Toxicity of Artificially Fluoridated Water

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The Fluoride Story

Hard waters in the U.S. Southwest typically contain some calcium fluoride, from 0.2 ppm in Southern California to 1 ppm in Texas. In Texas it causes structural effects on bones and teeth that are still promoted by U.S. dental schools. Fluoride from the blood is trapped in dentine inside teeth at ten times higher levels than in tooth enamel, making teeth interiors crumbly (National Institutes of Health). Texas Dentist Dr. Heard first promoted natural fluoride consumption since enamel presented temporarily with fewer cavities, but he later found it damaged teeth long-term and then fought against fluoride consumption. We now know tong-term consumption of either natural or unnatural fluoride also leads to thousands of times higher levels in bones than in water, that is irreversible and pathologic, weakening bones (National Research Council, National Academy of Sciences, Report on Fluoride in Drinking Water, 2006).

Water districts inject artificial toxic fluosilicic acid into water to increase fluoride. Long-term drinking causes fluoride to also accumulate into hydroxyapatite of the brain's pineal gland and decreases IQ in children (NRC). Ranking the 50 U.S. states according to % of the population receiving treated water correlates strongly with modest increases in per capita heart attack rate, mental retardation and infant mortality, while cavities were not decreased (Dental Dr. Osmundson study at fluoridealert.org). Children raised on fluosilicic acid water develop 5 times more lethal bone cancer (WebMD article describing work of Dr. Bassin, Harvard University).

The vast Niagara Regional Water in Canada stopped fluosilicic acid injection into water when learning that 1) 1 ppm artificial fluoride in water interferes with thyroid function and in children this delays teeth eruption, where statistics when read correctly prove it does not prevent decay but delays it and 2) that all artificial fluorides are toxic compounds with lethality comparable to that for arsenic and lead in animal studies (Environmental Science and Engineering, 2008). Although arsenic is a natural trace ingredient in soils and water, it is a poison to be avoided, as are all artificial fluoride compounds, being calcium chelators. Children in dental chairs have had heart attacks after accidentally swallowing fluoride gel.

Clinical trials have never been done, so the U.S. Food and Drug Administration has never approved artificial fluoride in public water supplies and admit that it "is a drug, not a mineral nutrient" and fluoridation is an "uncontrolled dosage use of a drug". In Hooper Bay, Alaska a water pump became corroded by artificial fluoride, causing an overfeed that poisoned 302 people with one killed by heart attack (New England Journal of Medicine, 1994, vol 330). In Pagosa Springs, Colorado, horses died from skeletal fluorosis after only 9 years drinking 1 ppm fluosilicic water (Fluoride, February, 2006). Salmon

spawning is obliterated by artificial fluoride in water at only 0.3 ppm, but returns after discontinuing fluoride dumping (fluoridealert.org).

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Fluosilicic Acid Update, 2008

The vast Niagara Regional Water of Canada ordered all water district chemists to cease and desist from injecting fluosilicic acid into municipal drinking water, superseding all existing fluoridation laws (Environmental Science & Engineering Magazine, 2008). This resulted after the discovery that the effects of ingested fluorides on teeth decay are nonexistent and were originally based on faulty statistical data, and secondly, that all artificial fluorides are toxic calcium chelators with lethal doses comparable to that for lead and arsenic, while natural calcium fluoride is not a toxic compound.

The fluoridation referendum in Nebraska, during the 2008 election, voted down fluoridation in 53 of 61 cities (a quarter million no votes, 30 thousand yes). Also, the Fluoride Conference, Toronto, Canada 2008 showed that: 1) 1 ppm fluoride in drinking water longterm causes iron deficiency anemia and 2) correlates with modestly increased per capita heart attack, infant mortality and mental retardation and 3) in water does not decrease teeth cavities.

Chemical Analysis of Poisoning from a Fluoridated Public Water Supply

Preface: This manuscript below is considered extremely important. The practice in the United States (but which is forbidden in 90% of fully informed England) of injecting artificial fluoride compounds into public drinking water supplies, and which thus enters into people's blood and tissues, has not received FDA approval, and yet is now very widespread. All fluoride compounds are calcium chelators at various doses. Since every biological process in human physiology ever discovered requires millimolar free ionized calcium ion to be fully operational, it is not possible for any health official at any rank to guarantee that adverse health problems will never occur, inside one's system or on one's skin, as a result of bathing in and consuming intentionally fluoridated water over their entire lifetime. The literature is filled with an uncountable number of effects of these substances on human physiologic processes, mostly because calcium ion is ubiquitous in its essential involvement in all. Even if free ionized calcium levels are within a 'normal range' in treated persons, it is not possible to assess the influence of alterations in body stores of calcium on the normal functioning of any particular bodily process. The U.S. Centers for Disease Control is not prepared to sign a release that no one will ever be adversely influenced in any bodily function by drinking fluoridated water compared to what would occur normally in the absence of fluosilicates in their tissues and blood. All U.S. citizens should be protected from such risk.

All artificial fluoride compounds without calcium are listed as toxics in poison registries and have the lethal potency comparable to arsenic. What this means is that if such a published dose were ingested by a group of animals, then one fraction of the poisoned animals would be sickened but would recover, another small fraction would not exhibit readily detectable symptoms, while most of the animals would be killed. The mechanism of the lethal effect is different than that for arsenic and involves precipitation of blood calcium ion, which blocks the heart beat. Amateur chemists and life scientists presume that artificial fluorides can become some type of benefit when ingested in extremely minute doses but the experimental evidence disproves such claims.

I am particularly concerned for our elderly retirement population who typically cannot maintain calcium homeostasis because of age. It is simply impossible to test every calcium dependent bodily process that could be subtly impaired now or in the future for any, let alone all, age groups over their entire lives, to justify signing such a statement of release as above listed. The real cost of this 'fluoridation' experiment on U.S. citizens, that has been administered by dentists with little actual clinical training and other public health officials with little experience in conducting prospective experimental research with the scientific method, will only in a few generations even begin to be understood. In all my 24 years of scientific research, at both federal and private institutions, I have never witnessed such a complete breakdown in communication between actual scientists, some of whom understand the scientific method reasonably well, and those in control of mandating artificial water fluoridation procedures, for the purpose of altering the blood composition of the citizens of this country. To all who promote fluoridation of water, which is an artificial method of permanently adjusting human biology, not a natural environmental process, please understand that willful presentation of false information to the public, for the purpose of preventing public concern, questioning, or democratic debate on this issue, is against the law in some counties. Such laws were passed because the burden of proof is not with those who freely oppose, and choose better brushing and dental hygiene practices *in situ*, but with those who intentionally administer fluosilicic acid for the purpose of influencing human physiologic processes *in vivo*, in the complete absence of prospective clinical trials with explicit written permission and appropriate oversight from the National Institutes of Health.

Treating water with the lowest toxicity halogen, chlorine, to sterilize bacteria prior to consumption, is conservative, life saving self-defensive hygiene. Extrapolating however, by adding a higher toxicity halogen, fluoride, to alter human tissues, is a radical, pre-emptive action, based on the assumption that future bacterial caries will occur that will have required such action that were outside one's own ability to control. It considers irrelevant the common, complete absence of cavities in hygienic minded persons, and that some households have zero access to another bathing and/or drinking water source. Based on information in this manuscript, the author is concerned that the fluoridated city of Seattle, Washington, where North West Pacific water is very low in calcium and magnesium ions, has the highest per capita heart attack rate in the country. It had been formerly believed that this was due to a deficiency in calcium and magnesium in the diet, but the possibility is much more likely to be due to the use of artificial soluble fluoride compounds injected into the soft water, where no calcium is present to buffer the effects of added fluoride. Also, a first suspected, not last suspected, phenomenon involved in the presence of heart attacks in children under 13 (reported in a 2007 edition of Pediatrics) would be fluoride use, because it is so easy to become overexposed to it. Many children like to swallow mint flavored toothpaste and in fluoridated cities this is contra-indicated. I would also like to see studies of the percentage of people in fluoridated cities having hip fractures and heart attacks who are of short but stout stature. It is likely that fluoride long-term exposure is limited by the number of total fluoride binding sites that are available in the bony skeleton. Those having the least bone mass for a given body weight would be the earliest to exceed the total body burden of consumed fluoride during lifelong drinking.

Summary

The mechanism by which fluoride's lethal poisoning of man and animals occurs is presented. "Low" level fluoridation of municipal water exhibits well known alterations in teeth and bone structure and calcification of tendons and ligaments. 'Moderate' doses cause spinal deformities and increased hip fracture tendency and kidney and gall stones. Higher levels cause death and are responsible for its major industrial use as a rodenticide. Solubility calculations indicate that fluoride doses required to decrease calcium below physiological blood levels are comparable to those present in poisoned victims' tissues and

to those causing decreased beat rates in isolated heart cells in culture. Acute lethal poisoning and many of the chronic 'low' level effects of fluoride are mediated by calcium binding by the fluoride ion.

Introduction

An array of scientific findings indicate that the decision made by many cities as early as 1956 to add fluoride (a rodenticide) to municipal drinking water, as long as the dose is below a certain level (usually 1 part per million, 1 milligram fluoride per liter or 0.05 mM) to decrease the incidence of something as minor as tooth decay, was irrational. We now know that precipitates of calcium fluoride occur in fluoridated water cities when the acidity is low (a pH above 7) depending on the fluoride level used. This causes scaling of water pipes (1) and numerous biological effects in consumers, the extent determined by the acidity and the amount of calcium in the water.

Fluoridated municipal water supplies in the United States have been found to contain fluoride levels ranging anywhere from 0.012 mM to a record lethal accidental 7.5 mM (8). The biologic effects have been diverse, covering the entire above range. In spite of lethal poisonings from municipal water fluoridation programs, the Public Health Service retains its mandate to fluoridate all U.S. cities as soon as possible and to reach out to other cities throughout the world in an effort to minimize tooth decay while fluoridating the blood of the water consumer as though this were an acceptable alternative to topical fluoride or to addition of fluoride to one's own consumed water.

Unfortunately, in 1992 at the mouth of the Yukon River in Hooper Bay, Alaska the unthinkable occurred. In what is considered an accident, an entire village was poisoned by its own fluoridated water supply when the system malfunctioned. This represents the first 'experiment' in which human beings were exposed to lethal doses of fluoride. Blood samples were measured for incorporated fluoride and calcium ion and provided much pathologic information on the effects of high doses of fluoride assimilated from municipal drinking water supplies (8). 296 residents were severely poisoned with one fatality. Most had heart malfunction-associated symptoms and severe gastrointestinal pain.

It is now understood that the conversion of fluoride ion into HF, hydrofluoric acid, occurred in the stomach due to the stomach acid HCl at pH 3 and the HF caused the intense pain. HF cannot be stored in glass since it dissolves the container; it also dissolves leather and skin. Also blood calcium levels dropped to 1/3 of normal in one victim, causing a heart attack and the loss of his life. Although the authors of the study were uncertain whether the fluoride itself caused the effect directly or rather was due to its known ability to precipitate magnesium or calcium ion, our recent computations indicate that low blood calcium is responsible for the lethal effect of acute fluoride poisoning, as indicated below.

Precipitation of calcium fluoride into peoples' bones, tendons and ligaments (9) occurs at typical doses added to municipal water. The condition known medically as fluorosis is associated as expected with

spinal rigidity and bone fragility (2), the severity depending on the fluoride level present in the blood and for how long.

If fluoride exposure is sufficiently high or prolonged, formation of kidney and gall stones is known to occur, due to the low solubility of calcium fluoride (0.2 mM at pH 7 at room temperature) (4,6). People with hyperparathyroidism or osteosclerosis are more susceptible in this regard to chronic consumption than others since the calcium fluoride deposits in the soft tissues more efficiently because of lack of sufficient binding sites in bones for it (1).

Interestingly, in children raised on fluoridated water, teeth themselves are more rigid while at the same time may be somewhat more resistant to cavities, but no such effect on adult teeth occurs according to many sources (1, chap. 39, p. 896). Thus fluoridation of adult blood is unnecessary and indeed useless for this purpose.

The dean of Tulane University in New Orleans indicated that fluoridated water consumption at certain doses eventually causes gum disease and for this reason New Orleans water was not fluoridated at the time Chicago and New York and other cities approved it (1). Also, in 1960 under oath in Chicago, the researcher for the Public Health Service who started the fluoridation idea admitted that his data constituting the scientific basis for fluoridation were invalid, shattering its foundation (1). The original observation that people consuming water in Texas that happened to have fluoride into it also had whiter teeth than usual was insufficient to justify mass fluoride addition to other public water supplies, since no one was cognizant of the coexistence of other unhealthful effects that also occurred.

The effects of fluoride are subtle enough to go unnoticed for most people at the levels of fluoridation used currently in Southern California (0.012 mM)(Vallecitos Municipal Water district handouts) and at the increased levels proposed to be used. But since fluoride is converted completely in the stomach to hydrofluoric acid (5), the most corrosive substance known to man, it is likely that consumption of fluoride at levels used in some cities is associated with ulceration of gastric and duodenal tissue (where the pH has yet to return to basic values that occur in the middle intestine). And many report evidence in rats that it eventually causes cancer (1),.

Some argue these effects are unimportant if the municipal water supply maintains very low levels of fluoridation; but the longer the consumption occurs for an individual and the more elderly the person with less cell division occurring in the gastric mucosa, the more overt symptoms become. Individuals with ulcers or heartburn are not good candidates for the long term consumption of water containing fluoride, particularly at doses allowed by the Public Health Service (2-4 mg/L, 0.1-0.2 mM)(VWD handouts). These high doses can be dangerous depending on the amount of water consumed, the individual's own body chemistry, and the ionic composition and pH of the particular cities' water that would be fluoridated to this level**.**

We here determine whether and to what extent blood levels of calcium may be affected by various fluoride doses that are known to occur in the blood of fluoridated water consumers to attempt to determine its modes of action. Our calculations are consistent with the notion that fluoride's lethal effects on the heart are due to low blood calcium subsequent to saturation of body fluids with fluoride at its known low solubility in the presence of physiologic levels of calcium.

Analytical Results and Discussion

Sublethal poisoning occurs at 0.1-0.2 mM fluoride in blood (3,7) and lethal poisoning occurs in the 0.2 to 0.6 mM range due to heart failure (3). We investigate the possibility that the margin of safety is so slight between unnoticed effects (0.02-0.05 mM) to sublethal (0.1-0.2 mM) and lethal poisoning (0.2-0.6 mM) is because below the critical concentration of fluoride in the blood that causes precipitation of calcium fluoride only chronic, often unnoticed effects would occur. Much like being near a hot electrical wire, one can coexist next to it for lifetimes without any difficulties. But one false movement too close to the wire would be a disaster.

With this in mind, we calculated the concentration of fluoride that would cause calcium fluoride precipitates to first form, from the known solubility product constant (K_{sp}) for calcium fluoride (Ksp = 3.4×10^{-11} (6)) and the known concentration of calcium ion in normal human blood (3 mM) (5). The computed dose is 0.1 mM. Here the concentration of fluoride is: $[F^-] = (K_{sp}/[Ca^{2+}])^{1/2}$ from the definition of the solubility product constant for insoluble salts where $CaF_2 \rightleftharpoons Ca^{2+} + 2\ F^-$ and $K_{sp} = [Ca^{2+}][F^-]^2$ (see Table I). The concentration of fluoride where the blood calcium level would be lowered to the lethal low level of about 1 mM is 0.2 mM fluoride.

In Table I the calculated calcium levels that would coexist in fluid with a given fluoride level from solubility considerations are compared with actual measurements of blood levels of calcium and fluoride ion in the lethal poisoned human victim from Hooper Bay, Alaska. Note the good agreement between theoretically calculated fluoride levels, that should lower blood calcium ion to levels below normal, with the actual calcium and fluoride ion levels measured in the blood of this human victim poisoned with fluoridated municipal water in Hooper Bay.

Also note the below-normal calculated calcium ion level that would coexist with fluoride doses found to slow heart cell beat rates in detailed in vitro experiments (10). Isolated beating heart cell preparations from mammals exhibit beat rates that are proportional to the calcium ion level in the incubation medium from 0.3 - 3 mM. Calcium chelating agents EGTA and EDTA and the calcium binding site competitor La^{3+} ion completely block excitation-contraction coupling in intact beating hearts and in isolated cell preparations (11). Further, addition of fluoride to beating heart cell preparations slows beat rates in a dose-dependent manner that K_{sp} calculations indicate would lower calcium ion levels in the incubation medium (see Table I).

These calculated doses are fully consistent with other published data indicating that tissue levels of fluoride in poisoned people are in the 0.2 - 0.4 mM range (5). Also the known human lethal dose is 1-5 grams per adult taken at one time acutely (3,5). Since the average adult contains about 43 liters of body fluid this corresponds to a concentration of fluoride of 0.5 mM in such a case of instant acute poisoning.

Wang, Zhang and Wang also found the heart cell beat rate in cultured cells in well-controlled experiments progressively slows with increasing fluoride levels in a regular, concentration-dependent manner (10). Unlike skeletal muscle, cardiac muscle requires extracellular calcium ion from the bloodstream to couple electrical excitation of the cell membrane with contraction of cardiac muscle fibers (11). Each time the heart contracts, calcium fluxes into the heart cells from the extracellular fluid (at 3 mM calcium ion normally). When the heart relaxes, the calcium is pumped back out of the cell, allowing the fibrils to relax. Lowered extracellular calcium ion levels block contraction of the heart.

These data together suggest that the mechanism by which fluoride ingestion is lethal is by causing hypocalcemia and blockage of heart contractions. Fluoride levels in blood below 0.1 mM do not lower calcium ion below normal as no precipitate yet forms in the blood at this or lower doses. But the instant fluoride exceeds this amount to any degree, calcium ion precipitates and the blood level is lowered, unable to support normal heart function.

Fluoride acts as an enzyme inhibitor for all enzymes requiring calcium for function by binding the ion and is used routinely to block sugar metabolism in red blood cells for clinical laboratory analyses of blood specimens. Fluoride also attaches to calcium anywhere this ion is concentrated throughout the body, including teeth, bones, ligaments, skeletal muscle and brain. But the most crucial function requiring calcium that is fluoride-sensitive is the mechanism of contraction in normal beating hearts.

That extracellular calcium is an obligatory requirement for heart cells to undergo contraction after electrical excitation is well known. Heart cells do not have well-developed sarcoplasmic reticulum to store calcium for this purpose as does all skeletal muscle, which does not exhibit this extreme sensitivity to changes in blood calcium level. The cellular uptake of calcium occurs during the plateau phase of the cardiac action potential and extracellular calcium is necessary for the development of contractile force (11). The strength of contraction (inotropic state) of the heart depends on calcium, where half maximal contractility occurs at 0.5 mM calcium outside cells (12).

It is also possible that chronic ‘low’ level biologic effects of fluoride are also mediated exclusively by binding and sequestration of calcium. Prior to levels of calcium in the blood being lowered (below 0.1 mm fluoride), regions in the body enriched in calcium would still precipitate calcium fluoride, as in bone, teeth, ligaments and brain. The usual physiologic response to such an insult is to increase levels of hormones such as calcitonin to mobilize calcium from bone to fight the sequestration. At higher fluoride

doses, precipitates may be directly responsible for the known formation of gall and kidney stones in fluoridated consumers.

The current level of fluoride in Southern California drinking water is 0.25 mg per liter or 0.012 mM. The blood level is typically in consumers about 1/5 to 1/8 the water level. This is below the solubility for calcium fluoride at normal body pH, temperature and prevailing body fluid calcium levels, and it is easy for many to assume the information in this manuscript is irrelevant. But some cities use up to 1 or 1.5 mg/L (0.05-0.075 mM) or the Federal allowed ceiling of 2-4 mg/L (0.1-0.2 mM) and are near or at the maximum level that would just begin precipitation of calcium, with hypocalcemia, unless the city water happened to have so much calcium in it that it precipitated as the fluoride preventing the fluoride added from entering one's blood at that level.

Arguments that fluoridated cities have increased per capita heart attack rates because of fluoride's effects (U.S.P.H.S. Congressional Record, Mar 24, 1952 reporting 1,059 heart disease deaths in 1948 in Grand Rapids, Michigan per year after 3 years of fluoridation but 585 per year before fluoridation; N.Y. News Jan 27, 1954 reported after 9 years fluoridation in Newbourgh, 882 heart deaths per 100,000, 74% above national rate from unfluoridated cities), rather than because high population density tends to produce stressful lives, is consistent with this discussion. The Hooper Bay disaster contained its own internal control, since part of the cities' water was on a different fluoridated system that did not malfunction at the time. Obviously the heart attack rate per capita was greater on the fluoridated system's water because of the fluoride, not because lives were more stressful in this section of Hooper Bay. As reviewed in Fluoride Debate, Healthway House, 403 Mason St., San Marcos, 2001 by Anita Baker, fluoride consumption has many reported direct effects on heart function (Fluoride 30, pp. 16-18, 1997, no. 1, where EKG analyses of patients with fluorosis is reported, and Lancet, Jan 28, 1961, p. 197 and Tokushima, J. Exper. Med. 3-50-53, 156 where mottling of teeth caused by fluoridation was associated with increased incidence of EKG detected heart abnormalities).

The fluoride level that would precipitate calcium from Southern California water (where calcium ion is about 2 mM) would be 0.14 mM fluoride. So before we could reach fluoride levels approaching the Federal ceiling in water it would precipitate calcium from our drinking water first. To maintain a higher level of fluoride than 0.14 mM would be expensive, requiring addition of enough to precipitate the calcium in the water first. More would be required on top of that amount to increase fluoride to a higher desired level. Fortunately this would be very difficult.

Adding sodium fluoride to public water is paid for by taxpayer adults who will not reap any measurable benefits from it. It takes resources, time, chemicals and machinery to continue to add it to drinking water. It is putting the water district in charge of drugging the public and for something as

innocuous as a cavity rather than for serious effects such as infectious illness for which we have properly chosen chlorination, with the much less electronegative halogen.

It is not in keeping with a free society or with proper health care practice to impose these risks associated with fluoridating the blood of people, livestock, and pets, and also all agricultural products, not to mention our lawns and gardens, compared to the less significant problem of perhaps having tooth decay. Tooth decay should be minimized more efficiently and safely if desired with addition of fluoride products to children's teeth carefully without swallowing or better yet by simply brushing more vigorously and regularly. After the death of the Brooklyn, New York boy in the dentist chair when fluoride gel was swallowed, and after the Hooper Bay, Alaska incident, it is clear that our blood is more important than concern for cavities. Teeth are replacable but lives are not. In keeping with the Hippocratic oath, no physician reserves the right to medicate anyone without their permission, and all patients must remain free to withdraw from drug or other treatment programs at any time. Forced fluoridation in public water supplies ironically constitutes a reversal of these Public Health Service policies. The easy way - fluoridate through the bloodstream by drinking - is unnecessary (since topical application is possible) and criminal (in light of the above findings). Proper dental hygiene is much safer and achieves the desired result anyway. The notion recently publicized that 'antifluoridationists' are similar to earlier critics of smallpox vaccination is inconsistent with the facts that smallpox is lethal and only prevented with blood vaccination, but cavities are not lethal and can be prevented with proper hygiene and if necessary the bacteria that cause caries in the first place can be quickly destroyed with simple methods such as hydrogen peroxide washings, etc. without loss of life.

