

Understanding Carbon Dioxide Through Chemistry

The understanding of homeopathic remedy Carbon dioxide may be enhanced by understanding Carbon dioxide as a chemical substance. Carbon dioxide is a gas, therefore, behavior patterns of a Carbon dioxide person will follow the laws of gases. All statements about behavioral patterns of Carbon dioxide are symbolic (and printed in italics), and they are based on the laws of nature and chemical composition of the substance. However, they are not supported by a clinical experience, yet. Some of the data - mental and physical symptoms were confirmed in the Homeopathic proving, conducted by Lou Klein in Boston, MA, May - July, 1997. In further discussions Carbon dioxide will be referred as "he".

General Properties of gases and Specific properties of Carbon Dioxide

All gas laws are based upon a theoretical ideal gas. Real gases behave closely to the ideal gas at moderate temperature and pressures. We assume that all gases behave exactly like an ideal gas, and therefore one gas will behave exactly like any other gas.

Gases are defined on the basis of the Kinetic Molecular Theory. The theory makes several assumptions about gases:

- gases are made up of individual molecules that are in constant rapid motion.

(Carbon dioxide may be very restless, be involved in jobs or hobbies that

require constant movement. It could occupy physical labor jobs, or be in professional sports or professional dancing. It may be physically fit when well or be in a complete opposite shape when pathology progresses. Carbon Dioxide could be considered as a remedy for losing weight ! It could be a remedy for motivating people to exercise. Carbon dioxide person may be involved in a lot of unnecessary activities, or be a high achiever. When Carbon dioxide is involved in unnecessary activities, he has a feeling that

he does not have enough time to get things done - the symptom is confirmed in the proving. Carbon dioxide is a doer, as all gases are. However, if boundaries are not set, and pressure is not applied, Carbon dioxide may become extremely lazy - he will just wonder around.)

- the molecules possess kinetic energy (energy of motion) and bounce into each other and into the walls of the gas container. Molecules bump into the wall at the top of the container as often as they bump into the bottom. (The More Carbon dioxide moves, the more energy he has, and he gets hot, so it is possible that motion ameliorates, and rest aggravates, the area of movement is not important. Carbon dioxide person would heat up very quickly and, most likely, perspire excessively. It is possible that he treats all solid - metals and mineral - people around himself more or less equally,

no matter who they are and where they are situated. The exclusion is that he is more respectful to lighter gases - he will allow them to be on the top of himself, and more abusive to heavier gases - he will be on the top of other heavier gases. He would feel very powerless and useless, when compared to lighter gases. This feeling was confirmed in proving. Also, Carbon dioxide would have a quality of bumping into things and people, and he would have the same strength to bounce back, if he has to. This feature may bring on issues with people - confirmation in a proving. He would not be sensitive to pain. It is also possible, that Carbon dioxide may have coordination problems, if he is not in a restricted environment)

- molecules of a gas are much farther apart than molecules of a liquid or a solid substances. Gases can be more readily compressed than liquids and solids. (Carbon dioxide may occupy a lot of space, and if restricted, he may occupy a smaller space without any complaints. However, minerals or metals, would have a lot of problems with constriction of space. A Carbon dioxide person would have more flexibility and ease of adjustment to a new environment than any metal or mineral. He would have problems with setting boundaries for himself - the symptom is confirmed in a proving. The boundaries have to be set for the Carbon dioxide person, and he will obey and maintain them without any complaints, unless the pressure is set too high. Then he would transform from a soft and shapeless gas personality into a more rigid liquid or solid personality.)

- molecules of gas have great diffusibility into another gas because of the space between the gas molecules. (Carbon dioxide would like to mingle around, move around from place to place, get into contact with other people. He would not be sitting lonely in the corner, but interact almost with any living substance. Also, he has the ability to get into the smallest possible opening, or to get the smallest possible opportunity for future growth. This opportunity may be big enough just for gases, but extremely small for metals and minerals.)

