

From: Lee, Chris
Sent: Monday, June 11, 2012 11:16 AM
To: Black, Tobie
Subject: FW: SILICOFLUORIDE, not "Fluoride" is problem

-----Original Message-----

From: Peterson, Todd
Sent: Monday, June 11, 2012 11:13 AM
To: Lee, Chris
Subject: SILICOFLUORIDE, not "Fluoride" is problem

TO: Alderman Jim Bohl
City Hall, Milwaukee, WI

FROM: Prof. Roger D. Masters
Dept of Government, Dartmouth College, Hanover, NH 03755

I've read (in email from the "Fluoride Action Network") of the failure of your attempt to ban all addition of "fluoride" from the city's water supply. I have devoted over a decade to the study of the DIFFERENT effects of the specific CHEMICAL COMPOUNDS that are used to add the element "fluorine" (that's spelled correctly as you'll see from a table of elements in a chemistry textbook). These differences are essential for you to understand.

Although called "fluorine," this element is not stable until it forms a bond with another element, in which case it is called "FLUORIDE." This elementary lesson in chemistry matters for public policy, because there are three different fluoride compounds that can be used for the purpose of "fluoridating" public water for dental health: sodium fluoride (NaF), fluorosilicic acid (H₂SiF₆), or sodium silicofluoride (Na₂SiF₆).

Although I was publishing widely on the association between lead pollution and violent crime or educational failure, I knew nothing of this chemical until a chemist named Myron J. Coplan called me and asked if I knew that the danger in water supplies associated with the use of "silicofluorides." I told him I had no idea what he was talking about, and Mike proceeded to change my life by teaching me about the biggest public policy error of the 20th century.

Everyone talks about the healthy effects of water "fluoridation" because fluoride reduces tooth decay and related dental problems -- but without mentioning the need to choose between three compounds for the purpose. These chemicals are:

* Sodium fluoride (NaF): familiar in toothpaste, and tested for safety. This simple compound "dissociates" totally -- that is, when added to water it separates into sodium and fluoride. If the fluoride bonds to dental enamel, teeth have fewer cavities. The sodium is not harmful. Unless very large amounts of sodium fluoride are ingested (like an entire tube of toothpaste), the compound has been thoroughly tested and is safe to add to a water supply. It is used where I live (Hanover, NH), and I am NOT opposed.

At this point, it's necessary to note that I am not hostile in principle to ALL water fluoridation (that is, I'm NOT an "anti-fluoridationist"). This is because the scientific research indicates that fluoride separated from sodium fluoride in water is not harmful unless it reaches a quantity that rarely if ever occurs in water fluoridation (the only exception would be a disaster in the water treatment equipment that would lead to an immediate interruption in water supplies or at least a general warning against any ingestion of the water).

* THE THREE COMPOUNDS USED FOR WATER FLUORIDATION ARE:

* Hydrofluorosilicic Acid or Fluorosilicic Acid (H_2SiF_6), sometimes called "FSA", is a toxic liquid compound that does NOT "dissociate" totally into the three elements of hydrogen, silicon, and fluoride.

* Sodium silicofluoride (Na_2SiF_6) is a toxic solid with a similar composition except the compound has two sodium atoms instead of two hydrogen atoms. This compound is sometimes used instead of Fluorosilicic Acid, but its dissociation products are -- as might well be assumed from the similarity of composition -- similar to FSA.

* Over 90% of artificially "fluoridated" water in the U.S. is treated with one of these two compounds, which are jointly called "silicofluorides" (hereafter "SiF").

* Although SiF is highly toxic in pure form, neither of these compounds was tested for safety before they were approved for the purpose of water fluoridation.

* To understand why a toxic acid was approved for water treatment without testing its safety, the exact history of adding fluoride to U.S. water supplies is of importance.

+ The process of water fluoridation was initiated by the Manhattan Project in 1942.

+ The reason was that to get pure uranium for an atomic bomb, the only sources within the U.S. were phosphate rock strata containing uranium. This made it necessary to grind up the rock, put it in fluorosilicic acid (a strong acid that separated the uranium from the other elements in the rock), and put the slurry in a centrifuge.

Uranium 233 being heavier than the other elements, this was an easy way to separation weapons grade uranium, but it left a toxic residue of ground rock and fluorosilicic acid.

+ A chemist named Myron J. Coplan was responsible for designing the process ("reverse osmosis") used to separate the highly toxic fluorosilicic acid residue from the waste ground rock. Once this was done, in 1942 the Manhattan project initiated the concept of water fluoridation by testing the safety of putting a fluoride compound in public water supplies in two New York state communities (Kingston and Newburgh -- one receiving sodium fluoride and the other not treated).

* When no differences in health and behavior between the two communities were noticed, the Manhattan Project concluded that adding fluoride to water supplies was a good way to dispose of the unwanted fluorosilicic acid waste -- and would do so without making it easy for Nazi Germany or Imperial Japan to know how much uranium was being separated in our development of the atomic bomb.

+ In 1950, the Cold War made it imperative to continue and increase production of nuclear weapons to confront Soviet nuclear armament. Accordingly, the U.S. Public Health Service approved the use of silicofluorides as well as sodium fluoride to "fluoridate" water for public health -- and dispose of silicofluoride wastes without advertising the quantity involved.

+ This history explains why we speak of "water fluoridation" and "fluoride" in the U.S., making no distinction between sodium fluoride (NaF), fluorosilicic acid (H_2SiF_6), sodium silicofluoride (Na_2SiF_6), or "naturally" fluoridated water (whose composition resembles a silicofluoride).

* Silicofluoride chemistry was not studied carefully until the experiments a German chemist named Westendorf conducted experiments for his doctoral thesis in 1974, and published the results in the following year.

+ Westendorf's experiments showed that, contrary to the "assumption" that H_2SiF_6 or Na_2SiF_6 would dissociate as totally as NaF, the silicofluorides left behind a "residual species" which he did not immediately characterize fully.

+ Westendorf's animal experiments with the waste from this experiment indicated that the residual silicate compound was biologically active in test animals.

+ Because of the importance of these experiments, for which there was no equivalent in the U.S., Westendorf's thesis was translated into English and is available on the internet at:

<<http://www.dartmouth.edu/~rmasters/Westendorf>>

* A decade of peer-reviewed scientific studies has shown that where water is treated with either silicofluoride, there are the following harmful side-effects:

1) Any lead in the water is likely to be absorbed by children, with the greatest vulnerability in the first 6 months of life or among poor children with low calcium in their diet.

2) Blood lead levels are always significantly higher where silicofluoride is added to water supplies. Where individuals are exposed to lead in the environment (as in lead paint from old housing or environmental lead exposures from industrial lead pollution, lead leaching from water pipes and leaded solder, or leaching of lead from copper), leaching and absorption of lead as measured in children's blood lead levels is significantly increased where the water is treated with silicofluoride.

3) Due to higher blood lead levels and acetylcholinesterase inhibition, the costly behavioral dysfunctions associated with silicofluoride water treatment include:

* Higher rates of violent crime as measured by multivariate studies of violent crime rates in all 3141 US. counties for either 1985 or 1991.

* Higher rates of substance abuse as measured by arrests for driving under the influence of cocaine.

* Lower scores on standardized educational testing, as measured in community average grades on 9 different MCAS subjects and grades in Massachusetts.

* NOTE: we also hypothesize that SiF may be an important factor in higher rates of ADHD due to the reduction of behavioral inhibition associated with the lower production of the enzyme acetylcholinesterase, which Westendorf observed is associated with ingesting SiF treated water. However, there is as yet no scientific testing or epidemiological evidence confirming this hypothesis.