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Table I

Inverse Relation Between F^- and Ca^{2+} Concentrations*

Blood $[Ca^{2+}]$	$[F^-]$ (mM)	
3.0	0.10	(F^- calculated from K_{sp}, for first precipitation of blood Ca^{2+})
1.3	0.48	(human blood measurements, Hooper Bay, Alaska victim)
1.2	0.18	(human blood calcium from Hooper Bay deceased victim**)
Incubation media		
1.4	0.15	(Ca^{2+} calculated from K_{sp} for F^- added dose lowering heart cell beat rate 17%)
1.0	0.20	(F^- calculated from K_{sp} to lower blood Ca^{2+} to 1 mM)
0.4	0.30	(Ca^{2+} calculated from K_{sp} for F^- added dose lowering heart cell beat rate 27%)

*Some cities recommend 0.1 - 0.2 mM fluoride be added to drinking water. Typically 1/5 or so of the water fluoride level is the consumers' blood fluoride level (as long as there are no accidents, equipment malfunction as in the Hooper Bay disaster, or miscalculated doses added); pharmacologic studies indicate that for soluble fluoride compounds, such as sodium fluoride, the ingested fluoride ion is fully absorbed from the gastrointestinal tract into the blood and in the kidneys about 90% of the glomerular filtrated fluoride is reabsorbed by the renal tubules. Perhaps differences between blood level and drinking water level are age dependent because ingested fluoride that is en route for deposition in bone, teeth and other locations cause a flux until such sites are more saturated at which time blood fluoride might then become as high as that prevailing in the drinking water itself.

As for any insoluble precipitate, the K_{sp} solubility product constant determines the concentration in solution of the ions that dissolve from the salt. For calcium fluoride where $CaF_2 \rightleftharpoons Ca^{2+} + 2F^-$, $K_{sp} = [Ca^{2+}][F^-]^2 = 3.4 \times 10^{-11}$. This relation was used to calculate F^- levels for a given Ca^{2+} level or Ca^{2+} levels for a known F^- level. Other measurements in the table were from actual blood samples drawn from Hooper Bay, Alaska victims where fluoridated municipal water, for which machinery malfunctioned, poisoned 296 residents. Not mentioned is the increased thirst associated with heavily fluoridated water, a biologic response to this insult that was up to that time unknown.

The solubility of calcium fluoride changes somewhat with temperature and pH. It is slightly more soluble at body temperature of 37°C (about 5%) but less soluble with increasing basicity (very slight for pH 7.4 of blood); we here estimate the solubility with the K_{sp} for calcium fluoride at pH 7 at 25°C since these offsetting effects are opposites.

**For unexplained reasons the blood fluoride was not measured in the victim who died, but blood calcium was. Urine fluoride was measured, which for all other subjects was about 50 times the blood level. The blood fluoride level entered with the known calcium level was computed from K_{sp} considerations. Dividing the urine fluoride by 50 produces a dose somewhat below this amount.

The K_{sp} for magnesium fluoride at room temperature is 6.4×10^{-9}. Intracellular magnesium levels range from 2.5 to 15 millimolar. The plasma concentration is 0.75 to 1.1 millimolar, with one third bound to protein, the rest the diffusible free cation. 1.1 millimolar fluoride would thus precipitate intracellular magnesium and could be the mechanism by which fluoride blocks glycolysis in red blood cells. Intracellular calcium is in the micromolar range.

Average blood plasma concentration of calcium is 2.5 millimolar but 1/3 of this is complexed with protein and one tenth is complexed as citrate and phosphate. The remaining fraction is the diffusible ionic physiologically active calcium ion, about 1.3 millimolar.

Public Information on Water Fluoridation

I am a medical research scientist with expertise in blood clinical chemistry and experience in toxicology. This letter addresses the problem of artificial fluoridation of public water.

Fluoride is a charged ion, not the element fluorine.
Fluoride does not 'come from fluorine.' Fluorine does not exist anywhere on earth. Fluorine can only be made as a transient, toxic, violently reactive element in a laboratory from fluorides. Fluorine is the most electron-withdrawing element in the entire universe and thus reacts with and oxidizes other substances, while itself becoming reduced to fluoride. Many chemists fail to appreciate that fluoride then is no longer electron withdrawing and in fact has an electronegativity of less than zero because the atom is already reduced. Fluoride has the opposite tendency, that is, it attracts itself to positive calcium ions.

Natural and unnatural fluorides are completely different in toxicology.
Drinking water in the Southwest and elsewhere (not the Pacific Northwest) can contain significant amounts of fluoride ion, but it all comes from natural calcium fluoride salts as a leachate from soil. More importantly, since calcium fluoride is the source for natural fluoride in these drinking waters, it is also always accompanied by vast amounts of other positive ions including magnesium and many other elements making the water hard. Also, calcium is the antidote for fluoride poisoning so calcium fluoride is not a toxic, having a safe lethal dose of a high 5,000 mg/kg. This is not what water districts use for 'fluoridation', so the fact that nontoxic calcium fluoride is naturally in water misleads people into thinking that the artificial fluoride added is also natural and nontoxic, when it most certainly is a toxic, that is listed on all poisons registries.

Unnatural fluoride sources are mostly used as insecticides, rodenticides or pediculicides in veterinary medicine for external use only. Calcium fluoride, of course, is not a toxic and is useless for these purposes. The difference between natural, nontoxic calcium fluoride vs. toxic, unnatural fluorides is huge. Natural calcium fluoride is poorly assimilated into the bloodstream due to its low solubility in water, while artificial fluorides are very water soluble and are fully assimilated into the blood. Some people at the Centers for Disease Control, Atlanta, Georgia unfortunately now promote 0.8 ppm fluoride in drinking water, regardless of whether it is natural or unnatural. Metropolitan will treat our water with unnatural fluosilicic acid, a corrosive, hazardous waste fertilizer by-product. Normal water contains no unnatural fluosilicic acid; some waters, not all, can contain natural calcium fluoride.

Fluosilicic acid treatment of water is repeatedly misrepresented as being 'natural.'
Fluoridation is not simply the addition of "fluoride to drinking water." Fluoride cannot exist by itself. The process involves adding unnatural fluosilicic acid, which contains the fluoride ion inside. Unfortunately, the lethal dose for fluosilicic acid, a toxic hazardous waste from fertilizer scrubbers, is a dangerous 150 mg/kg. In fact artificial, not natural, fluoride is what killed one and poisoned 300 other people in Alaska when the corroded water district valve leaked. (New England Journal of Medicine, 330, page 95, 1994.) This disaster in our nation's history testifies to the difference between unnatural and natural fluorides. Although additional safeguards have been instituted because of this disaster, accidental overfeeds still occur periodically in U.S. fluoridated cities. One recently occurred in Madison, Wisconsin, requiring the dumping of tons of tainted water (fluoridealert.org). It is important to note that the Alaska disaster could not have happened had they been using natural calcium fluoride. Citizens are usually told 'fluoridation is natural and safe' and such thoughts led these Alaskans to continue drinking the tainted water even after they became ill.

Unnatural fluorides bind calcium and accumulate in bone, teeth and other calcium-rich locations.
Stopping demineralization in teeth might have worked out if it weren't for the fact that fluoride also stops demineralization of living bone tissue at the same time! The most important function of bone is to act as a

repository to supply the bloodstream with calcium ion for the heart to function properly. It is not a coincidence that fluoridated Seattle in its soft calcium deficient water leads the nation in heart attack per capita. Fluoride from artificial compounds accumulates, without one realizing it, in bone (2 to 4,000 mg/kg) quickly and, over lifetime drinking, interferes with calcium mobilization. Fluoridated bones are more susceptible to breaks and have delayed healing because indeed calcium fluoride is far less soluble than natural bone hydroxyapatite. This is not a benefit, but an adverse effect that bone tissue fights. Moreover, fluoride in Newburgh was found to delay teeth from developing. Serious researchers understand that the effect caused the illusion that tooth decay was lowered. By age 16, there is actually slightly more decay in fluoridated Newburgh than in the control city of Kingston. Fluoride also causes teeth interiors to be more crumbly, as reported by the dentist Dr. Heard who first proposed the idea that perhaps fluoride might improve teeth.

Fluosilicic acid is not FDA approved and does not meet national or state standards for an additive.
Fluosilicic acid, although sanctioned by the DPH, has never conformed to Standard 60. The manufacturer has never provided written materials to that effect nor even bothers to list all the ingredients at the levels present in the preparations shipped nor have ever provided in writing that it is safe for all consumers, including for example diabetics who drink high levels of daily water, or that it effectively lowers cavities. Neither does the provider list any of all the possible side effects due to the ingestion of fluosilicic preparation. FDA states
it is a drug, not a mineral nutrient. Cavities are not caused by lack of fluoride, but by poor diet and poor dental hygiene that is correctable without fluoride.

Chronic effects of artificial fluorides at doses injected into municipal water.
The ADA has not included in its review the two most exhaustive sets of data, the Agencies for Substances and Toxic Disease Registry 2003 and the National Research Council 2006 reports where it is quite clear that fluoride at any dose above zero from artificial, not natural, sources causes increased bone fractures with delayed healing. Other effects that have been found occur after lifetime exposure or after accidental overfeeds. The Harvard study confirms the study cited in the ASTDR and the Japanese study that young boys are experiencing a lager rate of bone cancers due to water fluoridation. Animals that have been studied, seem to provide conflicting results, unless you realize that the effect is consistently there if the animals are studied for a long enough time period and if fluoride is added to water that is calcium deficient [again calcium is the antidote to fluoride poisoning because fluoride is a calcium chelating or binding agent].

About 1% of people are also allergic or hypersensitive to fluosilicic acid (internally and externally).
Bathing can even be a problem, with people who have sensitive skin. Fluosilicic acid concentrates in pools and spas over time while water evaporates. We know fluoride absorbs through the skin because topical skin bathing was once used to help patients overcome hyperthyroidism, but can be harmful for normal people. The notion that silicofluoridated water is safe, implying safe for all and safe forever, is simply ludicrous and self serving for the ADA, a tooth based organization. The ADA knows very little about blood clinical chemistry or fluoride toxicology, however, they did recently notify consumers not to use fluoridated water for infant formula. Why would any consumer that has already paid for their own tap-water to be fluoridated, be happy about buying bottled water for the baby?

Effects on animals and pets.
Fluoride accumulates in animal bones as efficiently as in human bones, which contradicts the common statement that "no evidence exists that indicates fluoride at precise levels used is harmful to pets."

The California ‘fluoridate’ bill does not mention unnatural fluosilicic acid.
Billions of dollars are spent unnaturally fluoridating water, although water was Created great in the first place without unnatural fluorides, and in many areas without natural fluoride. We've requested

Metropolitan use natural calcium fluoride for safety purposes, but thus far no changes are anticipated, even though California's AB733 'fluoridate bill' does not mention fluosilicic acid, or prohibit the use of natural calcium fluoride.

Scientists mostly denounce artificial fluoride due to its toxicity, dentists commonly accept it.
It is important to read the work of actual experimental scientists who perform the toxicology, not dentists who interpret and then prescribe while having no license to practice general internal medicine. Scientists at the EPA have denounced artificial fluoridation. At the very least read fluoridealert.org or 'The Toxicity of Water Fluoridated Artificially' at www.lulu.com search fluoride. In it you will find an analysis of the Hooper Bay, Alaska disaster and a petition to FDA to ban all artificial fluorides designed to be directly ingested. The CDC and several water districts are now under litigation for falsely misrepresenting fluosilicic acid as 'fluoride' and for causing the lethal poisoning of people on full-day kidney dialysis where fluoridated water was not swallowed, but was forced directly into the bloodstream, which could not be eliminated by diseased kidneys.

Common and rare effects of natural and unnatural fluorides over wide doses, acute and chronic.
Part of the confusion comes from assuming that the two data sets for wildly different fluoride compounds contradict each other, when they are consistent. Biologic effects from consumption of natural calcium fluoride in water are: 0-0.4 ppm no detectable effect; 1.0 ppm 'Texas teeth' in a few years with white brittle surfaces temporarily sometimes decreased cavities, but after many years of drinking this water, teeth have increased cavities and crumbly interiors; 10 ppm causes bone fluorosis and deformity (in India); the experimentally determined dose is at a safe high 5,000 ppm. On the other hand, pathology caused by artificial fluorides (sodium fluoride, fluosilicic acid): 0.8-1.0 ppm the first 2 years accumulates fluoride in bones at 2,000 ppm, delayed eruption of teeth, 10% of people have mottled teeth, 1% have hypersensitive skin reactions, tiny percent of young boys can develop lethal bone cancer, an effect also seen in tested animals. After many years teeth are crumbly inside with more cavities than controls, bone fluoride at 4,000 ppm with increased fractures, and delayed healing; 150 ppm is lethal due to heart attack from lowered blood calcium.

The injected fluosilicic preparation dissolves metals and glass.
The latest delay by Metropolitan Water to silicofluoridate citizens in Southern California was necessary because they had to change the stainless steel tanks that they had designed to hold it. Apparently they didn't know that fluosilicic acid corrodes stainless steel (it dissolves most metals, glass and concrete). It is possible that stomach linings, particularly in the elderly with slow rates of mucosa turnover, may be at risk for irritation since the diluted chemical retains its identity as a corrosive.

Meanwhile, my petition to the FDA to ban unnatural fluorides for ingestion was assigned a docket number for review. At this time, the Dept. of Health Services dentist and California state chief fluoridation officer David Nelson still refuses to apologize for blaming the Alaskan wife for poisoning her husband, when it was the water district valve, corroded from artificial fluoride that caused his poisoning by drinking the over-fluoridated water. North County water district operators anonymously told me they don't like adding this corrosive, which will go into people, but they're doing what they're told and don't want to lose their jobs. It is incredible, in this country that's supposed to be free.

Natural calcium fluoride could be an acceptable form to follow the CA 'fluoridate' law.
Addition of calcium fluoride instead of fluosilicic acid would be something that most people could live with. Many San Diego County residents don't have the money to buy bottled water. They should not be forced to drink fluosilicic acid against their will. Calcium fluoride is natural, but fluosilicic acid is unnatural and very toxic; and it must be avoided. It would be of great benefit if the heads of local water districts and city officials were to request that Metropolitan use natural calcium fluoride for this purpose.

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Fluoridation: The Fraud of the Century

First I would like to say that I do have documentation for everything I have written in this article, and will gladly fax, send, or e-mail it to anyone upon request.

A great many people now consider fluoridation one of the biggest frauds known to man!

On Nov. 24, 1992, Robert Carton, Ph.D., a former EPA scientist said: "Fluoridation is the greatest case of scientific fraud of this century, if not of all time."

Professor Albert Schatz, Ph.D., Microbiology, discoverer of the antibiotic streptomycin, has also stated that "fluoridation… is the greatest fraud that has ever been perpetrated and it has been perpetrated on more people than any other fraud has."

In 1999 the EPA scientists (consisting of 1500 professional people) concluded, after reviewing all the evidence, that the public water supply should not be used "as a vehicle for disseminating this toxic and prophylactically useless…substance." They called for "an immediate halt to the use of the nation's drinking water reservoirs as disposal sites for the toxic waste of the phosphate fertilizer industry."

Motive behind fluoridation

Fluoridation is not even about children's teeth. It's about industry getting rid of their hazardous waste, fluosilicic acid, at a profit, instead of having to pay a fortune to dispose of it in costly hazardous waste dumps.

The aluminum, steel and fertilizer industries all produce this toxic fluoride waste by-product. For years these industries were forced to pay numerous compensation claims for damages to nearby residents, livestock and the environment caused by their highly hazardous plant emissions. Eventually laws came into effect that prohibited the disposal of these toxic wastes into the environment; they now can only be disposed of in costly hazardous waste dumps; unless, of course, they sell it to us to dump into our water supply.

These by-products were industry's menace until Oscar Ewing, an Alcoa Aluminum lawyer, became head of the U.S. Public Health Service in 1947. Alcoa was one of the biggest

producers of hazardous fluoride waste at that time. Today, phosphate fertilizer industries produce the most.

A theory was proposed by George Heard, a Texas dentist, that natural calcium fluoride in water improved tooth structure. Although the PHS knew at that time that there was little or no margin of safety between a possible therapeutic dose and a toxic dose for unnatural fluoride, they proceeded to conduct experiments on thousands of people (without their consent) by fluoridating their water with this hazardous waste.

Most people think that only pure 'fluoride' is used to fluoridate the water. When promoters talk about adding fluoride, they continually say "it is natural." However, only benign calcium fluoride is natural (with a lethal dose of 5,000 mg/kg). The law allows the water companies to use natural calcium fluoride, but the powers that be choose to use artificial fluoride (with a lethal dose of 150 mg/kg—that is 35 times more poisonous than calcium fluoride).

Most people are totally shocked when they learn that what is being used is raw untreated hazardous waste (fluosilicic acid) that comes straight from the pollution scrubber systems of the phosphate fertilizer industries. This hazardous waste is more toxic than lead, almost as poisonous as arsenic; and it is contaminated with some of both, as well as several other toxic heavy metals.

People are outraged that toys from China contain some lead, and these toys are being recalled, yet we are being forced to add a substance containing lead to our precious water supply! Why? ('Follow the money,' isn't that what they say?)

Fluoridation merely delays decay

The most disturbing fact of this whole fluoridation issue is that the Health Department's own statistics (covering the original experiments) prove that artificial fluoridation does not prevent tooth decay; it merely delays it. Fluoride, from unnatural sources, makes teeth erupt later than normal, probably due to thyroid suppression. This delay makes it easy to read the statistics incorrectly. For example, in the Newburg/Kingston, New York experiment, the fluoridated Newburg children's teeth that had not yet erupted were counted as 'no decay.' Therefore, at age 6 these children were recorded as having 100% 'less tooth decay.' However, at older ages the decay reduction became less and less until by age 10 these same children had only 40% less decay.

It was obvious that this '10-year experiment,' was failing, so the Public Health Service abandoned the experiment. They then totaled the five reductions from the different age groups, divided that number by 5, and recorded "an over-all reduction of at least 65%." By age 16 (after all the children's teeth had erupted) the decay rates were equal, if not more in the artificially fluoridated areas.

An article in Pediatric Dentistry, Feb. 1998, verifies that the reduction did not stop at 40%; that eventually the Newburg children had more cavities--not less. Therefore, the over-all reduction was zero, not 65%. There were no savings, just a lot of children with dental fluorosis. The Health Department's statistics prove that the rate of decay was basically the same in all the test cities (fluoridated or unfluoridated) if you go by when the children's teeth erupted.

In 1997 a study was completed by Researcher, Dr. John Yiamouyiannis. Results were presented before Superior Court in California. Counties that were 90% fluoridated spent on average $121.93 per eligible recipient, and counties with less than 10% fluoridation spent only $118.33 per recipient. San Francisco, fluoridated 30+ years, was $144.84 in 1995; never-fluoridated Los Angeles was $143.52.

For many years, the American Dental Association has been aware of the fact that there are no savings. In their journal, back in Feb. 1972, it was reported that dentists made 17% more profit in fluoridated areas as opposed to non-fluoridated areas.

The California Oral Health Needs Assessment 1993-94 claimed that their study proved the children of California desperately needed fluoride in their water. However, it actually proved just the opposite. The study showed that California had only about a quarter as much water fluoridation as the nation as a whole, yet the 15-year-old children had less tooth decay than the national average. (San Diego Union Tribune, Sept. 1, 1999.) This backs-up the 'delay' statement above.

On May 1, 1999, EPA scientists (consisting of 1500 professional people) concluded, after reviewing all the evidence, that the public water supply should not be used "as a vehicle for disseminating this toxic and prophylactically useless…substance." They called for "an immediate halt to the use of the nation's drinking water reservoirs as disposal sites for the toxic waste of the phosphate fertilizer industry."

In Dec. 1993, a Canadian Dental Association panel concluded that ingested artificial fluoride does not, in fact, prevent tooth decay. (Canadian Medical Association Journal, 1993:149.)

Bette Hileman, in Chemical & Engineering News, Vol. 67, No.19, May 8, 1989, states that the largest study of tooth decay in America (National Institute of Dental Research-1987) reported that there was no significant difference in the decay rates of 39,000 fluoridated, partially fluoridated, and non-fluoridated children, ages 5 to 17, surveyed in 84 cities. The study cost taxpayers $3,670,000, but the media ignored these results.

Boston has been fluoridated since 1978. About 90 % of 107 Boston high school students were found to need dental treatment, according to a 1996 study. That report also estimated that the city's students had four times more untreated cavities than the national average. (Boston Globe, 11/27/99).

The latest scientific findings (even in dental journals) show that fluoride's only measurable effects on dental decay are from topical application, as in toothpaste. The observed worldwide decline in tooth decay over the past four decades has occurred at the same rate in areas that are not fluoridated as in areas that are. (Nature, 7/10/86).

The damaging health effects of fluosilicic acid

On July 2, 1997, the EPA scientists reported that their "review of the body of evidence over the last eleven years, including animal and human epidemiology studies, indicate a causal link between fluoride/fluoridation and cancer, genetic damage, neurological impairment, and bone pathology. Of particular concern were recent epidemiology studies linking fluoride exposure to lowered IQ in children."

In March, 2006, The National Academy of Sciences 2006 Review of Fluoride in Drinking Water released a report of their 3-year research project concerning the toxicity of fluoride in drinking water. This report brought out its detrimental effects on bones and other bodily systems, and recommended that the EPA lower their safety level of fluoride in the water. This has not yet been done.

On Oct. 9, 2007, Daniel Stockin, a public health professional with The Lillie Center, stated that kidney patients' lives and quality of life are at stake on and off dialysis machines. He asks, what could justify (the National Kidney Foundation) not telling kidney patients they are particularly susceptible to harm from fluoride intake? Is it fear of lawsuits? (Some kidney and diabetes lawsuits are about to begin.)

October 1961, Journal of Dental Medicine reports: A 14-year experiment by Feltman and Kosel proved that 1% of the population is allergic to artificial fluoride. Dr. Reuben Feltman, Research Dentist at Passaic, N. J. General Hospital, spent years conducting studies of children and pregnant women given fluorides. He states: "We have had some individuals in our study who have had reactions to fluorides-urticarias, vomiting, etc. What will happen to such individuals when water is fluoridated?"

According to the Physicians Desk Reference, "in hypersensitive individuals, fluorides occasionally cause skin eruptions such as atopic dermatitis, eczema, or urticaria. Gastric distress, headache, and weakness have also been reported. These hypersensitive reactions usually disappear promptly after discontinuation of the fluoride." Whether these reactions are true allergies, or reactions to the corrosive, doesn't change the conclusion that contact with fluosilicic acid must be avoided.

Dr. George Waldbott, well-known allergy researcher in Detroit, Michigan, writes: "No two people react alike to the same drug no matter how small the dose. At the so-called 'safe' concentration fluorine is a potent danger to every individual, especially to diabetics who drink more water, to nephritics who can't eliminate fluorine readily, and to allergic people who have a low tolerance for drugs." (Annals of Allergy, Volume 25, July, 1967) [A few water districts are now under litigation because of the deaths of day-long dialysis treated kidney patients when the full dose of water fluoride transfused their entire bloodstream and could not be eliminate by the diseased kidneys].

It is also a proven fact that people do absorb fluoride through their skin. Gorlitzer von Mundy treated over 650 patients who suffered from hyperthyroidism with 20-minute baths containing fluoride, and he did it successfully. Today hypothyroidism runs rampant; bathing in fluoridated water only makes it worse. Why should anyone be FORCED to take that chance?

CDC data shows that dental fluorosis now impacts one third of American children. The World Book Dictionary says "fluorosis is a diseased condition-- caused by too much fluorine in drinking water." Webster's Dictionary says it is "the first sign of fluoride poisoning."