Boyle's law

At constant temperature, the volume of a confined dry gas is inversely proportional to the pressure

$P \times V = \text{a constant at a constant temperature}$

The pressure P multiplied by volume V is a constant (unchanging) number, If the temperature remains constant. (Carbon dioxide may perform under a lot or little pressure, and the space he occupies will change inversely to the pressure he takes, if the temperature of the environment maintained at a certain level during a period of time. For example, the deadline of a project is very near, the time table is very short to achieve the goal - the pressure is increased, then Carbon dioxide person will not mingle around, he will not do purposeless activities, but he will concentrate in a quite confined space - reduced volume and concentrate on his work. Therefore, Carbon dioxide will be a pressure and space sensitive personally, but less sensitive than metals

And minerals. Probably, he can be in small and narrow places, but it will cause a lot of stress.)

Charles's law

With the pressure constant, the volume of gas is directly proportional to the temperature T

$$V / T = \text{a constant at a constant pressure}$$

(If the pressure to complete a project from the very start was established

at a certain level and maintained at this level throughout the project, the

space Carbon dioxide occupies will be larger, if the temperature of the environment will increase. And he will occupy smaller space, if the temperature of the environment decrease. Therefore, Carbon dioxide is a temperature and space sensitive personality, at the condition that the pressure is maintained constant. It is possible, when getting a fever, he may occupy one or two rooms, or the whole house.)

Boyle's and Charles's laws can be combined into

$$P \times V / T = \text{constant}$$

(Carbon dioxide knows how much space to occupy at a certain environmental

temperature and pressure. If any environmental conditions change, he will occupy the space, proportional to the occurred changes, but no more. A Carbon dioxide person may say that it is very sensitive to slightest environmental changes, especially when the temperature or atmospheric pressure changes. "I can feel it when the change occurred. I have to adjust to it.")

Dalton's law

Dalton's law of partial pressures states that the total pressure of a mixture of gases is the sum of all the partial pressures of individual gases. The molecules of each gas exert the same pressure within the mixture

as they would if they were not in the mixture:

$$P_t = P_1 + P_2 + P_3 \dots$$

(If Carbon dioxide would work in a group of Hydrogen and Nitrogen people, and everybody has been assigned a certain part of the project, Carbon

dioxide would perform as good as if he would work alone. The presence of other participants of the projects would not affect his performance. So, Carbon dioxide can be a team player as well as a single performer with an identical output.)

General Properties of Carbon dioxide

J.B. van Helmont (1577 - 1644) discovered that a gas is formed when a limestone is treated with acid, and that this gas differs from air, and it does not support life. He also found that this gas is produced by fermentation. The same gas is present in the Grotto del Cane, a cave in Italy, in which dogs were observed to become unconscious. This gas is Carbon Dioxide.

(Carbon dioxide person may become unconscious quite easily and have asphyxiation attacks. He may feel intoxicated - the symptom is confirmed in the proving. Also, he may be sensitive to fermentation processes that may occur in intestines after having excessive amount of sweats.)

This gas was escaping from fissures in the floor, and it was displacing the air in the lower part of the cave.

(Carbon dioxide person would have a problem with high places, he would love to take lower stable positions. He will displace any lighter substances in any given space just to be located as low as only possible. He will have mainly movement down, movement down ameliorates.)

Carbon dioxide is a colorless and odorless gas.

(Carbon dioxide is barely noticeable in a group of people, he would have fair skin, pale face, he would wear colorless cloth and would not have any body odor. However, Watch out for him!)

It is about 50% heavier than air. (Air would not mix with Carbon dioxide - Carbon dioxide would occupy levels close to the ground, unless another heavier gas is present at the time. There are only two heavier gases than Carbon Dioxide - Iodum and Xenon. It is possible that because of his heavy molecular weight of 44, he can not compete with air or any other multiple lighter gases, and he will have the inferiority complex, low self esteem and self confidence. This symptom was confirmed in the proving.)

