

11

- Ali M. Mousa and Ahmed S. Hand (2008). The Effect of Magnetic Water on Dissolving Kidney Stones.
- Deng Bo, Pang Xiao Feng (2007) Chinese Science Bulletin, Vol.52, No.23, pp. 3179-3182
 Variations of optic properties of water under action of static magnetic field.
- 9. Cho YI, and Lee S-H. (2005) Reduction in the surface tension of water due to physical water treatment for fouling control in heat exchangers.
- Hafizi L, Gholizadeh M, Karimi M, Hosseini G, Mostafavi-Toroghi H, Haddadi M, Rezaiean A, Ebrahimi M and Meibodi NE. (2014). *Effects of magnetized water on ovary, pre-implantation stage endometrial and fallopian tube epithelial*
- cells in mice. Iranian J Reprod Med.
- Raafat BM, and Nabil GM. (2016). Hemoglobin different derivatives concentration enhancement after usage of magnetic treated water as drinking water. Inter J Advan Sci Tech Res, 6(1): 415-424.
- Attia YA, EI-Hamid AE, EI-Hanoun AM, AI-Harthi MA, Abdel-Rahman GM, and Abdella MM. (2015). Responses of the fertility, semen quality, blood constituents, immunity and antioxidant status of rabbit bucks to type and magnetizing of

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• water. Annals Animal Sci, 15(2): 387-407.