Now days besides being in toothpaste, there are excessively high fluoride contents found in foods manufactured in fluoridated areas and in many foods treated with fluoride containing pesticides. As a result dental fluorosis is ranging from about 15% to 65% in fluoridated areas and 5% to 40% in non-fluoridated areas. Shouldn't we be taking it out instead of putting it in?

Fluoride is a drug, not a mineral nutrient

The FDA states in a letter that fluoride used for therapeutic effect would be a drug, not a mineral nutrient; that it has not been determined essential to human nutrition, and that it would be impossible to state a safe amount without knowledge of the amount of fluorides already being consumed by a person from other sources. (That is what the fluoridation opponents have been saying for years.)

In a letter dated June 3, 1993, Assemblyman, John V. Kelly states that the FDA admits there are no studies that prove that fluoride is either safe or effective; yet promoters continually claim it is both.

Who has a right to put a drug in the water supply where there can be no control of dosage? Recently the ADA quietly announced that baby formula should not be mixed with fluoridated water; most mothers are not aware of this warning. For many people it is against their religion or their beliefs to use drugs.

Shouldn't those who want the medicated water be the ones to buy the bottled water, so the rest of us can retain our freedom of choice? Regular water filters can't remove fluoride from water; the fluoride ion is smaller than the water molecule. Only distillation will totally remove it, but who wants to drink cooked, tasteless water and waste electricity? Reverse osmosis removes from 30 to 80%, but the filters quickly deteriorate making it cost-prohibitive; fluoride is quite corrosive. Reverse osmosis also wastes a lot of our precious water at a time when the water companies are telling us that there is a serious water shortage, and that we must cut-back on our water usage.

Fluoridation is unconstitutional

Isn't it unconstitutional to force this on those who don't want it? Until this fluoridation issue comes to a halt, those who know the truth, will live in constant fear of what this toxic waste is slowly doing to them, and rightfully so—especially those who can't even afford to buy bottled water.

What about the new California law: Drinking Water Statutes part 12, chapter 4, article 116270 (a)? The California State Legislature has found and declared that "Every citizen of California has the right to pure and safe drinking water." Now it is also the policy of the state to reduce to the lowest level feasible all concentrations of toxic chemicals that when present in drinking water may cause cancer, birth defects, and other chronic diseases. This positively makes fluoridation against the law! Why is this being ignored?

Under-oath testimony and Congressional investigation have revealed that no producer of fluosilicic acid has performed all of the requirements of ANSI/NSF Standard 60 to merit certification that the manufacturers are required to provide and that the California law requires; yet the water companies buy this hazardous waste with no hesitation. Why?! Fluoridation is certainly not 'the will of the people.' When they have been allowed to vote, more often than not they have voted 'no.'

America is 'The Land of the Free,' except when it comes to fluoridation. Other than a few Letters to the Editor, the media refuses to cover any articles against this issue.

Newspapers claim that opponents are nothing but kooks and alarmists; and insist that no one should listen to them. The promoters may have many organizations endorsing them, and they constantly quote each other, but they have no scientific proof of what they say. Because of this, for years the promoters have refused to debate this issue—they know they can't win. Opponents, on the other hand, have the truth on their side; and 'live' for debates.

For the latest and most reliable information on fluoridation, you can go to Paul Connett's website: www.fluoridealert.org. He's a professor of Chemistry at St. Lawrence University in New York. On his website you can send your online message to Congress in support of the Professionals' Statement calling for an end to water fluoridation, and a new Congressional Hearing. When you sign this message, it will automatically be sent to your US Senators and Representative. As of 11/1/07, there are over 5,200 signers. More than 1,100 of them are Professionals, all calling for an end to water fluoridation. They also cite new scientific evidence that fluoridation is ineffective and has serious health risks. If you are 'with us,' please sign on.

Everyone should realize that this is not a case of 'whoever has the most proof wins'; just 2 or 3 good reasons not to fluoridate should be reason enough to stop 'poisoning the well.' None of us can live without water! For other reliable information on fluoridation, go to www.lulu.com, www.keepersofthewell.org, and www.fluoridedebate.com.

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Speech by Dr. Sauerheber at Metropolitan Water District, Los Angeles, August 20, 2008.

I am a 30 year medical research scientist: my first mentor was Dr. Baird Hastings, arguably the most accomplished calcium physiologist in the world. I wrote a manuscript on how unnatural fluorides poison rats and accidentally kill humans. Even at low doses, fluoride ion binds bone quickly and dramatically with modest drinking. This subtly alters bone's function of supplying the body with calcium ion. Blood ionized calcium is the most tightly regulated substance in the body. Blood calcium drives the heart beat, fluxing in each time the heart contracts, and pumped back out each time the heart relaxes. A prime function of live bone tissue is to maintain this calcium blood level normal, under the actions of hormones that speed up release of calcium from bone or impair it as the need arises.

The original purpose for adding fluoride to drinking water, to decrease cavities in teeth, completely backfired. Not surprising to me, based on calcium physiology, it turns out, that our four largest studies, one spanning 50 years of artificial fluoridation time, one as large as 400,000 people, all are consistent, finding up to 27% more cavities in artificially fluoridated cities vs. nonfluoridated. Claiming blood fluoride lowers cavities is now disproven and is inconsistent with normal human physiology. Teeth interiors subjected to blood fluoride can become crumbly and can have enamel that is brittle. What did we expect form artificial fluorides that perturb the natural structure of live bone, which is the body' calcium repository?

Treating peoples' blood with waste fluosilicic acid is a medical hazard and the CDC and some of its officers misrepresent fluoridation to the public with contradictory and false statements and omissions of fact. The CA law to 'fluoridate' water is based on false information. One of the authors of the bill testified that fluoride is an element, but tha'ts wrong. It's an electrically charged atom. One cant' 'fluoridate' water per se. Once can add calcium fluoride, sodium, fluoride, not just 'fluoride'. The law is technically invalid because it doesn't provide instructions and requirements. Only calcium fluoride is natural, the others are toxic. The statement that fluoridation is natural suggests to the listener that the compounds used are natural, but they are not. The pronouncement that silicofluoridation or sodium fluoridation 'is safe at proper doses' denounces Takahashi's research that osteosarcoma is significantly rising in U.S. cities in 26 of 36 fluoridated areas and in particular among young males exposed during rapid bone growth. The CDC was never chartered to experimentally analyze fluoride health effects nor has the facilities for prospective drug testing studies Such clinical trials are necessary before first doing no harm, and yet hundreds of journal articles promote artificial fluoridation though there has not been one prospective clinical trial with human volunteers to assess side effects with the scientific method.

300 people were poisoned and one killed in Hooper Bay, AK by water artificially fluoridated at a target dose of 1 ppm sodium fluoride when the valve stuck open. Some at the CDC incredibly blame the dead man's wife, because she gave him water to drink for his thirst, but yet admit the vomiting itself was

caused by consumption of water poisoned with fluoride ion, accidentally added by the water district facility, not added by the wife. The wife didn't poison the remaining 300 people afflicted. Fluoride atoms from unnatural fluoride compounds bind calcium ion efficiently and in Hooper Bay the calcium in blood was lowered to the known levels that cause heart block and this is how he, like a poisoned rat, was killed. The bone calcium repository was simply unable to prevent the decrease in blood calcium level that occurred. All biological processes require calcium ion. Since artificial fluorides are all calcium chelators, even at low doses anywhere calcium is concentrated in the body, fluoride atoms accumulate there, especially in bone. Bone is the blood reservoir for calcium. Calcium release from the fluoride is far lower than from natural bone hydroxyapatite, so it's hardly surprising that heart attack rates are higher in unnaturally fluoridated cities over long time periods. Claiming that such effects are coincidence, caused instead by drinking or smoking or other variable besides artificial fluoridation has no factual basis, especially under conditions of swallowing calcium chelators over one's lifetime.

Poisonings from unnatural fluoridation are telling us that he procedure is false. The effects of long term bathing, swimming and showering in silicofluoridated water have not be examined in prospective studies either. And yet in animals there is evidence that silicofluorides are carcinogenic in skin tests. Since human skin cancers are rising in the U.S., it is simply impossible to claim that these additives are not exacerbating this problem with the words that artificial silicofluoridation "is safe at proper doses". Artificial fluoridation is unnatural, unsafe and backfired. Don't use toxic waste to 'fluoridate' water.

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Dear sirs,

The printed objective of the United States' Federal Water Pollution Control Act, Section 101a is "to restore and maintain the chemical...integrity of the nation's waters." To this end, it must be called into attention the recent findings of the EPA's 2006 National Research Council Report "Fluoride in Drinking Water". On an average, fluoride from artificial compounds (not natural calcium fluoride) incorporates into bone in a concentrated manner to a massive 2,000 parts per million, with only modest drinking for two years of regulated, artificially fluoridated water at 0.8 ppm fluoride ion. The data also indicate lifetime drinking of 4 ppm artificial fluoridated water causes a bone level of 12,000 ppm, associated with severe skeletal fluorosis. It has not been previously noticed, even by one of the authors of the report (personal communication, Dr. Thiessen, Oak Ridge, Tennessee), that the phamacokinetic linear dose response data, taken together with the above lifelong exposure data, indicate that longterm consumption of water at only 0.8 ppm, recommended by the Centers for Disease Control for Metropolitan Water, Los Angeles, would typically produce an average bone level of 4,000 ppm. This is of course, as noted, associated with

increased bone fractures and skeletal fluorosis stage II, with joint pain in late life usually assumed to be arthritic. Bone fractures are known to increase in a progressive fluoride bone concentration and time dependent manner. Although many are offended by the statement that: artificial fluorides are poisons to be kept out of blood and drinking water, not 'nutriments' that should escape the Water Pollution Control Act -- this in no way detracts from the truthfulness of the data-supported conclusion.

Wastage of tainted water, overfluoridated with unnatural toxic fluosilicic acid, is a common occurrence in fluoridated U.S. cities. In one case it led to the death of an Alaskan when 300 others were also heavily poisoned. In other cases it led to wastage of discarded tons of tainted water.

In addition, conclusive published work, as recently described by WebMD, from two independent groups, Dr. Bessin's study from Harvard University and Dr. Takashi's study of fluoridated U.S. cities from 1978-1992, indicate that osteosarcoma, a lethal morbid condition afflicted on young boys, is on the rise in artificially fluoridated cities even in the absence of accidental 'overfeeds'. This used to be an extremely rare condition before water was artificially "fluoridated"; now it remains relatively rare, but much less so. WebMd has called for a moratorium on water 'fluoridation' practices.

Lastly, it must be noted that the PHS original intent, to alter teeth structure, was based on observations of teeth in Hereford, Texas that had uncommonly high levels of NATURAL calcium fluoride and other minerals in soil, not FSA or sodium fluoride, NaF. The practice of presuming that artificially synthesized fluoride compounds, missing the internal calcium antidote to fluoride poisoning, could duplicate the effects on teeth that natural calcium fluoride may induce, is now known to be false. The incidence of tooth decay is usually higher in artificially fluoridated cities over long term use. Our four largest studies, one involving 400,000 people, one involving 39,000 U.S. citizens, all reach this same conclusion. Close examination of the original Kingston/Newburgh data reveal that tooth eruption was merely delayed, corrupting the statistical analysis, and in fact after years of time tooth decay ended up being increased by fluoridation. The original intent for "fluoridation" to improve teeth health has backfired and the adverse health consequences mentioned above have instead occurred. The procedure has poisoned and killed, and this diluted hazardous waste must be kept from, and no longer added to, the nation's public drinking water.

The CDC maintains that there is "no scientific evidence" that "natural calcium fluoride is any better for 'fluoridation' than unnatural compounds", as repeatedly advertised on their website and repeatedly told to public news services, but this is false. The LD50 for calcium fluoride is a safe 5,000 ppm and this compound is of course not listed in any toxics registry or poisons handbook. But for FSA, the LD50 is 150 ppm and for NaF is 15 ppm, both listed in toxics registries and poisons handbooks, usually as insecticides, rodent poisons and for other toxics uses, including as external-use pediculicides in veterinary medicine and of course in toothpaste for topical use only, with orders not be swallowed at any age and not to be even used by children under 5 because of the above described known toxicity associated with internal consumption.

Under the rules of the Safe Drinking Water Act, I here request that an injunction be placed on the Metropolitan Water District, Los Angeles, who has constructed facilities for injection of FSA into public water and notified that 'fluoridation' will begin within the month for 18 million water consumers in Southern California, has already fluoridated parts of the Los Angeles basin area, and has informed the general public that 'fluoridation is natural', fluorides are natural compounds that are consumed safely 'at proper doses'. MWD is affiliated with the Eastern Water District that just now began to artificially fluoridate with fluosilicic acid the San Jacinto Valley, Hemet and Temecula, CA area public water. The rest of the greater LA and San Diego County areas are next in line from MWD.

A citizens' group from here in San Marcos and other citizens from the LA area in addition to myself presented testimony and references of fact to the Metropolitan Water Board on Aug. 20 at an invited public comment meeting. We also have since asked in writing that Metropolitan at the very least use natural calcium fluoride for purposes of 'fluoridation' to avoid the known toxicity and bone accumulation effects of artificial fluorides. The Board has not changed course after this testimony and in fact preferred not listening to it.

Please file an injunction to stop this, under the mandates of the Water Pollution Control Act and California's own Safe Drinking Water Act, which all prohibit the dumping of unnecessary toxic materials, particularly commercially used insecticides, rodenticides or pediculicides, into public water supplies. Although many argue that diluted unnatural fluoride compounds are "no longer toxic", remember it was a target dose of 1 ppm in Hooper Bay, Alaska that worked for a season, before the 'overfeed' commenced to kill. In all likelihood, the reason such overfeeds are not rare is perhaps associated with the unusually corrosive action of fluosilicic and hydrofluoric acids in dissolving metal valves, associated plumbing and equipment. In many events, according to newspaper accounts, the exact mechanism by which 'overfeeds' occur, causing water to be contaminated and discharged, is "not known".

18 million people await action on this matter, before more innocents are led to believe the CDC, that fluoridation "is safe at proper doses". The NRC report was cursorily examined when CDC officials denounced the data on bone fluoride as irrelevant to water 'fluoridation' and the Water Pollution Control Act. I was earlier referred to Region IX and to the California Dept. of Health Services' Dr. Nelson. Nelson is a fluoridation promoter and in emails to me made statements that are false and others that are in contradiction to what he tells news services. EPA Region IX has denied action. We need a more objective observer on this matter, if you would please be so kind.

Richard Sauerheber, Ph.D. Chemistry

p.s. If needed, I can supply references to all statements made in this letter, including e-mails from Dr. Nelson, newspaper reports here and elsewhere, letters from key people involved in the long tortuous history of artificial 'fluoridation' planning, my manuscript "On the Toxicity of Fluoridated Water" delineating the mechanism of unnatural fluoride's toxic effects in Hooper Bay, Alaska, and any publications referred to in this letter.

Sept. 4, 2007

Palomar College Telescope Editors,

I was wondering if you would consider the following editorial/article. There is so much misinformation about the realities of artificial water fluoridation out there that the decision recently to soon begin treating our Palomar College, North County water, along with the greater LA area, with fluosilicic acid, that this information is essential. We have a high population of new moms here and since the proposed action will cause newborns to exceed the National Academy of Sciences allowed limits for blood fluoride daily dose in newborns, because they consume mainly liquids in getting their daily nutrition needs met, this information I feel is necessary, before the next 18 million people are treated.

Thanks, Richard Sauerheber, Ph.D.

Letter:

"Fluoridation" misinformation needs fixing. WebMD[1] reports that boys drinking artificially flouridated water have a 5 fold increase in deadly, though still relatively rare, bone cancers. Harvard's Dr. Bassin published her work in 2007 that confirms Takahashi's findings[2] that osteosarcoma is steadily rising in artificially fluoridated cities. Girls with high levels of estrogen aren't afflicted

"Fluoridation" began, to influence teeth structure, after observations on water with high levels of natural calcium fluoride. Artificial fluorides without antidote calcium are now used for this purpose[3]. There's a huge difference between natural, nontoxic calcium fluoride vs. toxic, unnatural fluorides. The CDC promotes 0.8 ppm fluoride in water regardless, and convinced Metropolitan Water to inject fluosilicic acid (FSA), a corrosive, hazardous waste byproduct of fertilizer industries. Normal water contains no FSA.

CDC believes there's 'no evidence natural fluoride is better than FSA'. But calcium fluoride's dose killing 50% of treated mammals is 5,000 ppm. FSA's is 150[4]!. In Alaska, 300 victims were poisoned, one

killed, when a valve stuck, elevating water fluoride from sodium fluoride[5] (toothpaste NaF)[6]. FSA/NaF are calcium chelators. The victim had a heart attack because blood calcium, which drives the heart beat, was lowered[7]. Toothpaste 'should not be swallowed, or used by children under 5', because of fluoride toxicity. But in water, swallowing is unavoidable. 'Accidental overfeeds' still occur periodically, causing wastage of tons of tainted water. This wouldn't happen with calcium fluoride.

A National Research Council report, "Fluoride in Drinking Water", found that drinking 0.8 ppm FSA or NaF, but not calcium fluoride, accumulates bone fluoride at 2,000 ppm in 2 years, 4,000 ppm lifetime. Bone fracture rates increase for consumers, with stage II skeletal fluorosis joint pain late in life[7]. Live bone is the repository for blood calcium ion. Incorporated fluoride makes calcium ion solubility lower than normal hydroxyapatite.

The strange metabolic fate of ingested silicofluorides is complex, with biological effects not well documented. At acidic stomach pH 3, the fluoride complex predominates. At basic intestinal juice pH 8, hydroxide complexes do. At blood/interstitial fluid pH 7.3 and at acidic intracellular pH 6.9, mixtures of various silicometalloid forms exist, continuously present during lifetime drinking. Bathing and swimming in treated water causes rash and allergies in a small subgroup.

We've requested that Metropolitan add nontoxic, natural calcium fluoride. They may consider this, but we aren't holding our breath. 18 million Southern Californians shouldn't be forced to drink FSA. Adding drugs through distant water treatment plants, and providing daily doses for one's lifetime, is simply wrong. I'd rather have false teeth if it meant blood could remain clean. Tainting all water, even industrial use, is very costly and for what? A little dental hygiene would go a lot further.

Richard Sauerheber, Ph.D., Chemistry[1]WebMD.com/cancer/news/20060406; [2]Takahashi, et.al., Japanese Journal of Epidemiology, vol. 11, 2001; [3]Buck, The Grim Truth About Fluoridation, 1964; [4]Merck Manual, 8th Edition; [5]Gessner, New England Journal of Medicine, 1994, 330:95;[6]fluoridealert.org; [7]Sauerheber, On the Toxicity of Fluoridated Water, lulu.com; [7]National Research Council, National Academy of Sciences, 2006.

Letters submitted by R. Sauerheber to North County Times, Escondido, CA

(partial list)

1) The Centers for Disease Control won't retract it's idea that artificial fluorides are health boons, and yet says fluoridated water mustn't be consumed by infants under one! Infants have no teeth to 'protect', don't know what's being done to them, and are more easily harmed with artificial fluorides at doses far lower than adults. Documented lethal doses in 3 year olds are 6 mg/kg (Merck Index, 1996). Toothpaste is at least forbidden under 6. Kids don't have permanent teeth until 6 anyway, and yet now will accumulate bone fluoride from water. CDC hopes fluosilicic is "no different" than natural calcium fluoride, but the first is a listed poison, the second's nontoxic. N. County water is injected with Drano to help 'neutralize' fluosilicic's acidity, forming sodium fluosilicate salt, somewhat more toxic than fluosilicic, that adds 2.5 mg/kg sodium where it doesn't belong. Most troubled also are elderly, kidney dialysis patients, heavy water drinkers, and spa soakers. Incredibly, the Dept. of Health's angry response has been "CDC never claimed it's safe for all, or for all time!" Understand, fluoride doesn't replace anything 'missing'; it creates problems on top of the cause of cavities.

References:

Merck Index, 11th ed., Merck and Co., Rahway, N.J., 1996; e-mail from CA DHS's David Nelson saying that CDC saying 'it is safe' does not mean safe for all time or necessarily for all consumers involved; Crest FDA warning label on back of toothpaste box; Essentials of Pediatrics, 1956, textbook on teeth

development and physiology/pathology in children, describing age-dependence of permanent teeth eruption.

2) Material injected into all our water isn't "natural fluoride, safe at proper doses." In fact, officials involved tell me different than the public, that it's fluosilicic acid made from fertilizer industrial processes, with silicon forms presumed to be "metabolized away" by the body and they don't guarantee safety to everyone for lifetime periods. Asked about consumption by infants, the elderly, kidney disease victims, people who drink lots of water in hot weather, or spa users soaking for hours, their written angry response was 'we never said it would be safe for all time or for everyone'. CDC assumes there's no difference between toxic fluosilicic acid and natural calcium fluoride. At the Lake Skinner plant, impure fluosilicic acid solutions are reacted with Drano drain cleaner sodium hydroxide, forming sodium fluosilicate salt, which in our basic water forms hexahydroxosilicate ion and various other complexes, none approved by FDA for ingestion. Our 'state of the art' facility, no one else in the country uses, delays corrosion of their plumbing and prevents another Hooper Bay poisoning. Great. Too bad it doesn't stop cavities and also deposits thousands of mg/kg fluoride into everyone's bones too. When it comes to drug use, it's all good.

3) Sent to ewalsh@nctimes.com as a news story

Hi. I thought I would try to ask you if you could please have a reporter visit the Lake Skinner water plant, the source of all San Marcos water from Vallecitos Water District, to see for yourselves what news cameras were blocked from filming on Monday to prevent the public from getting any "wrong impressions". That is when the valves were opened by men in protective clothing with respirators as the 4 huge 30,000 gallons each tanks of Drano sodium hydroxide were begun to be mixed with the other 20,000 gallons each tanks of toxic hazardous waste corrosive fluosilicic acid. Although you are not allowed inside the vast gated barbed wired compound, the tanks, all 9 of them as large as houses, are readily seen from across the street. The old horse ranch has already vacated the area and the property is for sale so it would be easy to assemble a photographer there. Met. insists this is all "state of the art", that we alone in San Marcos now receive for our own good. But I can assure you that sodium fluosilicate salts that are produced from the reaction are not found in any natural water source on the entire earth. It is time that the public be told of exactly what is being done to their water, including the raising of the sodium level by about 2.5 ppm according to my crude estimate. The chemical reaction is employed, not for our health, but to slow down the corrosive action of fluosilicic acid on the Water District's plumbing metal valves.

If this process is so life enhancing to teeth and, as channel 10 news interviewed dentists said is "dental insurance in a glass" and is otherwise safe when assimilated into your GI tract, then let the people see what their taxes have been paying for. This huge complex is a facility in a compound in size rivaling Camp Pendleton. The West shore of Lake Skinner and all land as far as the eye can see is fenced off from public use now by Metropolitan Water, Los Angeles for this treatment process.

The public who for the first time in our history are now swallowing chemicals, with toxicity and known wide side effects, through the public water supply in So CA deserve to know the details of what is being done to them and what is being done to others across this country when injected with older but similar methods.