When it is dissolved in water, only about 1% of it reacts with water and it forms carbonic acid with a weak acid taste. (Carbon dioxide would have a low

fear of water..)



Carbon Dioxide is easily soluble in water. One liter of water at 0 degrees C

dissolves 1713 ml of the gas under 1 atmosphere of pressure.

(Carbon dioxide would feel comfortable in water, and when the opportunity presents, he leaves the water without being hurt or changed.)

Carbon dioxide represents the most highly oxidized condition of carbon (this

may cause a feeling of victimization), it is therefore the ultimate oxidation product, and also it is the major product obtained when carbonaceous matter is burned in an abundant supply of air or oxygen.

(Carbon dioxide person looks the oldest out of all available carbons, he has the most wrinkled skin and the skin is dry without elasticity, and a little bit of a darker color. It is possible that dioxide person will have dry eczema problems with deep cracks.)

When the supply of oxygen is insufficient to provide a complete conversion of Carbon to Carbon dioxide - CO_2 , the less highly oxidized product Carbon monoxide - CO is formed.

(Carbon monoxide person looks not as old as Carbon monoxide person. The skin of dioxide person will be darker then the skin of monoxide person.)

Carbon dioxide molecule consists of three atoms. (All provers confirmed that number 3 appeared very often in their every day life.) Carbon dioxide is an example of a molecule with two double bonds ($2 \times 2 = 4$) to the same carbon. (Number 4 was also comforted in a proving.)

Physical representation of Carbon dioxide

Carbon Dioxide may also exist in crystalline / solid and liquid forms under

certain conditions (of temperature and pressure). Solid Carbon Dioxide (-78

deg. C) is known as dry ice, and it is used as a refrigerating agent. "Dry Ice" has the advantage of not melting into liquid, but sublimates and it absorbs 3 times as much heat per gram of weight as the regular ice in the process of refrigeration

(It is possible that Carbon dioxide person may take cold very well, as well as he takes the heat. Depending on the environmental situation, he may

be solid as a crystal rock, or liquid with white coloration or a colorless gas. However, Carbon dioxide feels the most comfortable in every day situation as a colorless gas - he has less restrains.)

Some of the commercial solid carbon dioxide is made from the gas emitted in nearly pure state from the gas wells in the western United States. Most of the carbon dioxide, which is used commercially, is a by-product of cements mills, iron blast furnaces and breweries. (It is possible that Carbon dioxide people may be occupied in the cement mills, near iron blast furnaces and in breweries.)

Carbon Dioxide can be liquefied at an ordinary temperature under a pressure of about 70 atmospheres.

(If a liquid is heated sufficiently, it will become a gas or a vapor, if a gas is cooled sufficiently, it will liquefy. If Carbon dioxide person is under a lot of pressure, he does not brake, but becomes more solid, more together, but rigid with less flexibility, and he can be in this condition for as long as the pressure exists, even if this condition is not very comfortable.)

Carbon dioxide is available commercially in steel cylinders as liquid under the pressure of its own vapor. Carbon dioxide is non toxic in low concentrations, but it is toxic in high concentrations.

(If the pathology of the Carbon dioxide person progresses, he may have toxicity problems, therefore, CO₂ may be a good liver remedy, and a remedy used for gas poisoning.)

Human beings lose consciousness when exposed to an air containing 10% of Carbon dioxide for only a few minutes.

(Carbon dioxide may be a good lung and fainting remedy. Also, provers had an anxiety whether they will have time to complete their work, and difficulty with concentration to accomplish projects. This anxiety may be related to the toxicity of Carbon dioxide and inability to clearly think in the presence of Carbon dioxide. Human beings watch out for the presence of CO₂ and try to control and reduce its amount. This may create a feeling of danger around - the symptom was confirmed in the proving.)