Richard Sauerheber, PH.D. Chemistry, UCSD, 1976

p.s. The reaction that is run to generate the sodium fluosilicate salt from the fluosilicic acid and Drano at the water injection facility is as follows:

$H_2SiF_6 + 2\ NaOH$ goes to $Na_2SiF_6 + 2H_2O$ + heat [overall]

The sodium ion is fully soluble at all times throughout the reaction. This adds 2.5 ppm sodium directly into our drinking water while no individuals with high blood pressure were ever consulted on this nor even told that sodium is now increased in our water. Natural fresh drinking water contains zero. And by the way it is not possible to determine which forms of silicates actually predominate, being acid level dependent, because no studies have ever been done on this process in our natural water supply, where forms might include silicofluorides and/or silicon hydroxides, none of which have FDA approval for ingestion but which Metropolitan Water and CDC politically appointed dentists continue to assume and claim are simply 'metabolized away by the body', a point with which I disagree. CDC dentists also refuse to correct their website that claims there is no difference between natural calcium fluoride (which is not a toxic compound I've urged Met. to use instead) and artificial fluosilicic acid (with toxicity comparable to lead and certain arsenic compounds, Merck Index, 11 edition, 1996).

4) People aren't designed to have blood fluoride. Indeed, Indians lived here for thousands of years without Metropolitan Water's toxic waste fluosilicic acid. Humans throughout history never had artificial fluorides, invented by chemists in 1942. Most of earth's waters don't even contain non toxic calcium fluoride naturally. FDA's never approved swallowing toothpaste or public water fluorides and stated correctly that addition into drinking water constitutes an uncontrolled drug. Artificial fluoride promoters demand 0.8 ppm fluoride, but those waters containing natural calcium fluoride aren't something to envy but to avoid. Snowmelt from ocean evaporates are fluoride free; that's good, not "abnormal." Yes, artificial legs are great when natural legs are missing. But fluoride doesn't replace anything 'missing'. It creates more problems on top of the cause of one's cavities in the first place. We pay billions to abuse fluoride drugs for absolutely nothing. Barry at least hit some homers.

5) On visiting the Lake Skinner water chemicalization plant I found 4 massive tanks containing caustic soda [Drano sodium hydroxide] 10,000 gallons each to be dumped into our drinking water. This neutralizes the acidity of fluosilicic acid in the 4 adjacent tanks 15,000 gallons each. This slows plumbing corrosion but unfortunately adds sodium into water without consulting people on sodium restricted diets. The reaction forms silicofluoridate, slightly more toxic than intact fluosilicic. Metropolitan, without experimental data, falsely believes the silicon is "metabolized away" in your body. How did the Native American Indians before us survive for so long without Metropolitan's brilliant help? An it's possible the land grab by Metropolitan, as though they are entitled to public land as a public agency, is for the purpose of having a place to drain tainted water if and when an inevitable overfeed occurs from corroded valves. I use to hike and collect sticks there, formerly beautiful, now a barb wired hazard zone. Total waste.

6) Tennessee, our Union's most heavily silicofluoridated state, also has the most illness, according to Dr. Thiessen, National Research Council co-author. It's possibly coincidence, but claiming no connection is irrational quackery.. Memphis' cemetery's dedicated to infants dying before one year age. Fluosilicic acid solutions contain lead, arsenic and unidentified uranium forms, while CDC says 'it's safe', so fluosilicic is ignored as possible cause. In long-time silicofluoridated Boston, doctors are baffled why many children develop heart muscle swelling. But the Agency for Substances and Toxics Disease Registry's 500 page review of artificial, not natural, fluorides indicate animals aren't immediately killed with moderate doses but instead die with swollen heart muscle. Fluoride promoters claim it's a slim chance fluoride's involved in this. But rational people, knowing arsenic, lead and fluoride are ALL known heart muscle swelling agents, understand what's remote is the chance that all ingredients in injected fluoride play no role and that teeth are now getting "dental insurance in a glass." Get a life.

7) published 12/12/7 For those hating drugs unless prescribed, while Metropolitan now injects fluosilicic acid drugs into all water, whole house fluoride filters sold online are excellent but expensive. Fluoride's

the smallest anion on earth and can't be eliminated by reverse osmosis. Of first concern are those in apartments or those already with fluoride body burdens largely filled, like those who swallowed tasty toothpaste growing up. Relatively inexpensive kitchen water distillers, coffee maker size, make gallons of pure water daily. But tap water's hard to eliminate from cooking. Next are people hypersensitive to fluoride skin contact in bathwater. In severe cases, distilled water sponge baths work if whole house fluoride filters are unaffordable, but in all cases I've ever seen, skin symptoms were mitigated with over-the-counter calcium gels added into shampoo. Kidney dialysis patients requiring all day blood cleaning have been killed when fluoride filters failed in fluoridated cities; caregivers take heed. Steroids injected into Barry Bonds are normal body ingredients, necessary at proper levels. But water drugged with unnatural fluosilicic acid turns most Californians into drug users, many for the first time. What shame, altering body tissue with foreign substances, like God didn't Create us properly in the first place.

8) Besides drugs prescribed for emergencies, one shouldn't use drugs, especially fluoride drugs in public drinking water. I like my God-given brain cells, don't drink or smoke, and installed an expensive house fluoride filter, because reverse osmosis only removes a third of the fluoride, the smallest negative ion on earth. I don't understand why adults don't complain about fluoride ion slowly incorporating into their brains. Little kids don't even understand what's being done to them. Children are more easily poisoned with artificial fluorides, where documented doses as low as 6 mg/kg have been lethal in 3 year olds (Agency for Toxic Substances and Disease Registry, 2003). That's why toothpaste use is forbidden in kids under 6. That compares to the potency of cyanide, but luckily would require that 4 gallons of water be drank in a day to be lethal in a 20 pound kid if all other sources of food and beverage fluoride were absent. These kids don't even have permanent teeth (usually until age 6) and yet must live in homes with silicofluoridated water anyway. The CDC forbids fluoridated water in infants, great, but how do parents get regular water from fluoridated taps? And why do this at all?

9) This letter was printed in NC Times called "Federal vs. State":
EPA won't stop fluosilicic acid 'fluoridation', claiming it's a "states' rights issue". However, state Health officials say CDC ordered it, a Federal matter. Metropolitan says both state and federal agencies request it. FDA is reviewing a fluosilicic acid ban, and FDA advisor Michael Fleming, D.D.S., on North Carolina TV news, said fluoride acts topically, shouldn't be taken internally, [and thus that the ban on swallowing toothpaste fluoride applies also for water fluoride]. Let's hope FDA acts. As this endless circle parades, unnatural fluosilicic acid, the fertilizer scrubber hazardous waste, with toxicity comparable to lead and some arsenic compounds, absent from all natural waters on earth, will be injected into virtually all Southern California water for the first time in our history. The CDC incorrectly believes there's no difference between toxic fluosilicic acid and natural calcium fluoride, which isn't a toxic compound. Fluoride, consumed long term without calcium, deposits in brain and, scientists discovered, lowers IQ in children besides effects on bone (National Research Council, 2006). Government agencies regulating drugs in our water, which then forces regulating how much water we can drink [now done in Fresno on very hot days to avoid fluoride overexposure when one is thirsty] is out of control.

10) WebMD reports that boys drinking flouridated water have increased deadly, but still rare, bone cancer, found now in two separate research studies.
There's a huge difference between natural, nontoxic calcium fluoride vs. toxic, unnatural fluorides. The CDC promotes 0.8 ppm fluoride regardless. Metropolitan will treat our water with fluosilicic acid, FSA, a corrosive, hazardous waste fertilizer byproduct. Normal water contains no FSA.
CDC believes there's 'no evidence natural fluoride is better than FSA'. But calcium fluoride's dose killing animals is 5,000 ppm; FSA's is 150. In Alaska, 300 victims were poisoned, one killed, when a valve stuck, where elevated water fluoride lowered blood calcium, necessary for the heart beat. Toothpaste "shouldn't be swallowed, or used by children", because of this. 'Accidental overfeeds' still occur periodically, causing wastage of tainted water. This wouldn't happen with natural calcium fluoride.

National Research Council reported that drinking 0.8 ppm FSA accumulates 2,000 ppm bone fluoride in 2 years, 4,000 ppm lifetime. Bone fractures increase, with stage II skeletal fluorosis joint pain late in life. Live bone is the body's calcium reserve; fluoride lowers natural bone's calcium solubility.

We've requested Metropolitan use natural calcium fluoride. Residents shouldn't be forced to drink FSA against their will.

Petition to FDA to ban all unnatural fluoride preparations designed for oral ingestion without a prescription.

September 25, 2007

Richard Sauerheber, Ph.D.
Palomar College
1140 W. Mission Rd.
San Marcos, CA 92078

Dockets Management Branch
Food and Drug Administration
Room 1061
5630 Fishers Lane, Rockville, MD 20852

Dear Sirs,

I am writing to petition FDA to formally ban unnaturally synthesized fluoride compounds sold for consumption through oral ingestion. A main specific material is the fluosilicic acid preparation provided to U.S. municipal water districts for 'fluoridation', for the purpose of raising the level of fluoride ion in peoples' blood. The legal grounds for the request is stated in Congress's own Federal Water Pollution Control Act, section 101a (available online) which states that the sole overriding purpose of the entire legislation is to maintain the natural chemistry of the nation's waters. Second, the oral ingestion of this material is currently ongoing throughout this country while the preparations are falsely labeled casually as 'fluoride', occasionally identified upon questioning as 'fluosilicic acid' but without ever providing documentation as to the exact composition of the material with ingredients listed at their definite concentrations. Third, these preparations as far as this petitioner is aware, have not received FDA approval for oral consumption at any dilution level consumed by a purchaser of the treated water, as is required by manufacturers of any water based beverage.

Fluosilicic acid is not present in any natural water supply on earth. In fact, the compound was first synthesized in the 1940's in industrial processes, now most commonly being an undesired hazardous waste byproduct of the phosphate fertilizer industry (Bryson, C., The Fluoride Deception, Seven Stories Press, N.Y., 2004). Fluosilicic acid addition into

public water is a gross violation of the Federal Water Pollution Control Act since fluosilicic acid is present on all toxics registries, having an LD50 of a low 125-150 ppm in animals (Merck Index, 9th edition, Merck & Co., Inc., Rahway, N.J., 1976). Natural calcium fluoride is present in small amounts to about 0.4 ppm fluoride in some, but not all, American waters. It can range to a higher level in waters in parts of the Southwest "Fluorine, Hydrogen Fluoride, and Fluorides", Agency for Substances and Toxics Disease Registry, Department of Health Services, 2003, available online). Natural calcium fluoride is not a toxic in any registry because it's LD50 is a safe high 5,000 ppm in animals. Calcium is the antidote for poisoning by free fluoride ion, which is of course a well-recognized calcium chelating agent.

Nearly 60% of Americans now are provided with fluosilicic acid treated water in municipal supplies (Wall Street Journal, March 23, 2006, D1). The dental profession, in their altruistic attempt to alter tooth decay rates, have presented this as evidence for the safety of artificial fluoride compounds, since so many cities have been treated with such chemicals for many decades (since 1945). Dental professionals write regularly to our local newspapers, in both editorials and opinion letters, that millions of people have consumed fluosilicic acid treated water without apparent health effects known to themselves, in some cases even after 65 years of drinking, and these individuals provide testimony that they had few cavities during that time.

However, widespread use does not prove either efficacy or safety. For example, the fact that oral diabetic sulfonylureas were in widespread use in the 1960's has no bearing on the question of whether more people should also begin to participate. In spite of thousands of people testifying that they preferred taking the drug, who did not perish from heart attack, these drugs were correctly banned because heart attack risk was significantly higher with their use.

Proponents for the oral consumption of artificial fluosilicic acid also argue that teeth structure is so improved that it must be continued, and indeed its withdrawal would lead to far more tooth decay (Buck, R. C., The Grim Truth About Fluoridation, Putnam and Sons, N.Y., 1964). But the long term data for the original Kingston and Newburgh cities indicate that fluoridated Newburgh children have more cavities, spending years growing up there, compared to nonfluoridated Kingston (Bryson). Tooth eruption was merely delayed, presenting the illusion that decay was decreased in the teeth, when in reality teeth were missing early on. Decay is about the same or increased in the fluoridated city over many years of exposure. Consistent with this, the four largest studies we now have indicated the same results, that fluoridated cities cause up to 27%

more cavities compared to nonfluoridated cities (Teotia, S., Teotia, M. Fluoride 27:59, 1994, Imai, Y., Koku Eisei Gakkai Zasshi 22(2):144, 1972, Steelink, C., Chemical and Engineering News, Jan. 27, 1992, p.2;Science News, March 5, 1994, p. 159; Pediatric Dentistry, Feb., 1998 and Chemical and Engineering News 67(19), May 8, 1989). One of these studies involved 400,000 people, and the largest U.S. study included 39,000 participants. Many people have little or no tooth decay without fluosilicic acid in drinking water, usually because of regular brushing for dental hygiene, coupled with diets that are not heavily laden with free sugars. The claim that fluosiilcic acid is a requirement for cavity minimization is in error.

Proponents argue that in children in Texas and Arkansas, where fluoride [from natural calcium fluoride] is high in natural drinking water, that their teeth enamel is whitish in appearance and has fewer cavities compared to that for cities with less calcium fluoride (Buck). However, the dentist that proposed this to the Public Health Service in the early 40's admitted later that it was mistaken to begin treating with unnatural fluoride compounds, presuming they would behave as did natural calcium fluoride. Moreover, he had discovered that over years of time the whitened teeth were typically unusually crumbly inside and difficult to maintain in good health and that it was clear the whitish appearance was pathologic and an initial sign of fluorosis in the body, reflected visibly in the teeth (see attached letter). He concluded that calcium fluoride in high amounts caused these effects. Of course fluosilicic acid had nothing to do with these observations, occurring prior to its use in public water at that time. Most natural waters in the U.S. contain calcium fluoride at lower levels and many cities contain little if any calcium ion salts at all in drinking water, such as in the Pacific Northwest (ASTDR, 2003). Such an absence of fluoride, even natural calcium fluoride, is consistent with the generally accepted idea that fluoride has no beneficial effect or role to play in biology and no nutritional value of any kind in human beings or in animals.

Ironically, prior to the Kensington-Newburgh experiment with artificial fluoride, it was known by a panel of objecting Medical and Dental professionals, nearly 700 physician M.D.'s and doctors of dental medicine, D.D.M.'s, that artificial fluoridation results in greater accumulation of fluorides in bones of the human skeleton, with its inherent danger, than occurs with naturally fluoridated water. In soft water without calcium there are fewer ions to bind added fluorides that then get past the mouth (Buck, 1964). They wrote that artificial fluoride in drinking water actually interferes with normal whole body calcium homeostasis in subtle ways at low doses,

affecting improperly the normal development of calcium-rich bones and teeth in particular. These professionals we now understand were fully justified in their protestation. (see "fluoridation is dangerous to health", enclosure, articles by the Journal of the American Medical Association, 1943 and the American Dental Association, 1944).

Although the California chief fluoridation officer, Dr. Nelson, D.D.S., wrote to me that 'science changes and old literature is laughable', nothing could be further from the truth. In fact, scientific factual data does not change over time. Facts are immutable. Incorrect deductions about facts can change, but not the facts, the data, themselves. The Department of Health Education and Welfare of the Food and Drug Administration, Washington, D.C. knew as early as 1963 that fluoride [even from natural sources] is not a mineral nutrient; and artificial added fluoride is a drug; and it is impossible to calculate a safe dose to be applied to water for an individual without knowing of the amount of fluorides already being consumed by him from other sources of fluoride in the fist place (see enclosed letter from Edna Lovering, FDA). Fluoride content of foods are widely variable and no two people consume the same dietary ingredients or amounts, and people do not hold to a fixed type of diet over different periods of time. All these statements of impending dangers in the use of artificial fluorides were, as we now know from recent findings discussed below (ASTDR, 2003), were not only correct but have been confirmed by the experience we have from artificial fluoride consumption in human beings, now for so many decades of time.

The factual foundation in more detail for this request is now presented.

A manuscript titled “On the Toxicity of Fluoridated Water” was written for publication by the author of this request. The manuscript was accepted for publication in the Journal “Fluoride”. This author declined to publish there because of the known widespread disregard of this journal by many dental professionals whom the article was attempting to address. The article is available online at lulu.com for no charge as a download (copy enclosed). Evidence in the article that justifies this petition may be summarized. In Hooper Bay, AK, 300 residents were severely poisoned, one killed, when a fluoridation valve in the town water supply stuck open, causing artificial fluoride to accumulate to lethal levels. My contribution to understanding the incident was to examine whether the fluoride killed and poisoned by lowering the level of ionized blood calcium in the victims, rather than another mechanism considered possible by the Public Health Service. I performed detailed solubility calculations and considered the clinical chemistry blood measurements available from the victims (Gessler, et. al., New England Journal of Medicine

1994:330, 95). Blood calcium and fluoride levels, both computed from known solubility constants for calcium fluoride, were compared to levels measured directly in blood samples, demonstrated clearly that fluoride poisoned acutely the victims by causing the blood calcium ion level to drop below that physiologically required to support the beating mammalian heart.

Although great steps have since been taken by water districts around the U.S., overfeeds of this nature continue to occur with relative regularity. Two weeks ago in Madison, WI and last week in Salt Lake City, Utah, tons of tainted water were wasted, unfit for consumption (www.fluoridealert.org). Nevertheless, most water districts employing corrosive unnatural fluorides maintain that these events are accidental, though they can be caused by the known highly corrosive action of fluosilicic acid on metal washers and valve components, with a time-dependence related of course to water hardness and prevailing pH and the rate at which fluoride is delivered into the water stream and the construction materials used.

In Hooper Bay, Alaska, sodium fluoride was used. Yukon River water was calcium free and very soft of low basicity, a most unfavorable condition for 'fluoridation' with artificial calcium chelators since endogenous calcium was absent to buffer the added fluoride ions, which remained free to seek the blood calcium of the victims. The associated hydrofluoric acid, formed upon addition to water, which of course is capable of dissolving glass, concrete and most metals, may have slowly dissolved a valve component on continuous dripping into the well water source that had provided for a season the desired 1 ppm water fluoride prior to the overfeed. Here in Escondido, California last year, even with our local Colorado River hard water, when fluosilicic acid was first being added, this author informed the district that the normal valves used in the city would probably be dissolved or impaired by the added acid. My statements were ignored, and in news reports only days later the valve was dissolved by the fluosilicic added. The district wrote to another city and now uses a special steel impregnated rubber valve so that the acid doesn't dissolve it as readily, and Escondido remains silicofluoridated at the present time. Some proponents deny that fluoride acids are involved in corrosion of plumbing, even over long-term flow with the corrosive, in spite of expert written testimony by water engineers who understand otherwise as described by Buck (1964).

The very thorough EPA-requested National Research Council report 2006 has now been published ("Fluoride in Drinking Water", NRC, The National Academies Press, Washington, D.C.). The most compelling data in this author's opinion is that on page 94 of the

pharmacokinetics section it is clear that, from ashed bone of deceased people from artificially fluoridated cities, in only 2 years drinking artificially fluoridated water (treated with either fluosilicic or sodium fluoride) at 0.8 ppm fluoride, fluoride ion permanently accumulates in bone to 2,000 ppm (enclosed NRC graph). Lifetime exposures typically double that level as pointed out in a later chapter and it is inferred that lifetime exposure at only 0.8 ppm would accumulate about 4,000 ppm in bone, which is associated with stage II skeletal fluorosis with joint pain that mimics arthritis in late life. The variability in ranges of incorporated bone fluoride are consistent with the facts that adsorption of artificial fluorides is dependent on the prevailing calcium level in a particular city's water supply prior to treatment and that there exists a wide variability in total water daily consumption among people in a group (NRC).

Although the NRC study has been dismissed, as not applying to water fluoridation, by the Centers for Disease Control (personal communication, Dr. Thiessen, SENES, Oak Ridge, TN), describing mainly ecologic, not prospective, controlled experiments, note that the presence of fluoride in high amounts in bone acts as its own control. The usual claim that alterations in bone structure or function, noted in people in fluoridated cities, is due to other possible uncontrolled variables, such as alcohol or tobacco use, is invalid here. Normal humans beings and animals, raised free of artificial fluorides, contain very low or no fluoride ion in tissues, and drinking or smoking are not known sources of fluoride in bone. The accumulated bone fluoride must be swallowed, and the NRC study clearly demonstrates that the major source of incorporated fluoride in the population today is from artificially fluoridated drinking water. Indeed, 95% of swallowed artificial fluorides without calcium are assimilated into blood, while only 10% of natural calcium fluoride is assimilated (ASTDR). This is consistent with the known LD50's for these compounds of 150 vs. 5,000 ppm, respectively, where the active poison is the fluoride ion, not the associated cation, since both compounds are otherwise dissolved and ionized when consumed.

The recently published study at Harvard University (Bessin, E., Cancer Causes and Control, May, 2007) fully confirms earlier detailed studies (Takahashi, et.al., Japanese Journal of Epidemiology vol. 11, 2001, Regional Analysis of Cancer Incidence Rate and Water Fluoride in U.S.A. Cities Based on IACR/IARC from 1978 to 1992 and also another study in ASTDR. 2003) that artificial fluorides, not natural calcium fluoride, cause 5-7 fold increases in lethal bone cancer when children consume fluosilicic treated water at young ages. The effect was not

detected in girls, consistent with the fact that this rare bone cancer is so infrequent in girls historically, probably due to their higher complement of circulating estrogen and differing bone development rates than boys. It must be emphasized that prior to artificial fluoridation, lethal bone cancer was virtually nonexistent in the U.S. Currently there are approximately 900 U.S. victims yearly, 400 being children or teenagers (WebMD quoting American Cancer Society) and it is for this reason that professionals at WebMD (see enclosed article) have called a moratorium on artificial fluoridation for consumption in water supplies [or logically of course any other beverage].

Any calcium physiologist fully understands how absurd it would be to perform toxicity measurements on human volunteers with a known calcium chelater, since virtually every biological process in humans or animals requires calcium ion. When the Wall Street Journal (March 23, 2006) and other sources reported that fluoride from treated public water sources accumulates into bone and causes bone cells to proliferate, this event was predicted decades earlier because all unnatural fluorides chelate calcium. The bone responds naturally to the presence of the fluoride ion perturbant, and bone cells attempt to correct the situation to normality as much as possible. In the Hooper Bay case the bone of course could not compensate quickly enough when the blood fluoride was so acutely high. But lower dose fluoride drinking over years of time allows the bone to fight its presence to participate in bones' most important metabolic function, supplying ionized calcium to the blood for purposes of maintaining and driving the normal beating heart. Normal bone tissue responds to parathyroid hormone for this purpose when blood calcium levels are too low. The unnatural presence of calcium fluoride, much less soluble than is calcium ion from natural hydroxyapatite, alters calcium mobilization simply by virtue of its presence on the bone surface. During cardiac systole, calcium ion fluxes into heart cells to couple electrical excitation with mechanical contraction. This occurs during the plateau phase of the cardiac action potential from interstitial fluid because heart muscle, unlike skeletal muscle, has no well-developed sarcoplasmic reticulum to store calcium internally.

Calcium decreases in the blood, from lack, or the presence of calcium chelators such as artificial fluoride ion, or the presence of calcium site binding agents such as lanthanum ion, all of course decrease heart beat rate in a concentration-dependent, progressive manner in isolated beating hearts. The heart attack in Hooper Bay was of course accompanied by lowered ionized blood calcium caused by the fluoride chelating event.

Fluosilicic acid is used most commonly as an insecticide, having an LD50 of a low 150 ppm. The mechanism by which it also acts as a rodenticide is by calcium chelation to the point of heart attack. Natural calcium fluoride is of course useless for this purpose because calcium ion is the natural antidote to artificial fluoride oral toxicity. This is why skeletal stage III fluorosis in India is endemic where very high natural calcium fluoride is present in water see articles by Groth enclosed). Residents in such natural water do not succumb to a lethal Hooper Bay type heart event because the natural fluoride is accompanied with its own calcium ion when ingested. Only about 10% of swallowed calcium fluoride is assimilated into the blood, whereas 95% of all fluosilicic fluoride is assimilated into the blood, 99% of that residing essentially permanently in bone and some in teeth and brain (ASTDR).

Although some fluoridation proponents claim without data that fluoride in bone is a desired result, the NRC study also conclusively demonstrates that fluoride incorporation into bone is pathologic. Bone containing fluoride ion was found to fracture much more easily and exhibits delayed healing rates (NRC, 2006). Fluoridated cities that have low levels of mitigating calcium in water naturally would have the highest rates of hip fractures in the elderly. The New England Journal of Medicine recently reported that hip fractures are now nearly epidemic in the U.S. with 1/3 million cases yearly. The idea that fluoride incorporating into bone in the population, where 60% of U.S. cities now add fluosilicic acid into drinking water, is somehow unrelated to this upsurge, is indefensible. The bone fracture incidence in the examined cities demonstrate significant fracture rate increases, related directly to increase in artificial fluoride ion level in the drinking water from 2 ppm to 4 ppm to 8ppm (NRC). At 1 ppm it was not possible to detect the effect with the subject population available; it is not simple to obtain bone ash data from people with a true low control level of bone fluoride with which to compare fracture rates at 1 ppm. Elimination of toothpaste and food sources containing fluoride would be necessary to detect a more subtle increase in fracture rate that, by inference, would exist at 1 ppm. The fracture rate increases progressively at all fluoride levels examined above 1 ppm, and it is expected that it would be greater at 1 ppm than that for the theoretic "average bone fluoride" level for a true control population never exposed to fluoride from any source lifetime. The point is that fluoride ion from any source simply does not prevent fractures or improve bone health in any detectable way, as some promoters have claimed, and the only detectable change is less strength and resistance to break in the more brittle tissue as fluoride content increases.

Animal studies in which calcium is absent from drinking water, while treating with artificial fluoride compounds, were reported to cause bone cancer, even at low levels used in water fluoridation, on long term study (ASTDR, 2003). Confusion as to whether cancer can be induced in a certain % of animals by fluoride ion would be expected. In some studies where calcium was available in the water, along with the added artificial fluorides, fluoride absorption would be buffered. In rat studies, that did not examine the treatment for sufficient time periods to reach the endpoint, requiring typically nearly 2 years in these animals (ASTDR), a conclusion that fluoride does not cause cancer would be made without realizing the statement requires qualification. Somewhat higher artificial fluoride levels in water cause heart degeneration and death, and of course far higher acute doses of 50-100 ppm cause death due to heart block in a day or so.

It is long past time to ban the use of oral ingested fluosilicic acid in public water supplies because this procedure represents ingestion for a lifetime. I should have requested this ban many years ago, but I succumbed to criticism of those who maintained that I had 'no rights to comment on water other than my own'. Now that MWD in LA will be adding fluosilicic to Southern California's 18 million consumers on or about next month, including even my own, this petitioner feels he has the right to seek this request.

It is not in keeping with the Hippocratic Oath to force fluosilicic acid into a population's water supply for purposes of raising the blood level of fluoride ion, when there are those who understand it and choose to refuse treatment. Dentists in altruistic zeal to attack tooth decay are now effectively acting as though they have a license to practice general internal medicine and that their claims must suddenly be accepted as fact, that fluoride's absence is the cause of dental decay, rather than the truth, that decay is caused by bacteria from poor dental hygiene and excessive sugary diets. Newspapers have widely claimed that fluoride is naturally present in normal teeth, implying that even fluoride from unnatural fluosilicic acid is thus a requirement for 'normal teeth' and that its absence is 'pathology'. Citizens here in North County San Diego have been told in 4 front page articles in 3 separate newspapers recently that fluoride compounds are "natural" and that fluoridation is 'safe at proper levels', as though even fluosilicic is a synthetic copy of something that must be natural and safe. The Hooper Bay disaster serves to illustrate the huge difference between natural and unnatural fluoride compounds that confirms in an unintended experiment that the known LD50's for these compounds, measured in animals, apply as well to the human being. And that the absence of, or at the very least the minimal presence of, fluoride in teeth and bone is not 'pathologic'. Any article or public official that claims that fluorides are natural, in the context of a discussion on water artificial fluoridation, is an anathema that blocks any reasonable person from understanding the entire story. The widely held view that fluosilicic is a synthetic derivative of

something that is natural is mute. Even arsenic compounds are natural. But no one would consider adding small amounts to water intentionally, even if diluted to doses where any effects would be beyond easy detection or even absent.

Proponents have argued that fluosilicic acid and all other artificial fluoride compounds for sources of treating water are not considered drugs that would come under the purview of FDA. Their belief is based on the fact that the molecule is not placed in medicine bottles to be taken as most drugs are taken by the individual with a prescription. It is based on the idea that municipal water, unlike commercial bottled water, is not a beverage that would require listing its ingredients in detail with percent compositions. It is argued that the purpose is to treat the water to make it have what is considered "optimum levels of fluoride ion", regardless of the source being natural calcium fluoride or artificial, as with fluosilicic not present otherwise in any known natural water. But in court testimony in the case of Macy vs. the City of Escondido, the California state chief fluoridation official Dr. Nelson of the Department of Health Services stated under oath that the purpose of fluoridation was to increase the concentration of fluoride ion in the bloodstream of the consumer (see attached court transcript) to increase the fluoride level in saliva as it forms [saliva being a filtrate of the blood plasma]. Unlike chlorine, which is an unnatural water additive generally accepted for use to sterilize water to insure it is potable, fluoride is added specifically to treat the consumer.

The above data, taken together, indicate that fluosilicic acid, the insecticide ingredient, diluted to doses claimed to be safe and effective by the CDC and many dentists and other proponents, is neither safe nor effective in its stated purpose. In fact, Dr. Nelson wrote to me that the statement made by CDC that 'it is safe' does not imply that it is safe for any known interval of time. The unqualified words 'it is safe' do not have the meaning that a common prudent individual would ascribe. Fluoridation was admittedly not necessarily safe over one's lifetime or for future generations to come. No mention was made regarding safety for individuals who are known to consume more than average water levels daily or that water amounts usually consumed on hot days would be safe. No safety guarantee was provided for individuals having any health condition. Nelson did not offer advice for diabetics, under poor control of urine volume, who require far more water intake than average. It must be emphasized that the CDC and ADA have recently altered course on water fluoridation safety and have stated that infant formula should not be routinely mixed with fluoridated water. Parents are expected to find another source of fresh water for their newborn children (fluoridealert.org).

Proponents in the state of California repeatedly claim, as have members of the Metropolitan Water District Board to me during public testimony on water fluoridation, that they must add this material to water because California state law mandates that any city with over 10,000 connections 'fluoridate' its water. But it must be emphasized that there is no law whatsoever that mandates any water district to add

fluosilicic acid to public water. It is not found in any natural water supply on earth and the California law, partly written by Dr. Nelson, DHS, Sacramento, merely says ‘fluoridate’. The wording does not specify details as to which type of fluoride compound must be added.

Fluosilicic is a toxic corrosive byproduct of the fertilizer industry. Fluosilicic acid is used commercially as an insecticide and pediculicide on cattle skin in veterinary medicine, not to be taken orally. All California cities using this agent, to ‘follow the fluoridate law’, are thus in violation of the more recent California Safe Drinking Water Act, which does not allow adding any arsenic, lead or other toxic substances into drinking water, which would also include the silicic acid that is produced after the fluosilicic is added into the water to yield fluoride ion. Here, $H_2SiF_6 \rightarrow SiF_6^{2-} + 2H^+ \ ... + 4H_2O \rightarrow Si(OH)_4 + 6F^- + 4H^+$, where the relative proportions of these silicometalloid complex forms are largely unknown and are dependent on pH, while present in local water (pH 8.4 Metropolitan Water, L.A.), stomach acid at pH 3, blood at pH 7.35 and intracellular fluid at pH 6.9.

It is not possible to add just fluoride alone because fluoride ion is always combined with other ionic ingredients. Unnatural fluorides are toxics, and only one, natural calcium fluoride, is not a toxic. Fluosilicic preparations are sent to water districts as a source of ‘fluoride’, and yet purified fluosilicic acid itself has a known lethal acute dose killing animals of only 150 ppm, compared to natural calcium fluoride, with its lethal dose at a high, safe 5,000 ppm. The CDC does not recognize this and is now under litigation by the Lillie Corporation, Atlanta, Georgia for misrepresenting the fluosilicic acid preparations to U.S. water districts (personal communication Dr. Stockin, Lillie Corporation). The CDC website on water 'fluoridation' maintains that there is no scientific evidence suggesting that natural calcium fluoride is any better [i.e. safer or more effective] than unnatural synthetic fluosilicic acid from the phosphate fertilizer industry for the purpose of adding fluoride ion into drinking water. Repeated attempts have been made to correct the website claim by providing the known LD50's to the agency but as yet no response has yet been made.

Proponents state that fluosilicic acid is tasteless, odorless and invisible, so that natural clean water's taste and properties will remain intact. That very fact has already led to disastrous poisoning without warning. Artificial fluoride was undetectable by the victims at Hooper Bay. This event in our nation's history becomes us to change. An unexpected finding from that unintended 'experiment' was that excess thirst is caused by the fluoride at that level, causing one to want to drink even more of the tainted, but yes, normal tasting, water.

There is an important difference, relevant to this discussion, between symptoms and signs. Symptoms are problems or abnormal phenomena recognized by the patient himself, whereas signs are biometrics measured with diagnostic procedures by the physician. Many proponents testify from firsthand experience that long term drinking of artificially fluoridated water has not caused any abnormal results, even over

periods of 65 years or more and that this is evidence for the safety of the fluoridation process. We know however that on an average, from the NRC report, drinking 0.8 ppm artificial fluoridated water for 2 years causes fluoride to accumulate into bone tissue to about 2,000 ppm, and after lifetime drinking to about 3-4,000 ppm. It would be quite common that fluoride incorporation is compensated by proliferation of osteocytes in bone tissue so that the individual would not detect any recognizable symptoms. However, the signs would be detectable upon thorough diagnosis as with bone X-ray. It would also be considered a sign if an individual required a more protracted time for healing from a bone fracture that would not be a symptom noticed by the individual.

First hand claims of safety by experience seem quite credible but must be weighed with the distinction between symptoms and signs. Recall that Denmark's visiting Dr. Kaj Roholm examined bone X-rays of patients from fluoridated U.S. cities and wrote how surprised he was that Americans would allow such signs, physical alterations in bone properties and structure, for the sole purpose of reducing cavities. After his passing, a proponent of fluoridation argued the possibility that bones were structurally altered in a 'desirable' way, or perhaps were not altered by the fluoride, but by another mechanism (Bryson, 2004). The NRC data however fully validate the Roholm statements, because indeed fluoride accumulation into bone at thousands of ppm levels are typically associated with X-ray observed structural change, increased bone fracture with delayed healing, none of which would necessarily be a patient symptom. Accumulating fluoride above 4,000 ppm (NRC, 2006) is typically associated with skeletal stage II fluorosis (non-debilitating) with joint pain. This of course is then a symptomatic fluorosis endpoint, but because it mimics arthritis an individual might not relate it to fluoridation as a cause. A discussion by Buck (1964) emphasized that the motive of reducing cavities, although admirable, is quite subsidiary to the care of public health as a whole. He wrote that the "diagnosis of very low grade chronic poisoning is at best extremely difficult owing to the generalized nature of the symptoms; to put a highly toxic substance at low concentration into public water [virtually] insures that damage it causes would be indistinguishable" [and unable to be proven with certainty].

I have asked in writing that the Metropolitan Water District Board consider adding natural calcium fluoride into public water for purposes of following the California 'fluoridate' bill. In this way in my opinion there would then be no gross violation of the Safe Drinking Water Act because natural calcium fluoride is not a toxic. Dr. Nelson wrote to me that it would not be possible to use natural calcium fluoride because of solubility considerations. But notice that the solubility of calcium fluoride in water (0.0016 g/100g, CRC Handbook of Chemistry and Physics, 50th edition, 1970), although low relative to fluosiliic acid or sodium fluoride, can thus dissolve to free fluoride ion levels of approximately 8 ppm (0.0016 g/100 g = 1.6 mg/100 g = 16 mg/kg x 38/78 mass% fluoride = 8 ppm). Indeed, in the San Bernardino Valley, Metropolitan will not be adding fluosilicic acid into city water supplies because the calcium

fluoride level there naturally exists at 0.8 ppm fluoride ion. Since the target level for all Southern CA water is only 0.8 ppm, natural calcium fluoride would be a fine substitute for the toxic unnatural fluosilicic acid preparations. In support of this I was informed by Jeff Green, National Director for the Safe Drinking Water Association, that indeed the CDC technical manual, providing detailed instructions on the process by which water district personnel are to add fluoride compounds into municipal water, allows calcium fluoride as a choice for a fluoride source. Moreover, parts of South America have for years used natural calcium fluoride as source for water fluoridation. After presenting this information to Dr. Nelson, he did not object further. However, the Metropolitan Water District Board has not, after one month, agreed to consider the option.

No fluosilicic acid preparation to this date has been analyzed sufficiently and labeled for its contents to be in compliance with requirements of the American National Standard Institute/National Sanitation Foundation Standard 60, as amended 1988 for drinking water treatment chemicals-health effects. This requirement must be met under testing by an organization accredited for such by the American National Standards Institute (Title 22 CCR, chapter 18, article 1 requirements section 64700). No manufacturer of 'fluoridation' chemicals has fully complied with NSF Standard 60 General Requirement 3.2.1 even under the Business Confidentiality Act. Any certification of the manufacturer for purposes of declaring fluoridation chemicals is not a reliable source for validation. To satisfy Standard 60 a manufacturer shall submit a list of known or suspected ingredients with the chemical formulation and the amounts percent or part by weight of each impurity and a list of toxicology data, both published and unpublished if available on the product and its components, including any and all contaminants present. There are no published exceptions to the General Requirement which is published by NSF as uniformly applicable to all direct water additives. Standard 60 also requires other entities in the chain of delivery of a product including re-packagers to conform to General Requirements.

Fluosilicic acid and sodium fluoride, with LD50's at 150 ppm, are more toxic than lead compounds and almost as toxic as some arsenic compounds, and ironically fluosilicic acid preparations have been reported to contain some of both of these metals as well, since the fluosilicic acid is not purified after collection from fertilizer industry scrubbers. The EPA goal for lead and arsenic is zero; how does anyone justify adding fluosilicic acid preparations to public water for human consumption, no matter what the purported related gain?

After thoroughly investigating the pros and cons of fluoridation, the EPA's Headquarters Union of Scientists (consisting of 1,500 professionals) concluded that public water supplies should not be used "as a vehicle for disseminating this toxic and prophylactically useless (via ingestion) substance." They also said that "recent, peer-reviewed toxicity data, when applied to EPA's standard method for controlling risks from toxic chemicals, require an immediate halt to the use of the nation's drinking water reservoirs

as disposal sites for the toxic waste of the phosphate fertilizer industry." On July 2, 1997, they further reported that their "review of the body of evidence over the last eleven years, including animal and human epidemiology studies, indicate a causal link between fluoride/fluoridation and cancer, genetic damage, neurological impairment, and bone pathology. Of particular concern were recent epidemiology studies linking fluoride exposure to lowered IQ in children" (see National Research Council, National Academies of Science, 2006, "Fluoride in Drinking Water" for compelling concerns raised in several studies from China suggesting that artificial fluoridation detectably compromises mental acuity).

If FDA cannot reach a consensus to grant this petition for any reason, then petitioner requests that the requested action be applied at least for the state of California, not only on the above-listed grounds and data, but also because it is the policy of the state [Drinking Water Statutes, part 12, chapter 4, article 1, 116270 (a), from the California State Legislature] that "every citizen of California has the right to pure and safe drinking water". No statement has ever been delivered as a document testifying for any fluosilicic acid producing agency that their specific product is effective at reducing tooth decay when ingested at 0.7-1.2 ppm ranges while also being safe for the full range of expected human consumption at this dilute range without known adverse health effects over a lifetime, including for infants, children, elderly and other populations afforded equal protection. The company known as Solvay, a supplier of fluosilicic acid to Escondido, California, ignores any such requirements about their own product and has not obtained documents in proof of meeting Standard 60 and has directed any questioner, such as a water district or private person, to contact the CDC, which by law cannot represent a manufacturer.

FDA is the only Federal entity with the Congressional authority and mandate to determine and regulate the safety and efficacy to humans of the addition of foreign substances added to beverages or foods. Although artificial fluoride chemicals are widely used in agriculture as insecticides, that use is not designed to treat human beings or to be swallowed; usually such treated crops can be effectively surface washed by the consumer. Fluoride insecticides absorbed into sprayed fleshy fruits or teas are not washable and is an unfortunate event difficult to mitigate. However, fluosilicic acid intentionally added into municipal water supplies to treat human blood, rather than to sanitize water, is a different matter that is easily stopped. The FDA recently approved a mouthwash enriched with artificial fluoride, to add to the wide arsenal of topical, affordable, simple methods currently available for dental hygiene purposes. These treatments are voluntary and can be carefully applied and controlled by any individual.

In stark contrast with this is the forced oral ingestion of fluosilicic acid into bodily systems through public drinking water, authorized indirectly by nonphysician dentists, dosed by nonpharmacist industrial technical employees, and in my specific case, here in San Marcos, injected at a distant 25 miles away from the point at which the agent will be consumed, in hopes of achieving a fluoride blood level desired in people who have not been examined for existing health conditions or for prevailing blood fluoride

already present, though there is no wide margin of safety between unhealthful dose vs. a dose at which adverse health effects, particularly signs without symptoms, are certain to be absent. Daily fluoride assimilated dosage depends more on individual thirst and taste than on the concentration in water decided by the District; individual dosage is nearly impossible for anyone to accurately know, when delivered via water supplies at a distance. Since fluoride accumulation into bones is lifelong and irreversible (Buck, 1964; NRC, 2006), dose is critical for everyone to know.

Bottled water treated with natural calcium fluoride is an activity that is easily available to water districts, rather than adding artificial fluoride compounds to an entire water stream. The long term effects of the latter action are difficult to measure and are certainly unnecessary. Treating laundromats, lawns, car radiators, carwashes, swimming pools and spas in which the unknowing bathe, shower, swim and soak, when the original intent was to decrease cavities is, to put it mildly, a risk at taxpayers' expense that is not in keeping with public measures considerate of careful health care and environmental quality.

The undersigned certifies, that, to the best knowledge and belief of the undersigned, this petition includes all information and views on which the petition relies, and that at it includes representative data and information known to the petition which are unfavorable to the petition.

Note that all statements made in this petition are the sole ownership and responsibility of this petitioner and do not necessarily represent or reflect a position or view held by any Palomar College employee or other person other than the petitioner.

Sincerely,

Richard Sauerheber Ph.D.*

Palomar College 1140 W. Mission Rd.
San Marcos, CA 92069
telephone: 760-744-1150 xt 2448 or home 760-744-2547

*Ph.D. Chemistry, 1976, University of California, San Diego, La Jolla, CA, former NIH medical research scientist and supervisor of the Rees Stealy Clinic Research Foundation, San Diego, CA, 1981-1991, lecturer/Staff Tutor, Palomar College, San Marcos CA, 1991-present

This monograph petition is dedicated to both my mentor, Dr. Baird Hastings, the former world renowned calcium physiologist, and Dr. Groth III, artificial fluoridation toxicology expert.

Enclosures for your convenience:

1. "On the Toxicity of Fluoridated Water", R. Sauerheber, Ph.D., 2004, lulu publishing, www.lulu.com, accepted for publication by journal "Fluoride".

2. Gessner, B., et.al. "Acute Fluoride Poisoning from a Public Water System", New England Journal of

Medicine, 1994:330,95-99.

3. Correspondence from Dr. Thiessen, Oak Ridge, Inc, summary presentation to Metropolitan Water, Los Angeles, Aug 20, 2007 of key findings of the National Research Council, 2006 describing predicted population groups receiving artificial fluoride at levels in excess of EPA allowed guidelines if Metropolitan Water, Los Angeles begins fluosilicic acid proposal.

4. Graph reprinted from National Research Council, 2006 report on "Fluoride in Drinking Water" demonstrating average accumulation of fluoride in bone tissue after only 2 years consumption of artificially fluoridated water from 1 to 4 ppm (data value x is from the skeletal fluorosis chapter for lifetime drinking at 4 ppm; dotted line is extrapolated for discussion). Variability is believed to reflect in part the variable levels of natural calcium ion in a given water source and other dietary factors.

5. Article from WebMD on fluoridated water and osteosarcoma.

6. The Motivation for Fluoridation, letter to the North County Times from the former President of the San Diego Clean Water Association, Anita Shattuck [includes Chemical & Engineering News article on lack of fluoridation benefits and letters from dentists Heard (1954), explaining the serious mistake made by PHS that teeth whitening was "desired" and due to artificial, rather than calcium, fluoride and Layton, demonstrating the statistical illusion of cavity reduction being due to delay in tooth eruption instead.

7. Letter to Metropolitan Water Board regarding possible use of natural calcium fluoride instead of fluosilicic acid, including e-mail from Dr. Nelson of Dept of Health Services, Sacramento.

8. World Book Encyclopedia original description of 'fluoridation' by Edward Groth III, Ph.D. of Consumers Union.

9. Article by Dr. Groth III with list of important clarifying references.

10. Letter from Solvay, supplier of fluosilicic acid enriched preparations, regarding request for documentation of tests for compliance to National Sanitation Foundation Standard 60

11. Photo from the Hemet Chronicle newspaper at the first addition of fluosilicic acid to public water in Hemet, CA. This is to confirm that, in spite of statements made to citizens of San Diego County repeatedly in newspaper accounts, it is well known to all water district and associated parties that the material added is not natural calcium fluoride, which would, even when in concentrated form, not require this hazardous materials label. The label is required for unnatural toxic forms of fluoride in concentrated form, including fluosilicic acid preparations employed here.

12. Articles from the Journal of the American Medical Asso., 1943; American Dental Asso., 1944.

13. Letter from Edna Lovering, Food and Drug Administration, 1963.

14. Excerpt from court testimony of Dr. Nelson, DHS, in case of Macy vs. City of Escondido:

14

UNEDITED REALTIME / DRAFT TRANSCRIPT
OF
DAVID F. NELSON, D.D.S., M.S.
TAKEN TUESDAY, FEBRUARY 17, 2004
IN RE
SHIRLEY MACY, ET AL. VS. CITY OF ESCONDIDO, ET AL

....

Q IF IT'S NOT FOR THE PURPOSES OF INCREASING FLUORIDE IN THE CHILD'S DIET, FOR WHAT PURPOSE, THEN, WOULD THE ADDITION OF A FLUORIDATION CHEMICAL IN THE WATER SUPPLY BE USED FOR?
A TO INCREASE THE AMOUNT OF FLUORIDE IN THE CHILD'S BLOODSTREAM AND CERTAINLY THEN INTO THE SALIVA, WHICH IS ONE OF THE WAYS THAT FLUORIDE WORKS. IT HAS NO RELATIONSHIP TO THE CHILD'S DIET.
Q OKAY. INTRODUCING IT TO THE BLOODSTREAM, ARE FLUORIDE SUPPLEMENTS ONLY RECOMMENDED FOR CHILDREN IN NONFLUORIDATED COMMUNITIES?
A YES.