Carbon dioxide is used for the manufacture of

- sodium carbonate - Na₂CO₃ x 10H₂O (washing soda), it is a white crystalline substance used in household alkali, for washing and cleaning, and as an industrial chemical;

- sodium hydrogen carbonate - NaHCO₃ (baking soda, bicarbonate of soda), it

is a white substance usually available as a powder. It is used in cooking, in medicine, and in manufacture of baking powder. Baking powder is used in making biscuits, cakes and other foods. Its purpose is to provide bubbles of

gas, to make the dough "rise". The reaction that occurs involves the action

of an acid on Sodium Hydrogen Carbonate, to form Carbon Dioxide. (Some provers had digestive problems with excessive formation of gas, some had stubborn constipation.)

- carbonated water, for use as a beverage (soda water). Carbonated water is

charged with carbon dioxide under the pressure of 3 or 4 atmosphere.

(All provers desired carbonated water, some started to drink carbonated water just during the period of the proving, some purchased several crates of carbonated water, and some came with the bottles of carbonated water to the meeting of provers.)

Carbon dioxide is used in fire extinguishers because of its properties of being 1 1/2 times heavier than air and for not supporting ordinary combustion. The cylinder of a portable fire extinguisher is filled with liquid carbon dioxide. It releases CO₂ from the steel cylinder in the form of a gas to smother the fire.

Plants use CO₂ in the photosynthesis process. In this process, chlorophyll (the catalyst) and sunlight (the energy source) must be present. The reactions and products of these reactions are:



(It is possible that Carbon dioxide person may be involved in some of the above businesses, or in the production of the above products.)

Carbonate Minerals

The most important carbonate mineral is Calcium Carbonate CaCO₃. This substance occurs in beautiful colorless hexagonal crystals as the mineral Calcite.

- Marble is a microcrystalline form of Calcium Carbonate.

- Limestone is a rock composed mainly of this substance. Large amounts of Limestone are used in the manufacture of cements.

- Calcium Carbonate is a principal constituent of pearls, coral and most sea shells. (Most provers had a craving for boiled eggs, as Calcaria Carbonica has. This craving is understood since Calcaria Carbonica is Calcium Carbonate, and Calcium Carbonate has Carbon dioxide in it.

Therefore, Carbon dioxide remedy may have some specific symptoms of Carbon dioxide, and some general and specific symptoms of Calcaria Carbonica,

Carbon and Oxygenium.)

Atmospheric Carbon dioxide

Carbon Dioxide is a widely distributed gas, which makes up 0.4 % of the air.

There are processes in nature that keeps the amount of atmospheric carbon dioxide at a relatively stable level. The main contributors participating in this cycle through various processes are:

contributor	process	generates
- Coal, natural gas.....	burning.....	CO2
- Plants (sugar, cellulose, starch).....	decay.....	CO2
- Animal (glycogen, fat).....	respiration, decay.....	CO2
- Limestone, marble, chalk, coral + acids.....	soil	CO2

(The molecule of Carbon dioxide consists of an atom of Carbon and two atoms of Oxygenium. All provers had financial problems with imaginary loss of large sums of money. This symptom, most likely, is related to the presence of Carbon. Carbon as in diamond form has to do with large sums of money. Also, Calceria Carbonica has fear of poverty. This is another relationship with loss or fear of loosing money.)

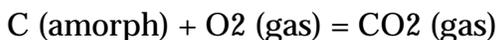
Preparation and test for Carbon dioxide

Laboratory preparation of CO₂ consists of treating calcium carbonate (marble chips) with hydrochloric acid, (although any carbonate and bicarbonate and any common acid could be used). The gas is collected by water or air displacement:



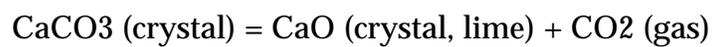
Commercial preparation of CO₂ is accomplished by

- burning of coke or petroleum

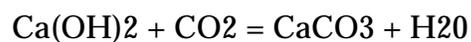


- a by-product of fermentation

- "burning" or decomposing of limestone



The test for carbon dioxide consists of passing it through limewater Ca(OH)_2 . If CO_2 is present the limewater turns cloudy, because of the formation of the white precipitate of finely divided CaCO_3 :



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