Additional letters submitted to FDA after petition was filed on Oct. 16, 2007 and given a docket #.

December 12, 2007

Lyle D. Jaffe
Division of Dockets Management
Office of Management Programs, Office of Management
Department of Health & Human Services
Food and Drug Administration
Rockville, MD 20857.

Dear Mr. Jaffe,

This information, if possible at this stage, I would like FDA to include for the record, regarding petition #2007P-0400/CP-1 filed 10/16/07. Although I abhorr being a possible annoyance to FDA reviewers, such feelings in the end are irrelevant considering the country as a whole has placed great emphasis on silicofluoridating most all of its citizens, with the recent addition here in Southern California of 18 million more consumers through public drinking water treated with fluosilicic acid reacted onsite with sodium hydroxide to form sodium fluosilicate salts, untested for either efficacy or for safety. Enclosed here is a recent letter I submitted to the Centers for Disease Control, Atlanta that is germane to the petition. Thank you so much for your attention.. Merry Christmas also.

December 11, 2007

Centers for Disease Control and Prevention
1600 Clifton Rd.
Atlanta, GA 30333

Dear Sirs,

I here ask CDC to investigate a health crisis and to act on it by setting new policy. I'm speaking of the current news reports coming out of Memphis, Tennessee and Boston, Massachusetts. In Boston there is what is considered an epidemic of childhood heart tissue swelling. Doctors are reported to be "baffled" by the situation in a recent Associated Press report, and yet we know that lead, arsenic and fluoride from artificial, not natural, sources are all known to induce heart tissue swelling in experimental animals and man (ASTDR, 2003) and that these agents have been added for many years now to water supplies in U.S. cities through the process known as 'silicofluoridation', 'fluoridation' with fluorosilicic acid solutions. Conditions that make one area more sensitive to added fluosilicic than other areas in time dependence of developed effects are related to the indigenous level of calcium and magnesium in the water and to the form and concentration of fluoride intentionally added and to the relative wealth of the citizens who either can or cannot purchase outside sources of non-fluoridated water as well as other factors. Most cities now use fluosilicic acid solutions that regularly are assayed to contain appreciable amounts of lead and arsenic, along with the source artificial fluoride, so the notion that fluoridation is not involved in these heart effects cannot be ignored, particularly since no one as yet has provided a reasonable explanation for the phenomenon.

In Memphis there is a graveyard that is exclusively dedicated to children who die before they reach 1 year age (Associated Press release, Aug., 2007). Tennessee is the most heavily fluoridated state in the Union (NRC's Dr. Kathleen Thiessen, personal communication) and in places receives twice the fluoride dose in public water than other parts of the nation. It is the poor community in Memphis that is most heavily affected with infant mortality and this community is also the least able to purchase bottled non-treated water. The recent CDC warning to not use fluoridated water in the diet of infants under 1 was not known to citizens of Tennessee for the past many years that fluoridation has been ongoing. It is known that small children for unknown reasons are more susceptible to lethal poisoning at the same concentrations that are nonlethal in adults, with a documented lethal dose as low as 5 mg/kg in a 3 year old (Merck Index, 11th ed., Rahway, New Jersey, 1996), which compares to the toxic concentration for cyanide compounds. The incorporation into U.S. water supplies of fluorohydroxosilicate ionic coordination complex ions has not been tested in prospective clinical trials for biologic effects nor are these derivatives identifiable in form, being altered by the prevailing pH of the solvent, from 3.5 in stomach acid, 8.5 in intestinal juice, 7.4 in blood and 6.9 in intracellular fluids. Instead of remaining "baffled" by the above situation it is time to suspect artificial fluoride toxic compounds as a likely influence or cause. Until a cause is known with certainty, in my humble opinion fluoride-containing artificial compounds remain a top suspicion.

Here in San Marcos, CA we are now being silicofluoridated without popular support of the people. We are being subjected to what is considered 'state of the art' in silicofluoridation technology, where four 30,000 gallon tanks of 'Drano' sodium hydroxide are mixed on site with 20,000 gallon vats of fluosilicic acid to form sodium fluorosilicate salts that are injected into our public water. Unfortunately sodium fluorosilicate is somewhat more toxic than the intact fluosilicic acid, with an LD50 of 125 mg/kg (Merck Index, 11th ed., 1996), all done for the purpose of neutralizing the corrosivity of the acid to protect the plumbing and valves for the District's equipment. The electronic metering method is considered state of the art for a second reason as well, to prevent the chance that another Hooper Bay, Alaska poisoning fatality disaster (Gessner, New Eng. J Med, 1994, vol 330:95) could occur again because of continuous metering and sensing that would shut off the system in case of an overfeed. But in the end we are being used in yet another silicofluoridation experiment that, like the older methods, has not been FDA approved. The Vallecitos Water District here has failed to provide to customers the CDC warning to parents of infants to use nonfluoridated water in the flyer they sent out to all customers. The district also made a false statement, that if one chooses to avoid the tainted water you may purchase a reverse osmosis unit to remove the fluoride. This is false. The diameter of the fluoride ion, 133 pm, the smallest negative anion on earth, compares to the size of a water molecule and cannot be removed by reverse osmosis filtration methods. Genuine fluoride filters containing usually crushed aluminum oxide are not available

commercially in California and must be purchased out of state. This situation is not only a violation of the public trust but to me constitutes consumer fraud.

Would you please write or call Metropolitan Water, Los Angeles and inform them that it is not required of this state to use artificial silicofluoride compounds to fluoridate water supplies and that it either can be placed on hold, or that clean natural calcium fluoride, a nontoxic compound, can be used for this purpose? I remember the original CDC instruction booklets sent to water districts definitely allowed a district to choose natural calcium fluoride for this purpose if they desired. Indeed, if natural calcium fluoride (LD = safe, high 5,000 mg/kg) had been used in Hooper Bay, Alaska, the fatality and poisoning disaster would never have occurred in the first place, and the suspicion of involvement in the Boston and Memphis situations above would be gone as well. As it stands, officials at Metropolitan continue to tell me that 'their hands are tied by the CDC who insists on using the unnatural fluosilicic acid for fluoridation' rather than the safe nontoxic natural calcium fluoride. I find this to be not credible. We need your help on this matter, please.

The CA Department of Health Services' David Nelson, a fluoridation advocate convicted in court under oath that required his testimony be ignored in Escondido, CA, repeatedly claims that calcium fluoride is 'not usable because of solubility issues.' But the solubility of calcium fluoride, yes lower than all artificial non-calcium containing fluoride compounds, is soluble enough to generate up to 8 ppm fluoride ion in a safe, non toxic manner (CRC Handbook of Chemistry and Physics, 50th ed., Chemical Rubber Co., Cleveland, OH, 1969). It is time to realize that taking a shortcut to teeth health, seemingly the easier way than brushing with good diet habits and dental hygiene, is, as we should have known all along, the inferior and dangerous way in the long run. It is time to correct the deleterious "fluoridation" policy held by some at CDC who feel it is the 'greatest health achievement in the last century'. It might have been, if it weren't for the toxicity of the artificial fluorides and for the fact that it is ineffective to boot as reported in our four largest studies finding that cavities are not reduced, and are most often increased, over the long haul in fluoridated cities.

We must honor the words of the FDA officials, current and past, who have written several times that adding artificial fluoride into public water constitutes uncontrolled use of a drug (Dr. Michael Fleming, FDA advisor, ABC 11, North Carolina report) and such agents have been found to alter teeth structure principally as topicals, not from internal blood-borne sources. The poor solubility of calcium from fluoridated bone (at thousands of times the fluoride level in consumed water, according to the National Research Council, 2006 "Fluoride in Drinking Water, National Academies Press, Washington, D.C.) in my view renders it a toxic cumulative poison, not to be confused with or considered to be a dental prophylactic oral drug. It is a calcium chelator and thus a general metabolic poison to be avoided, not envied. We need it to be kept from water, as no water supply on earth contains fluosilicic acid in it, rather than added to water intentionally, under the assumption fluoride ions are a "required normal component" of drinking water. How did native Americans ever make it in the Northwest with its naturally soft fluoride-absent water without this synthetic compound, first invented in the 1940's? May God help you in this effort and otherwise please have a very Merry Christmas.

Thanks again,

Richard Sauerheber, Ph.D., Chemistry

Note: It seems that what we have here is failure to communicate, given your lack of response to an earlier letter regarding silicofluoridation. Perhaps I can help clarify any confusion on the health effects of artificial (not natural) fluoride compounds and prove to you that that fluoride is not a mineral nutrient, has no biologic desired action in living systems, and if added into public water supplies [for oral ingestion to

raise the blood level of fluoride ion] constitutes an uncrontrolled use of drug, with the following summary:

There are several mechanisms by which fluoride ion exerts lethal effects in both man and animals, each widely differing in the duration of time required. 1) The longest time required is for example in citizens who consume very low levels of artificial fluoridated water over a lifetime of time that accumulates we now know fluoride into bone up to 4,500 ppm from water containing only carefully fed levels at 1.0 ppm (NRC, 2006 Report). Here bone hydroxyapatite is replaced with a fluoridated derivative that is less soluble and causes increased rates of fracture with delayed healing. Hip fracture in the elderly is now at epidemic levels in the U.S., with 1/3 million cases yearly (New England Journal of Medicine 2007 article) and is often the final causative event leading to the demise of the elderly.

2) At higher doses of artificial fluoride, less time is required than this to exert a lethal outcome. In animal experiments it is known that lethal bone cancer develops, even in bone-cancer-resistant species such as rats, if fluoridated water is given over long enough time periods, usually requiring more than 1 year in rats and mice. Shorter duration mistakenly has led some investigators to conclude incorrectly that drinking water fluoride does not cause bone cancer. The recent studies by Bassin at Harvard University and others confirm that this effect is now evident in humans, particularly in young men who had been exposed to fluoridated water at ages 7-9 during bone development (fluoridealert.org).

3) At still higher doses of artificial fluorides in drinking water, death ensues more quickly, usually over many months of time, from swollen heart muscle tissue with insufficient cardiac function to support life (ASTDR, 2003).

4) Finally, the most rapid method by which fluoride ion kills man and animals is by ingestion of still higher doses. Eating half a tube of toothpaste kills a healthy adult immediately with a heart attack since the fluoride in the blood is unable to be removed quickly enough by bone and kidneys, and the soluble ionized calcium in the blood is lowered by precipitation, causing blockage of the heart beat. Extracellular calcium is the mediator between electrical excitation and contraction of heart muscle, unlike skeletal muscle which contains its own sarcoplasmic reticulum calcium storage site (Gordon, L and Sauerheber, R, CRC Press, "Calcium in Biological Systems," Anghileri, L. J., ed., Boca Raton, FL, 1988; Sauerheber, R., "Toxicity of Fluoridated Water," accepted by journal Fluoride, free download at www.lulu.com search fluoride). This phenomenon also occurred in Alaska when the municipal water supply experienced an overfeed, causing heart attack in the victim. It also occurs in children in dental offices with highly concentrated fluoride dental gels when children swallow small amounts of the gel and have a heart attack immediately (Cousens, G., M.D., "Fluorine", in Spiritual Nutrition, North Atlantic Books, Berkeley, CA, 2001, pp. 430-433). It also occurred in kidney patients undergoing day-long whole system dialysis protocols in North Carolina when fluoride filtration systems failed and the entire blood supply of the patients were transfused with fluoride that matched the full level in the water supply (Gessner, New England Journal Med., 1994, vol 330:95). It is also the accepted mechanism by which rats and mice are killed when consuming sodium fluoride rat poison. The strange results we now also find is that children are killed by artificial fluorides at concentrations far lower than that for adults for reasons that are unknown. This goes a long way in explaining why citizens across the country experience such variable effects on health parameters caused by water fluoridation. The effects arte not only dependent on the dose and form that is injected but also on the amount of water consumed by a particular person due to lifestyle, the hardness of the water, and also most importantly to the age of the consumer.

Hopefully this information helps to clarify the situation for you.

A letter from William Maas, DDS, MPH from the CDC stated that CDC believes community water fluoridation is safe and healthy and promotes its use for people of all ages. Optimal fluoride poses no "known health risks for infants" but "some children may develop enamel fluorosis, a cosmetic condition." Infant formula mixed with fluoridated water "may increase chances for fluorosis."

In response to the above CDC comments, the following letter was returned:

January 23, 2008

Department of Health and Human Services
Centers for Disease Control and Prevention
Atlanta,GA 30341-3724

William Maas, DDS, MPH
Director, Division of Oral Health
National Center for Chronic Disease Prevention and Health Promotion

I was fully aware of the CDC position on silicofluoridation. I need not have that position repeated in the letter you sent Jan. 16, 2008. I'm a 30 year medical researcher with an exceptional grasp of artificial fluoride toxicity and blood clinical chemistry. The reason for my Dec. 2007 letter was to ask if you would be so kind as to simply send a note to the Metropolitan Water District, Los Angeles, to Mr. Ed Dymally. He is waiting to hear from you if it would be alright with you if they in the future employed natural calcium fluoride instead of the artificial fluoride that they have recently begun using in Southern CA water. In the future I would stop complaining if this natural compound (responsible for 'Colorado brown stain' and 'Texas teeth' without possibility of acute lethality) were used, because it is not a toxic and is of course not on any toxics registry list for that reason. The rat poison and insecticide sodium fluosilicate that is diluted and metered into our water however is listed on all toxics registries and does not duplicate the Colorado brown stain or Texas teeth effect [this is caused by the presence of calcium along with the fluoride, from the calcium fluoride leachate present naturally in some U.S. waters].

Your contention that infants are not harmed by silicofluorides without calcium is only partly true. Yes no immediate observable harm, to the naked eye, occurs while they are infants to several years of age as long as exposure is well regulated. However, your implications are that 1) even if they were raised from infancy to adulthood on silicofluoridated water that they also will have no ill effects from the procedure either and 2) that assimilated fluoride that we now know 95% of which incorporates into bones is not ever harmful either. And these are false.

You apparently are unaware of the organization Parents of Fluoride Poisoned Children. This usually stems from kids liking the taste of fluoridated toothpaste. But the major source of fluoride intake is drinking water while living in fluoridated cities and bone-accumulated fluoride is cumulative and irreversible. Fluoride enriched people cannot escape additional fluoridation when it is supplied as a drug in municipal water.

You are apparently also unaware that the NRC data prove that consumption of only 1 ppm artificial silicofluoride (but not natural calcium fluoride) in water leads to 4,500 mg/kg fluoride in bones after lifetime drinking that statistically weakens bones and causes delayed healing of any fractures. The statistical effect on bone weakening is difficult to discern in the early going because of poor detection methods to observe it, but is nevertheless present and of course the incorporated fluoride is always detected in studies done postmortem for some reason. For longer duration of drinking or at higher water consumption rates or doses above 1 ppm, bone fracture rates rise enough to then be statistically detectable.

Please read for example the popular Scientific American in its January 2 issue the article "Second Thoughts on Fluoride". The mechanism by which fluoride weakens bones is presented in an introductory manner but it would be useful for you. The key to remember however when reading the article is that the assimilation of artificial fluoride into the bloodstream is dependent on the hardness of the water in which it is metered. High calcium water minimizes the assimilation of fluoride ion into the bloodstream, while low calcium water allows full assimilation (Agency for Toxic Substances and Disease Registry, 2003). Natural calcium fluoride is not a toxic because of its own built in antidote. Likewise, the presence of

artificial fluoride ion decreases the assimilation of calcium, a dietary necessity. Calcium deficiency is not readily diagnosed by CDC or a child's physician, particularly when mild, and thus your statement that artificial fluorides when optimal pose no "known health risk" is deception. Yes, invisible effects can't be seen openly, but as pointed out in "The Fluoride Deception", knowledgeable X-ray examiners report proof positive that bone structure is already altered in people exposed exclusively only to properly-dosed fluoridated water before anyone is aware of overt symptoms. In this country people are supposed to be free to decide on what goes into their bodies, especially items that are not natural and that accumulate in their skeleton. CDC is unaware of what it authorizes and enforces.

And for some strange reason dentists continue with the false notion that it was the fluoride ion alone that was responsible for Colorado brown stain and Texas Teeth when in reality these were natural water sources of calcium fluoride at high levels. Calcium fluoride cannot acutely poison and the calcium ion played a substantial if not major role in the teeth effect. The switch to use of sodium fluoride and now fluosilicic acid assumed that fluoride ion alone was the responsible ingredient. Unnatural fluorides are all toxics and as a result of its use in public drinking water as you know poisoned 302 people in Hooper Bay Alaska in 1994 and killed one victim who was thirsty and drank enough to lower his blood calcium to block heart function. None of that would or could have happened with nontoxic natural calcium fluoride (the original ingredient responsible for teeth structural effects in Colorado and Texas). Unnatural fluorides such as fluosilicic acid do not belong in any water supply, is not found in any natural waters on earth and yet in the U.S. overfeeds from corroded valves cause tons of tainted water to be discharged with some regularity (fluoridealert.org).

If it is too difficult for CDC to stop enforcing this garbage into America's waters, at the very least would you please send a letter to Mr. Dymally, indicating that in this free country he yes has every right to use natural calcium fluoride to fluoridate So. CA water. The CDC has no right whatsoever to object to such a decision, and Dymally needs to be informed of that fact because in his view without such notification "his hands are tied." The EPA recently wrote to us that this is a "States' rights issue" and yet the CDC is a Federal body that refuses to bend on this issue. If you cannot bear to write even this note, please give me the name of a supervisor who might understand blood clinical chemistry and bone physiology well enough that I could pursue this to conclusion. 18 million Southern Californians wait.

Sincerely,

Dr. Richard Sauerheber

cited references:

1. The Fluoride Deception, Christopher Bryson,, Seven Stories Press, N.Y., 2004, 218-222, describing abnormal bone X-rays in the fluoridated city of Newburgh being very high compared to control Kingston; and that sports injuries and bone fractures correlate with dental fluorosis incidence. It is commendable that CDC desires to mitigate dental fluorosis with warnings to parents of infants, but please understand that uptake of artificial fluorides for many years prior to the formation of permanent teeth gives a 6 year headstart to fluoridation of bones, which are permanent already in newborn infants. The text refers to the fact that dental fluorosis is always accompanied by skeletal fluorosis, whether symptoms are overt yet or not, and that fluorosis is an abnormal, disease entity where hydroxide ions in normal, natural bone are replaced with fluoride ion, causing impaired calcium mobilization in time of need for the blood from bone (as described in Scientific American article below).

2. National Academies of Science, National Research Council Report on Fluoride in Drinking Water, 2006, p. 94 showing linear dependence of bone accumulated fluoride as a function of fluoride level in water and in other chapters the accumulation after lifetime drinking.

3. Agency for Toxic Substances and Disease Registry, 2003 available online, search fluoride to learn that 1 ppm fluoride long-term in rats causes bone cancer as long as toxicity data are studied for more-than-typical timeframes for routine toxicity testing

4. see also my manuscript on the Hooper Bay fluoride poisoning disaster, my petition to the FDA to ban the addition of artificial fluorides in municipal drinking water, and related items at www.lulu.com search fluoride and click on the free downloads entitled "The Toxicity of Water Fluoridated Artificially" and "U.S. Waters Under Siege".

5. Scientific American, Dan Fagin, "Second Thoughts About Fluoride", January 2008, page 74.

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The following letters were sent as supportive information to the FDA:

December 6, 2007

Lyle.Jaffe, Division of Dockets Management
FDA
Rockville, MD 20857

I must inform you, regarding petition, docket #2007P-0400/CP, 10/16/07, that the use of fluosilicic acid as a drug in public water supplies has been in a state of continuing adjustment. As it turns out, today we in North County San Diego are being subjected to the latest method of delivery that promoters argue is "state of the art." A photograph of the facility here shows 4 large central tanks of sodium hydroxide, caustic soda lye, the active ingredient in Drano drain cleaning caustics, that is mixed with the artificial fluosilicic acid solutions (not shown) at the injection site into the drinking water supply for all North County. Although the petition did not mention this, according to my rough calculation this process introduces about 2.5 mg/kg sodium as a steady feed that is metered into all North County water for public use. Huge numbers of citizens with liver disease or with severe hypertension all require heavily restricted dietary sodium. This is being done without public prior approval or discussion. The reaction that takes place at the injection site is:

$$H_2SiF_6 + 2\ NaOH \rightarrow Na_2SiF_6 + 2H_2O + heat. \quad \text{(total molecular equation)}$$

Of course in the aqueous phase the sodium ion remains intact as a spectator, fully soluble at all times. It is added to introduce the hydroxide ion in a convenient, fully soluble form for the neutralization reaction to take place efficiently. The reaction also produces the fluorosilicate anion SiF_6^{-2} and other forms not shown. The toxicity data we have indicates that unfortunately sodium fluorosilicate is somewhat more toxic (Merck Index, 9th Ed., Merck, Inc., Rahway, N.J., 1976, LD_{50} 125 ppm) than the original intact fluosilicic acid (150 ppm). However, the Metropolitan Water District here is concerned about maintaining a minimum corrosive effect on the plumbing fixtures and have found that the reaction better protects their equipment.

To approve addition of all of these ingredients into public drinking water is in violation of the public trust, and is consumer fraud and false advertising of safety and efficacy. Dr. Fleming, FDA advisor, said "there is no need to fluoridate water supplies when the primary benefit of fluoride is topical, used as a topical, not internally; fluoride in the water is essentially a drug; an uncontrolled use of the drug." (ABC11 Investigates, 11/8/7). The above new process constitutes another separate violation of the Federal Water Pollution Control Act for another substance, sodium hydroxide, with immediate pH alterations upon mixing, that was not presented in the original petition. Product silicates are assumed by David Nelson, D.D.S., California Department of Health Services, Chief Fluoridation Officer, Sacramento,

CA to be safely "metabolized away in the body", though this has not been experimentally verified with animal testing of any kind for its various forms that would exist as a function of prevailing pH, from SiF_6^{-2} to $Si(OH)_4^{2+}$, etc.

Thanks again for your help,

Richard Sauerheber, Ph.D., Chemistry

The Lake Skinner water treatment plant, considered 'state of the art', employs 4 large central tanks, 30,000 gallons each of sodium hydroxide 'Drano' to neutralize the fluosilicic acid in the adjoining tanks, not shown, of 20,000 gallons each.

The massive water volume is chemicalized with materials from 9 separate tanks. The central four tanks are labeled caustic soda, which is the active ingredient in liquid 'Drano' drain cleaner. The adjoining tanks have highly concentrated 23% fluosilicic acid from phosphate fertilizer pollution scrubbers that contain variable unknown amounts of arsenic, lead and uranium compounds of unreported form as well as tanks of ammonia.

The Drano is mixed with the fluosilicic acid in metered injection ports so that the fluosilicic acid will not dissolve the metal valves and plumbing. The intact acid corrodes stainless steel, glass, most all metals except gold of course, skin and leather. Upon neutralization at the site with Drano the sodium fluosilicate salt is formed plus heat. The formed salt is directly injected into the water supply for North San Diego County. The lethal dose killing 50% of treated animals within hours for fluosilicic acid is 150 mg/kg. This does not compare to the dose required for natural calcium fluoride which is a safe high 5,000 mg/kg. The lethal dose for the sodium fluosilicate salt is 125 mg/kg. The lethal dose for artificial fluorides that do not contain the built in calcium antidote, killing 50% of animals in weeks of time is far lower. In the former case animals are killed with a heart attack because the fluoride in the blood cannot be cleared quickly by the bones and kidney so that blood calcium is precipitated which blocks the heart beat. Artificial fluoride cons kills rats in this way in commercial rat poisons. Other unknown mechanisms kill insects in commercial fluoride insecticides.

November 9, 2007

Lyle D. Jaffe
Division of Dockets Management
Office of Management Programs, Office of Management
Department of Health & Human Services
Food and Drug Administration
Rockville, MD 20857.

Dear Mr. Jaffe,

Thank you very much for your letter 10/17/2007. It has recently come to my attention that FDA has approved a statement of effectiveness for fluoridated bottled water, that can be purchased by consumers at their own free will. It must be emphasized that this does not affect the petition, docket #2007P-0400/CP 1, requesting a ban on artificial fluorides designed for oral ingestion that are specifically directly added to public water supplies. Please understand that the petition primarily refers to compounds designed for direct oral ingestion which are unavoidable by the consumer and does not consider bottled fluoridated water which is optional to be of immediate concern.

1) Drugs added to the water supply of a home cannot be denied by the homeowner; the consumer has no option to avoid using it, as is the case with easily avoiding purchased fluoridated bottled water retail. Fluoridated water through municipal supplies plumbed directly to a home involves all water, including shower and bathwater, swimming pool, spa, garden, cooking, laundry water and water for pets and livestock. The incidence of hypersensitivity to artificial, not natural, fluorides in humans is well recognized (Feltman, R. and Kostel, G., “Prenatal and Postnatal Ingestion of Fluorides, the 14 year

investigation, final report," Journal of Dental Medicine 16;190, Oct., 1961; Waldbott, G., M.D., F.A.C.A., Annals of Allergy, Volume 25, July, 1967) over all age groups tested. Approximately 1% of people generally are hypersensitive or allergic to artificial fluorides even at low doses used in public water supplies (Physician's Desk Reference, 48th edition, 1994, p. 2335). Skin rashes in these individuals with painful itching occurs on showering which is only mitigated by discontinuing exposure. Genuine fluoride skin reactions are prevented with calcium gel body washes because calcium is the antidote for fluoride's effects, being a calcium chelating agent. These reactions are unavoidable when drugging the municipal water supply.

2) This lack of choice for all treated consumers in his/her own home, which would represent a violation of the Hippocratic Oath that guarantees freedom to deny treatment at any time for any reason, must be considered by FDA in reference to this petition, in addition to those points presented in the original petition.

3) Finally, the American Dental Association and Centers for Disease Control have recently formally stated that infants under one year age must not consume fluoridated water in mixed formula because this would constitute an 'excessive dose of fluoride'. The CDC recognized earlier that primarily it is topical, not blood, fluoride that exerts effects on teeth, and infants do not have erupted teeth until about 1 year age (Essentials of Pediatrics, Jeans, P., et.al., J.B. Lippincott Co., Philadelphia, 1958, p. 27). It is unconscionable to consider that infants with no ability to choose have until now been [and in many homes will continue to be] exposed to crude fluosilicic acid, as toxic as lead and some arsenic compounds and that contains both these metals as well, when EPA's mandated goal for lead in drinking water is zero, for an entire year before these infants' first teeth even erupt. Accepting risk for any adverse reaction or effect from the unrefined, impure drug, to merely fluoridate teeth that are temporary to be shed anyway, is contraindicated. Incorporated fluoride would accumulate into the bones and brain during the full 6 year period PRIOR to the eruption of permanent teeth, the first actual object intended to be permanently altered by topical fluoride. U.S. infants require careful FDA protection from unnecessary chemicalization that is represented as an 'essential drug' that must even be added to municipal water supplies years prior to the development of permanent teeth that is the principal target of the topical acting agent.

I apologize for failing to mention these important points in the original petition.

Most sincerely,

Richard D. Sauerheber, Ph.D. Chemistry

Oct. 16, 2007

Dockets Management Branch
Food and Drug Administration,Room 1061
5630 Fishers Lane
Rockville, MD 20852

Dear Sirs,

It must be stated that my petition submitted Sept. 25, 2007 is in full accordance with 21CFR 25.30. Although it is the opinion of the petitioner that artificial fluoride compounds should not be used as drugs for human ingestion for any purpose [because unnatural fluoride by character is a calcium chelator], the use of sodium fluoride drops by prescription requires that artificial fluorides be labeled drugs by reason of use. FDA originally ruled in writing in 1963 that artificial fluoride compounds are drugs that have no nutritive value (see attached letter here and in petition). The CA Dept. of Health Services' fluoridation officer stated under oath (see appendix of petition) that the purpose of adding artificial fluoride compounds into drinking waters is to increase the amount of fluoride in the bloodstream and that it is not considered part of a child's diet.

The petition does not consider fluoride insecticides on crops, fluoride mouthwashes or fluoride toothpaste (for which FDA has placed warnings not to swallow) because these agents are not designed to be ingested. No formal complaint is here being raised against the use of fluoride drops under a physician's prescription; physician's examine individuals for which it is prescribed.

The petition is concerned with the use of artificial fluoride drugs in public water supplies that are consumed as though this drug could be thought of as a normal dietary component. Public water supplies are not a vehicle with which to drug human blood because there is no reasonable way to administer a given dose many miles from the consumer or to compute how much fluoride is consumed from other sources prior to injection into an entire city's water supply. Most importantly, the petition is against fluosilicic acid because this tends to be used by water districts without specific approval for human ingestion by FDA. Fluosilicic acid has not been approved for safety at blood levels targeted by promoters nor has it been approved for effectiveness at reducing tooth decay, while water districts, chemical suppliers, and other promoters continue to make these claims. [Assemblyman John V. Kelly also wrote June 3, 1993 that FDA stated there are no studies proving artificial fluorides are either safe or effective, yet promoters claim both.]

Regarding categorical exclusion and 21CFR 10.30, there is no environmental impact included in the petition. The petition is concerned with agents intended to be directly ingested. Environmental information was provided for context and clarity for the benefit of the reviewer.

For example, fluoride insecticides present on foods are ingested, but such insecticides were never invented for the purpose of treating consumers, but to kill pests. The petition is directed against artificial fluorides that are intentionally added to drinking water for the purpose of altering tissues of consumers. Now ongoing in many U.S. cities, the practice is without FDA approval and for good reason. Artificial fluoride drugs designed to be directly injected into public water, under the presumption that teeth benefit outweighs peripheral tissue toxicity, must be stopped.

I most sincerely thank you and appreciate your review of this petition. In my humble opinion, the FDA is the United States agency that can set our water supply back on the right track to being naturally healthy. Exposing the ungodly use of water as a mechanism to dispense drugs is something that FDA should be commended for doing. The procedure has caused harm, including lethal poisonings in accidental overfeeds and chronic uptake into skeletal and other bodily tissues. FDA has carried the ball in treading between allowed use and exaggerated unsafe use of artificial fluorides since 1963, warning of toothpaste swallowing and making statements against its use in drinking water. It is now time to finish this action by banning artificial fluorides specifically designed to be swallowed that have already been found unsafe for chronic consumers.

Sincerely, Richard Sauerheber, Ph.D.

The following letter was sent to the Vallecitos Water District in San Marcos, CA on request because the district had made the false statement that fluoride could be removed from drinking water with a reverse osmosis filtration system. The ion itself is smaller than the water molecule and the letter corrected the information that had been sent to customers.

Jan 3, 2008

Mr. Dale Mason
Vallecitos Water District
201 Vallecitos de Oro
San Marcos, CA 92069
Dear Mr. Dale Mason,

As Anita Shattuck and I mentioned to you at the last board meeting, several errors were printed in Splash, and you and Mr. Bill Rucker said you would be correcting those errors. You said that I could send in my suggestions, along with proper references, and you would consider using what I had to say if it was appropriate. As you know, I am a Chemistry Professor, and have thoroughly studied this subject.

Below is what I would suggest you print, at least in part as space permits, to correct those errors. We know that VWD has full interest in supplying drinking water that is as safe and clean as possible, so those errors could be useful. Now you have good reason to clarify the whole truth on the matter of silicofluoridation of our water. Since the next edition of Splash won't be printed until March, is there any way you could include the corrections in with the next water bill? The only extra cost would be the printing of the statement, since the bills have to be mailed anyway.

It was suggested that the people should have fought the fluoridation bill AB733, and many of us did; but many professionals knew the proponents of the bill would attempt to ruin the reputations of those speaking out. This is done often; in the LA Times, Dec. 23 those against artificial fluorides were labeled 'kooks.' Also, for many years the media has refused to cover our side of the issue even though all the new scientific findings prove fluoridation is very detrimental. Endless proof of these findings can be easily found on the internet where 'big business' is not in control. North County Times has printed some Letters to the Editor, but proof of what we say now has to be sent in with the letters, and it has to be short because 'they don't have time to read much.' This is a difficult catch-22.

One Opinion Letter by Dr. Banks, a dentist here in San Marcos, was accepted after they deleted some of the most important paragraphs. This was after they had refused to print his letter that 20 medical doctors and dentists had signed. The letter showed that the original fluoridation experiments proved fluoridation doesn't work—the statistics were purposely read incorrectly. Dr. Banks sent proof of what was stated, but they said he couldn't have more than 2 names on any letter.

I wrote to Governor Schwarzenegger and he also advised us to change the law. Please understand though that adding unnatural water soluble fluorides to treat people already violates state and federal existing laws as described below. Millions of people are against fluoridation, but few are in a position to change laws. It seems your company could lead the way if you choose to do so. First, a letter to the CA Attorney General, currently Jerry Brown, from VWD could go a long way in helping him determine how unnatural water soluble fluoride, smaller than the water molecule, violates CA state clean drinking water statutes. Second, along with the true facts concerning this issue, you could enclose a small voting form that the customer could fill out, and return with their payment. As soon as the people learn it is actually hazardous waste and 'Drano' chemical that is added, and that it definitely changes the quality of the water in a great many ways, most people usually vote against fluoridation.

This could prove to be a news item the media won't be able to ignore. This is an opportunity to be a heroic help. This 61-year-old fraud has hurt more people than any other scientific fraud. Artificial fluorides are now the nation's most widely used unnatural poisonous substance, making tobacco use look insignificant. This could benefit everyone in So. California and the nation as well.

Below is the letter that Anita and I would love to see sent to your customers. We realize that it is a long letter, but there is a lot that needs to be said. We have documentation for everything stated here, and will supply you with it as soon as we know what all you will be using of what we have provided. It is a very sad situation if in "the land of free speech," you can't tell your customers the truth, especially when some people's health could be at stake.

Anita and I have worked very hard on this statement, and we would really appreciate it if you would consider letting us proof read the final statement before you send it out. Between all of us it should be possible to correctly explain the situation and in such a way as to not be challengeable.

My e-mail is: richsauerheb@hotmail.com; my phone # is 744-2547 or cell is 402-1173. Anita's e-mail is: bakeranita@cox.net , and phone # is 752-1621. We will be looking forward to hearing from you.

Respectfully,

Richard Sauerheber

Correction of Errors made in the Summer and Fall Editions of the "Splash"

The Vallecitos Water District has never promoted fluoridation; however, we are told that it is now the law, and that we have no choice in the matter. The practice is widespread. It is supported by officials at the CDC and the ADA, but is opposed by many scientists and officials, and it is not approved by the Food and Drug Administration (FDA).

A Professor of Chemistry, Dr. Richard Sauerheber, a medical research scientist with experience in toxicology and blood clinical chemistry, brought a few errors to our attention with the statement below.

A recent warning from the American Dental Association (ADA) and the Centers for Disease Control (CDC) did not appear in the Splash.

The ADA and the CDC now advise parents of formula-fed infants to mix the formula with non-fluoridated water. (That is understandable since the level of fluoride in mothers milk is practically zero, even when the mother drinks fluoridated water.)

(We do hope you will also print the above warning in Spanish.)

The summer edition of Splash stated: "MWD will adjust the natural fluoride concentration in the water it supplies."

From this statement, one would assume that what is being added is something natural; therefore, VWD owes it to their customers to tell them exactly what the Metropolitan Water District is adding to our drinking water.

Only benign calcium fluoride is natural (with a lethal dose of 5,000 mg/kg, and in the Merck Index it is not even listed as a toxic substance). The law allows the water companies to use natural calcium fluoride; however, MWD has chosen to use what they call 'artificial fluoride' (with a lethal dose of 150 mg/kg—which is 35 times more poisonous than calcium fluoride). Actually, it is a raw untreated, very corrosive, hazardous waste called fluosilicic acid that comes straight from the pollution scrubber systems of the phosphate fertilizer industries. This hazardous waste is more toxic than lead, almost as poisonous as arsenic; and it is contaminated with some of both, as well as several other very toxic substances. To prevent it from corroding the water company's valves and pipes, and the customer's plumbing, sodium hydroxide (the active ingredient in Drano) is also added. This caustic soda does help slow down the corrosion, but unfortunately it also adds sodium to the water. In North County Times on 12/02/07 Michael Jacobson (Center for Science in the Public Interest) stated: "There's a growing scientific consensus that current levels of salt (sodium) in the diet are one of the biggest health threats to the public." AB 733 does not mention or require fluosilicic acid as source for fluoride.

Fluoride is not a (natural) mineral nutrient, as we are often led to believe; it is a drug.

The FDA states in a letter that fluoride used for therapeutic effect would be a drug, not a mineral nutrient; that it has not been determined essential to human nutrition. Also, that it would be impossible to state a safe amount without knowledge of the amount of fluorides already being consumed by a person from other sources. (Now that so much of the country is fluoridated, a good percent of our food also contains fluoride. Some juices are extremely high in fluoride.)

In a letter dated June 3, 1993, Assemblyman, John V. Kelly states that the FDA admits there are no studies that prove that fluoride is either safe or effective; yet promoters continually claim it is both.

In 1999 the EPA union of scientists (consisting of 1500 professional people) concluded, after reviewing all the evidence, that the public water supply should not be used "as a vehicle for disseminating this toxic and prophylactically useless…substance." They called for "an immediate halt to the use of the nation's drinking water reservoirs as disposal sites for the toxic waste of the phosphate fertilizer industry."

Dr. Michael Fleming (DDS) is on an FDA dental advisory committee. He is of the opinion that we are getting far too much fluoride (ABC11 Investigates, 11/08/07). He says: "There is no need to fluoridate the water supplies, when the primary benefit of fluoride is topically, used as a topical addition, not internally," and that: "Fluoride in the water is essentially a drug; it's an uncontrolled use of a drug." He also stated: "We need to be asking some serious questions. Let's make the changes that are necessary to fit the science as it's emerging which tells us that we don't need to fluoridate the water."

Who has a right to put a drug in the water supply where there can be no control of dosage?

The fall edition of Splash stated: "Of course this change (fluoridation) will not affect water quality. There won't be any noticeable difference in taste, smell, or appearance."

It is true that you won't notice any sight or taste difference, but the quality is definitely not the same. When there was an over-feed due to a valve problem in Hooper Bay, Alaska there was no warning. As a result of it not being noticed, three hundred residents were poisoned, and one was killed (New England Journal of Medicine 1994 330:95). If natural calcium fluoride had been used, instead of industrial artificial fluoride, this could not have happened. This is due to the fact that calcium is the antidote for fluoride poisoning; and that's why calcium fluoride is not even listed as a toxic substance.

There are numerous damaging health effects of fluosilicic acid, to name a few:

- According to the CDC and the ADA, fluoridated water is not suitable for infants.
- Fluosilicic acid is so toxic that people are now being warned to limit how much one can drink. This is now happening in Fresno, CA, on excessively hot days (at the very time when personal water consumption should not be controlled at all).
- On Oct. 9, 2007, Daniel Stockin, a public health professional with The Lillie Center, stated that kidney patients' lives and quality of life are at stake on and off dialysis machines, and that kidney patients are particularly susceptible to harm from fluoride intake.
- On July 2, 1997, the EPA scientists reported that their "review of the body of evidence over the last eleven years, including animal and human epidemiology studies, indicate a causal link between fluoride/fluoridation and cancer, genetic damage, neurological impairment, and bone pathology. Of particular concern were recent epidemiology studies linking fluoride exposure to lowered IQ in children."
- In March, 2006, The National Academy of Sciences 2006 Review of Fluoride in Drinking Water released a report of their 3-year research project concerning the toxicity of fluoride in drinking water. This report brought out its detrimental effects on bones and other bodily systems, and recommended that the EPA lower their safety level of fluoride in the water. On Oct. 18, 2007, Senator Dianne Feinstein also stated in a letter that the "Environmental Health Protection Agency is currently reviewing the 2006 report by the National Research Council, which evaluated available data on the effects of fluoride." She obviously feels this study deserves attention.
- A 14-year experiment by Feltman and Kosel proved that 1% of the population is allergic to artificial fluoride. Fluoridation makes water unsafe for 1% of the people, and most of them have no idea what it is that is making them sick, and that they should be drinking bottled water.
- According to the Physicians Desk Reference, "in hypersensitive individuals, fluorides occasionally cause skin eruptions such as atopic dermatitis, eczema, or urticaria. Gastric distress, headache, and weakness have also been reported. These hypersensitive reactions usually disappear promptly after discontinuation of the fluoride." Whether these reactions are true allergies, or reactions to the corrosive effects, doesn't change the conclusion that contact with fluosilicic acid must be avoided.
- Dr. George Waldbott, well-known allergy researcher in Detroit, Michigan, writes: "No two people react alike to the same drug no matter how small the dose. At the so-called 'safe' concentration fluorine is a potent danger to every individual, especially to diabetics who drink

more water, to nephritics who can't eliminate fluorine readily, and to allergic people who have a low tolerance for drugs."

- It is also a proven fact that people do absorb fluoride through their skin. Gorlitzer von Mundy treated over 650 patients who suffered from hyperthyroidism with 20-minute baths containing fluoride, and he did it successfully. Today hypothyroidism is common; that bathing in fluoridated water contributes to this is likely and has certainly not been disproven.
- CDC data shows that dental fluorosis now impacts one third of the American children. The World Book Dictionary says "fluorosis is a diseased condition--caused by too much fluorine in drinking water." Webster's Dictionary says it is "the first sign of fluoride poisoning."
- Today, besides being in toothpaste, there are excessively high fluoride contents found in foods manufactured in fluoridated areas and in many foods treated with fluoride-containing pesticides. As a result dental fluorosis is ranging from about 15% to 65% in fluoridated areas and 5% to 40% in non-fluoridated areas. We should be taking fluoride out, not putting it in.

The fall edition of Splash stated: "Although there has always been a certain amount of fluoride naturally present in your water source, levels have never been high enough to impact dental care."

Fluoridation does not prevent decay, it delays teeth development.

We just recently found out that the Health Department's own statistics (covering the original experiments) prove that artificial fluoridation (FSA) does not prevent tooth decay; it merely delays eruption of teeth so that decay is delayed. Fluosilicic acid makes teeth erupt later than normal, probably due to thyroid suppression. This delay makes it easy to read the statistics incorrectly. For example, in the Newburg/Kingston, New York experiment, the fluoridated Newburg children's teeth that had not yet erupted were counted as 'no decay.' Therefore, at age 6 these children were recorded as having 100% 'less tooth decay.' However, at older ages the decay reduction became less and less until by age 10 these same children had only 40% less decay.

It was obvious that this '10-year experiment,' was failing, so the Public Health Service abandoned the experiment. They then totaled the five reductions from the different age groups, divided that number by 5, and recorded "an over-all reduction of at least 65%." By age 16 (after all the children's teeth had erupted) the decay rates were equal, if not more in the artificially fluoridated areas. A chart in a New York State Dental Journal, verifies that the reduction did not stop at 40%, and that by age 14 the Newburg children had more cavities--not less. Therefore, the over-all reduction was zero, not 65%. They claimed 65% for many years. However, the Union Tribune just recently said it was 20 to 40%--after fluoridation began in this area.

There are no savings, but there are a lot of children now with dental fluorosis. The Health Department's own statistics prove that the rate of decay was basically the same in all the test cities (fluoridated or unfluoridated) if you go by when the children's teeth erupted, instead of by their age.

In 1997 a study was completed by researcher, Dr. John Yiamouyiannis. The results were presented before the Superior Court in California. These results were taken from the 1994 and 1995 data from the computer records of the welfare dental care system (Dentical) in California. This data showed that counties that were 90% fluoridated spent on average $121.93 per eligible recipient, and counties with less than 10% fluoridation spent only $118.33 per recipient. San Francisco, fluoridated 30+ years, was $144.84 in 1995; never-fluoridated Los Angeles at that time was $143.52. There is no significant difference in dental care costs regardless of the amount of fluoride in drinking water.

For many years, the American Dental Association has been aware of the fact that there are no savings. In their journal, back in Feb. 1972, it was reported that dentists made 17% more profit in fluoridated areas as opposed to non-fluoridated areas.

The California Oral Health Needs Assessment 1993-94 claimed that their study proved the children of California desperately needed fluoride in their water. However, it actually proved just the opposite. The study showed that California had only about a quarter as much water fluoridation as the nation as a whole, yet the 15-year-old children had less tooth decay than the national average.

This backs up the idea that fluoride increases cavities and dental bills.

In Dec. 1993, a Canadian Dental Association panel concluded that ingested artificial fluoride does not, in fact, prevent tooth decay.

Bette Hileman, in Chemical & Engineering News, states that the largest study of tooth decay in America (National Institute of Dental Research-1987) reported that there was no significant difference in the decay rates of 39,000 fluoridated, partially fluoridated, and non-fluoridated children, ages 5 to 17, surveyed in 84 cities. The study cost taxpayers $3,670,000, but the media ignored these results.

Boston has been fluoridated since 1978. About 90 % of 107 Boston high school students were found to need dental treatment, according to a 1996 study. That report also estimated that the city's students had four times more untreated cavities than the national average. (Boston Globe, 11/27/99.)

The latest scientific findings (even in dental journals) show that fluoride's only measurable effects on dental decay are from topical application, as in toothpaste. The observed worldwide decline in tooth decay over the past four decades has occurred at the same rate in areas that are not fluoridated as in areas that are fluoridated.

In the summer 2005 Journal of American Physicians and Surgeons, Vol. 10, #2, JM Kauffman, PhD., wrote: "Artificial fluoridation of drinking water… probably does not reduce tooth decay…Proponents of fluoridation have censored most media, ignored intelligent discussion of fluoridation, slandered most opponents of fluoridation and overturned legal judgments against fluoridation in a manner that demonstrates their political power. Many published studies that had conclusions favoring fluoridation were later found unsupported by their raw data."

The fall edition of Splash stated: "Metropolitan Water District will optimize levels by increasing to the recommended range of 0.7 to 0.8 mg/L (parts per million). The miniscule amount – the equivalent of three drops in 42 gallons – has been deemed safe and a possible deterrent to tooth decay."

The toxicity chart from Journal of the American Dental Association, shows that water soluble artificial fluoride, such as FSA, but not natural calcium fluoride, is more toxic than lead, and almost as toxic as arsenic. This chart suggests fluorine, lead and arsenic all belong to the same group as far as ability to cause some symptom of toxicity in minute dosages is concerned, and all three of these poisons are cumulative.

The maximum contaminant level allowed in U.S. drinking water for arsenic was recently changed to 10 parts per billion, and lead was changed to 15 parts per billion. Fluoride, however, was recently changed to 4,000 ppb (4 ppm). This is 267 times the permissible lead level. It was changed from 2.0 ppm to 4.0 ppm without any new evidence showing it to be safe at that level. This allowed some water districts to use water supplies that would otherwise be considered too toxic, and allowed fluoridators to claim a greater margin of safety.

Even the recommended 1.0 ppm is 67 times the maximum contaminant level of lead, and fluoride is more toxic than lead. That's "no small amount!" EPA's official goal, for both arsenic and lead is 0 ppm. The unrefined hazardous waste used to fluoridate water contains some of both.

The fall edition of Splash stated: "Customers not wishing to consume fluoridated water have alternatives, including bottled water that contains a small measure of fluoride. There are also home water treatment units using reverse osmosis membrane filtration that can be purchased."

Reverse osmosis units, State certified to lower ingredients containing fluoride (such as calcium fluoride), do not lower the tiny fluoride ion itself below 0.9 ppm, the level in water that VWD receives from Metropolitan. (This is due to the fact that the fluoride ion is smaller than the water molecule.) For those desiring to have fluoride completely removed from bathing water, especially those individuals or those desiring no possible skin absorption of fluoride, it is necessary to use calcium-based fluoride filters that neutralize artificial fluoride. Calcium filters (oyster shell based whole home units from Ecowater, San Diego) turn artificial fluorides into nontoxic calcium fluoride. Unfortunately these units are costly, about $49.00 monthly until paid for in a few years. An undersink after-filter (such as Seagull, Carlsbad or Multi-Pure, Las Vegas) removes residual calcium fluoride and arsenic or lead that could exist within fluosilicic acid preparations. For most people the best alternative is to purchase bottled water from sources that do not add any fluoride, such as Palomar Mountain Spring Water, and use it for both drinking and cooking.

Fluoridation is unconstitutional; we need to overturn AB733.

It should be unconstitutional to force this on those who don't want it! Until this fluoridation issue comes to a halt, those who know the truth will live in constant fear of what this toxic waste is slowly doing to them, and rightfully so. Many people can't even afford to buy bottled water, let alone a water purifier. There are plenty of other ways to get fluoride without taking away our right to have pure water.

One reason AB 733 must be overturned, or at least modified, is because it is in gross violation of the Federal Clean Water Act that takes precedence. This Act, as described in section 101a, clearly states that the intention of all its regulations and requirements is to insure that the natural normal chemistry of U.S. waterways is kept intact. I can assure you that fluosilicic acid (toxic crude hazardous waste) is NOT found naturally in any water supply on the entire earth; thus fluosilicic acid violates section 101a. This should be sufficient grounds to stop adding this waste to any water, or at least to modify AB 733 to require addition of non-toxic natural calcium fluoride instead for this purpose.

There is also a new California law: Drinking Water Statutes part 12, chapter 4, article 116270 (a). The California State Legislature has found and declared that "Every citizen of California has the right to pure and safe drinking water." This makes fluoridation against state law, where the maintenance of normal, nonfluoridated bone structure is an included aspect of what constitutes being safe. Now it is also the policy of the state to reduce to the lowest level feasible all concentrations of toxic chemicals that when present in drinking water may cause cancer, birth defects, and other chronic diseases. If artificial fluorides were to be diluted sufficiently to eliminate adverse effects on bones, then there would also be no effects on the teeth. When increased high enough to affect teeth structure, then adverse effects on bones and other tissues are unavoidable.

Under-oath testimony and Congressional investigation have revealed that no producer of fluosilicic acid has performed all of the requirements of ANSI/NSF Standard 60 to merit certification that the manufacturers are required to provide and that the California law requires; yet the water companies are told they have to buy this hazardous waste. Why? Fluoridation is certainly not 'the will of the people.' When they have been allowed to vote, more often than not they have voted 'no.'

Recently I submitted a petition to the FDA to ban fluosilicic acid from oral consumption. It is now under review. You can read it by going to: www.lulu.com, search 'fluoride.'

For a great deal more reliable information on fluoridation, you can go to Paul Connett's website: www.fluoridealert.org. He is a Professor of Chemistry at St. Lawrence University in New York. On his website you can send your online message to Congress in support of the Professionals' Statement calling for an end to water fluoridation, and a new Congressional Hearing. When you sign this message, it will automatically be sent to your US Senators and Representative. As of 11/1/07, there are over 5,200 signers. More than 1,100 of them are Professionals, all calling for an end to water fluoridation. They also cite new scientific evidence that fluoridation is ineffective and has serious health risks. If you are 'with us,' please sign on.

Everyone should realize that this is not a case of 'whoever has the most proof wins'; just 2 or 3 good reasons not to fluoridate should be reason enough to stop 'poisoning the well.' None of us can live without water! For other reliable information on fluoridation: www.lulu.com, search 'fluoride,' www.keepersofthewell.org, and www.fluoridedebate.com.

A great many people now consider fluoridation to be one of the biggest frauds known to man!

On Nov. 24, 1992, Robert Carton, Ph.D., a former EPA scientist said: "Fluoridation is the greatest case of scientific fraud of this century, if not of all time."

Professor Albert Schatz, Ph.D., Microbiology, discoverer of the antibiotic streptomycin, has also stated that "fluoridation… is the greatest fraud that has ever been perpetrated and it has been perpetrated on more people than any other fraud has."

You can help by filling out the enclosed card, and returning it to Vallecitos.

Respectfully,
Richard Sauerheber, Ph.D.

Note that the mechanism by which fluoride accumulates in bone while present at low levels below that required to form insoluble calcium fluoride precipitates is by ion exchange. The fluoride ions electrostatically substitute for the hydroxide and bicarbonate ions present in natural bone hydroxyapatite (Scientific American, Jan 2, p. 74). This weakens the structure of bone and impairs the ability of calcium ion to be mobilized from bone into the blood during times of calcium deficiency. The presence of calcium and magnesium ions in water lowers the uptake of the fluoride ion into the blood from the gut. In San Marcos water the calcium plus magnesium level is about 100 ppm. In blood that level is about 180 ppm which means that our hard water in the Southwest is not hard enough to significantly lower the preferential uptake of fluoride into the blood. Higher water hardness induced by calcium canisters are probably the safest way to mitigate the uptake of fluoride from dinking water containing fluoride from unnatural sources. This decreases assimilation of the ion. Retail fluoride filters containing crushed aluminum cause the formation of aluminum fluoride which is water soluble and efficiently accumulated into brain tissue. Aluminum fluoride (a triangular shaped molecule with edge diameter about 3.7 Angstroms) must be removed with a suitable system such as reverse osmosis or other small diameter filter.

Dec 2007

U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear sirs,

The printed objective of the United States' Federal Water Pollution Control Act, Section 101a is "to restore and maintain the chemical...integrity of the nation's waters." To this end, it must be called into attention the recent findings of the EPA's 2006 National Research Council Report "Fluoride in Drinking Water". On an average, fluoride from artificial compounds (not natural calcium fluoride) incorporates into bone in a concentrated manner to a massive 2,000 parts per million, with only modest drinking for two years of regulated, artificially fluoridated water at 0.8 ppm fluoride ion. The data also indicate lifetime drinking of 4 ppm artificial fluoridated water causes a bone level of 12,000 ppm, associated with severe skeletal fluorosis. It has not been previously noticed, even by one of the authors of the report (personal communication, Dr. Thiessen, Oak Ridge, Tennessee), that the phamacokinetic linear dose response data, taken together with the above lifelong exposure data, indicate that longterm consumption of water at only 0.8 ppm, recommended by the Centers for Disease Control for Metropolitan Water, Los Angeles, would typically produce an average bone level of 4,000 ppm. This is of course, as noted, associated with increased bone fractures and skeletal fluorosis stage II, with joint pain in late life usually assumed to be arthritic. Bone fractures are known to increase in a progressive fluoride bone concentration and time dependent manner. Although many are offended by the statement that: artificial fluorides are poisons to be kept out of blood and drinking water, not 'nutriments' that should escape the Water Pollution Control Act -- this in no way detracts from the truthfulness of the data-supported conclusion.

Wastage of tainted water, overfluoridated with unnatural toxic fluosilicic acid, is a common occurrence in fluoridated U.S. cities. In one case it led to the death of an Alaskan when 300 others were also heavily poisoned. In other cases it led to wastage of discarded tons of tainted water.

In addition, conclusive published work, as recently described by WebMD, from two independent groups, Dr. Bessin's study from Harvard University and Dr. Takashi's study of fluoridated U.S. cities from 1978-1992, indicate that osteosarcoma, a lethal morbid condition afflicted on young boys, is on the rise in artificially fluoridated cities even in the absence of accidental 'overfeeds'. This used to be an extremely rare condition before water was artificially "fluoridated"; now it remains relatively rare, but much less so. WebMd has called for a moratorium on water 'fluoridation' practices.

Lastly, it must be noted that the PHS original intent, to alter teeth structure, was based on observations of teeth in Hereford, Texas that had uncommonly high levels of NATURAL calcium fluoride and other minerals in soil, not FSA or sodium fluoride, NaF. The practice of presuming that artificially synthesized fluoride compounds, missing the internal calcium antidote to fluoride poisoning, could duplicate the effects on teeth that natural calcium fluoride may induce, is now known to be false. The incidence of tooth decay is usually higher in artificially fluoridated cities over long term use. Our four largest studies, one involving 400,000 people, one involving 39,000 U.S. citizens, all reach this same conclusion. Close examination of the original Kingston/Newburgh data reveal that tooth eruption was merely delayed, corrupting the statistical analysis, and in fact after years of time tooth decay ended up being increased by fluoridation. The original intent for "fluoridation" to improve teeth health has backfired and the adverse health consequences mentioned above have instead occurred. The procedure has poisoned and killed, and this diluted hazardous waste must be kept from, and no longer added to, the nation's public drinking water.

The CDC maintains that there is "no scientific evidence" that "natural calcium fluoride is any better for 'fluoridation' than unnatural compounds", as repeatedly advertised on their website and repeatedly told to public news services, but this is false. The LD50 for calcium fluoride is a safe 5,000 ppm and this compound is of course not listed in any toxics registry or poisons handbook. But for FSA, the LD50 is 150 ppm and for NaF is 15 ppm, both listed in toxics registries and poisons handbooks, usually as insecticides, rodent poisons and for other toxics uses, including as external-use pediculicides in veterinary medicine and of course in toothpaste for topical use only, with orders not be swallowed at any age and not to be even used by children under 5 because of the above described known toxicity associated with internal consumption.

Under the rules of the Safe Drinking Water Act, I here request that an injunction be placed on the Metropolitan Water District, Los Angeles, who has constructed facilities for injection of FSA into public water and notified that 'fluoridation' will begin within the month for 18 million water consumers in

Southern California, has already fluoridated parts of the Los Angeles basin area, and has informed the general public that 'fluoridation is natural', fluorides are natural compounds that are consumed safely 'at proper doses'. MWD is affiliated with the Eastern Water District that just now began to artificially fluoridate with fluosilicic acid the San Jacinto Valley, Hemet and Temecula, CA area public water. The rest of the greater LA and San Diego County areas are next in line from MWD.

A citizens' group from here in San Marcos and other citizens from the LA area in addition to myself presented testimony and references of fact to the Metropolitan Water Board on Aug. 20 at an invited public comment meeting. We also have since asked in writing that Metropolitan at the very least use natural calcium fluoride for purposes of 'fluoridation' to avoid the known toxicity and bone accumulation effects of artificial fluorides. The Board has not changed course after this testimony and in fact preferred not listening to it.

Please file an injunction to stop this, under the mandates of the Water Pollution Control Act and California's own Safe Drinking Water Act, which all prohibit the dumping of unnecessary toxic materials, particularly commercially used insecticides, rodenticides or pediculicides, into public water supplies. Although many argue that diluted unnatural fluoride compounds are "no longer toxic", remember it was a target dose of 1 ppm in Hooper Bay, Alaska that worked for a season, before the 'overfeed' commenced to kill. In all likelihood, the reason such overfeeds are not rare is perhaps associated with the unusually corrosive action of fluosilicic and hydrofluoric acids in dissolving metal valves, associated plumbing and equipment. In many events, according to newspaper accounts, the exact mechanism by which 'overfeeds' occur, causing water to be contaminated and discharged, is "not known".

18 million people await action on this matter, before more innocents are led to believe the CDC, that fluoridation "is safe at proper doses". The NRC report was cursorily examined when CDC officials denounced the data on bone fluoride as irrelevant to water 'fluoridation' and the Water Pollution Control Act. I was earlier referred to Region IX and to the California Dept. of Health Services' Dr. Nelson. Nelson is a fluoridation promoter and in emails to me made statements that are false and others that are in contradiction to what he tells news services. EPA Region IX has denied action. We need a more objective observer on this matter, if you would please be so kind.

Richard Sauerheber, Ph.D. Chemistry

p.s. If needed, I can supply references to all statements made in this letter, including e-mails from Dr. Nelson, newspaper reports here and elsewhere, letters from key people involved in the long tortuous history of artificial 'fluoridation' planning, my manuscript "On the Toxicity of Fluoridated Water" delineating the mechanism of unnatural fluoride's toxic effects in Hooper Bay, Alaska, and any publications referred to in this letter.

Note: In response to this letter, the EPA sent a letter to the effect that artificial fluoridation of public water supplies is viewed by them as a states' rights issue.

March 21, 2008

Lyle Jaffe
Food and Drug Administration
Division of Dockets Management
Rockville, MD 20857

Dear Mr. Jaffe, This information is provided accessory to the petition to ban artificial fluoride addition into public water supplies, docket # 2007P-0400/CP, 10/16/07. .

Citizens of Southern California have been repeatedly told in several newspaper articles that silicofluoridation of their public water is "safe and effective" and in North San Diego County, the

Vallecitos Water District published that there is "no change in water quality" as a result of silicofluoridation. To better explain why water quality is indeed drastically affected, please consider the information below.

The dense negative charge on the extremely small fluoride ion causes its attraction to the divalent positive charged calcium or magnesium ions, even while at concentrations far below saturation, below the level at which precipitates of calcium fluoride form. Activity coefficients for the fluoride ion are substantially reduced in the presence of calcium and magnesium (Physical Chemistry, Moore, 1965), and this decreases the Brownian motion and diffusion of the ion which likewise slows the partitioning of fluoride ion from the intestine into the blood. The higher the amount of calcium ion in a water sample, the less fluoride is assimilated into the blood. The phenomenon is responsible for the mechanism by which fluoride ion is adsorbed by bone while yet at levels below precipitation of calcium fluoride. The mobile fluoride ion in Brownian motion tends to collide with calcium ion in solution and in bone however exchanges or replaces hydroxide ions in natural hydroxyapetite. Bone accumulates the ion, but not by precipitation of calcium fluoride, but rather by an ion exchange process that depends on fluoride motion in solution, as assessed by scientists who examined the exchange process as early as 1950. The accumulation into bone is nonphysiologic, being nonsaturable (National Research Council, Report on Fluoride in Drinking Water, p.94, National Academy of Sciences, Washington D.C., 2006), irreversible (Agency for Toxic Substances and Disease Registry, U.S. Department of Health Services, 2003), associated with decreased bone strength (NRC, 2006) to levels thousands of times higher than the concentration of fluoride in the consumed water (NRC, 2006). The structural alterations induced in bone were recently introduced in the public literature (Scientific American, Fagin, "Second Thoughts About Fluoride", Jan, 2008).

Knowing that fluoride ion is attracted to liquid regions containing calcium, I predicted that fluoride would distribute roughly equally between water and blood if calcium levels in water approximated those in the blood. This led to the deduction that ingestion of 0.9 ppm fluoridated water in So CA, with 80 ppm calcium in the water naturally, would cause an initial average blood fluoride level of half that, 0.4 ppm during regular consumption. Since the kidneys remove about half of an assimilated sample of fluoride, I predicted that in So CA, residents consuming 0.9 ppm fluoridated water would have a blood fluoride level equilibrated to about 0.2 ppm. It is notable that in actual measurements of blood fluoride, assayed for people in cities with 0.9 ppm artificially fluoridated water, that the measured fluoride blood level was reported at 0.21 ppm (National Research Council, 2006). This is also consistent with the fact that synthetic fluorides, such as sodium fluoride and fluosilicic acid, are 50 or more times more toxic than natural calcium fluoride. Calcium acts as an antidote to artificial fluoride poisoning. Therefore, the total fluoride concentration in water supplies, or in blood of an organism, is not as biologically significant as is the corresponding level of calcium ion also present at the same time for protection.

Here reported are data for Metropolitan Water District's Southern Ca water supply before and after December, 2007 when silicofluoridation began. The Table effectively lists the protection afforded by calcium from adverse effects of unnatural added fluorides. Calcium levels in blood or in water are divided by their corresponding fluoride levels. The higher the number of course the more protected the water is from fluoride adverse effects. The important numbers are in boldface. Notice that water ratios dropped from a level common in So CA of 400 to a new low level of 89. Blood levels fell from a safe, high, normal level of 1,000 down to 380 as a result of actions by the Metropolitan Water District in Southern California.

Fluosilicic acid is 3,300 times more soluble in water than is natural calcium fluoride.7 mg of fluoride can be forced into a liter of water from calcium fluoride, while 50,000 mg from fluosilicic enter easily into a liter of water. And yet the CDC dental health section claims there is "no difference" between fluosilicic acid used for water "fluoridation" compared to natural calcium fluoride. Fluosilicic acid is electronically metered from Lake Skinner's massive tanks in So CA to 0.9 ppm fluoride into public water, which contains about 80 ppm calcium, fortunately mitigating any acute accidental poisoning. Before two months ago, consumers' blood fluoride level was less than 0.08 ppm from 0.3 ppm natural fluoride in water.

This information helps explain why soft waters, such as are prevalent in the American North West, or from water supplies that emanate directly from snow melt over short courses of travel until use, are least protected from artificial fluorides. Indeed, acute lethal poisonings, of native American Eskimos in Hooper Bay, Alaska and the horses slaughtered by drinking public silicofluoridated water after developing severe chronic fluoride poisoning with crumbled hooves, thickened fluoride-laden bones and grossly fluorosis destroyed teeth and skin allergies, all occurred in soft, calcium deficient water supplies. It is believed the horses died from lung cancer induced by the coincident arsenic that usually contaminates fluosilicic acid source solutions, coupled with evaporation of the water from the troughs used by the animals (see video documentary online at Youtube entitled "fluoride poisoned horses". Incidents such as these are rare in hard water cities because of protection afforded by calcium and magnesium ion..

Richard Sauerheber, Ph.D.

CALCIUM to FLUORIDE RATIOS in MWD WATER and in CONSUMER BLOOD*
[calcium ion level in ppm for water or blood, divided by fluoride ion level in ppm for that fluid, for Metropolitan Water, before December, 2007 and after silicofluoridation, 2008, with approximate physiologic outcome]*

Water	**Blood of Consumers**	**Expected Result**
Prior to December, 2007		
80 ppm Ca^{2+} 0.2 ppm F^- = **400**	80 Ca^{2+} 0.08 F^- = **1,000**	Normal: Zero fluorosis 1,000 ppm bone F^-
After Silicofluoridation, 2008		
80 Ca^{2+} 0.9 F^- = **89**	80 Ca^{2+} 0.21 F^- = **380**	10% dental fluorosis, 2,500 ppm bone F^- 1% allergies, 1.4 times (40% more) heart attacks

*Reference data: Vallecitos Water District yearly report for average fluoride (ppm), 2007; Online reported measurements of calcium ion in Lake Mead; Metropolitan Water District news release for targeted fluoride (without additional calcium), 2007; Blood measurements are from vast data for consumers in nonfluoridated cities and for cities consuming 1 ppm fluoridated water, National Research Council, "Report on Fluoride in Drinking Water", 2006, National Academy of Sciences Press, Washington, D.C.; Physiologic result estimates are from the NRC Report for bone fluoride, dental fluorosis, and from Fluoride Debate, Shattuck, A. online section for allergy and heart attack data between 1 pm fluoridated Newburgh vs. nonfluoridated Kingston, as referenced in "Toxicity of Water Fluoridated Artificially", 2007, Sauerheber, R., www.lulu.com search fluoride.

For point of reference, since no one else in the country I am aware of uses this type of analysis, notice that for lethal outcomes during overfeeds [as occurred in Hooper Bay, Alaska] and also documented poisonings with known doses of artificial fluorides [listed by Merck], the ratios of calcium to fluoride are: lethal result in adults 1.5; lethal event in children, 10. The 360 ratio above is not expected to go substantially lower, according to local water authorities, because of sophisticated electronic metering at Lake Skinner's facility. At Hooper Bay, however, and in many cities across the country, overfeeds have been reported due to the fact that over long time intervals the product hydrofluoric acid, at low levels of

about 10 ppbillion, still slowly corrode metal plumbing. I have no access to the Skinner facility, but in the event of any such overfeed, I am happy to inform you I see no evidence that an acute Hooper Bay overfeed poisoning would happen, outside an intentional terrorist intervention, but not because there is insufficient materials in tanks in place to do that (four 30,000 gallon "drano" tanks and several 20,000 fluosilicic acid tanks), but because by the grace of our Lord we have in our water the 80 ppm calcium to react with such overfed fluoride before entering a consumer at such a disastrous level. All is a matter of outlook, where for the data above, a fluoride supporter states correctly that 99% of the people last year and 98.6% of the people this year did not suffer heart attack in this North County. A non-fluoride, fresh water promoter however describes the data quite differently, saying heart attacks increased 40% because of silicofluoridation. The data presented in the Table are raw, without subjective interpretation.

In cases where artificial fluoride has acutely poisoned people and animals, city water supplies were no longer allowed to be treated with artificial fluorides. In Hooper Bay, local residents refused to accept further fluoridation that was amazingly still offered by Public Health Service officials. In the case of Pagosa Springs, the citizens demanded that silicofluoridation be stopped, against the will of the water district. In Juneau, Alaska, as in other cities which occasionally are allowed to vote on the issue, artificial fluoridation was rejected, as it more often than not is. Many in large cities however have little say in the matter. It is time to officially stop addition of this chemical that some refer to as a drug that toxicologists and scientists recognize as a diluted rat poison, a calcium chelator toxic substance, into public water. Fresh water, without chemicals added for the specific purpose of treating peoples' tissues, is a most basic human right.

Submitted **January, 2008**
Honorable California State Assemblyman Gerrick
Carlsbad, CA

This letter is for your interest and does not require a response. The Associated Press reported yesterday that the salmon collapse in the Sacramento River may be due to Southern CA withdrawing too much water from the delta, like the argument this also is responsible for harming smelt. But salmon are exquisitely sensitive to artificial fluorides in soft water. Detailed studies in Oregon proved even 0.3 ppm artificial fluoride in soft water narcotizes salmon, preventing navigation upstream for spawning. Given two river channels, one untreated and one tainted with 0.5 ppm artificial fluoride, the salmon navigate successfully the clean channel. And remember in 1985 the severe decline in salmon population in the Columbia River was corrected only after the fluoride discharged from an aluminum smelt was mitigated. Sacramento is likely unaware of these data and began artificially silicofluoridating all water. Treated water returns to the delta with all its fluoride, because fluoride ion at 2.6 Angstrom diameter is smaller than the water molecule [2.75 Angstroms] and cannot be eliminated by filtration methods [other than anion exchange]. Our Sacramento River king salmon population suddenly collapsed, with 3 times as many 24 months ago as now in tributaries but I suspect artificial addition of poisonous fluosilicic acid (same toxicity as lead and arsenic, while natural calcium fluoride is not a toxic compound) to be more likely a cause than a lowered delta water volume. How salmon learn to navigate back to a particular river from the ocean is not understood, so it is not surprising that we likewise do not know why the mechanism is altered by such low levels of fluoride.

Here since December as you know, artificial silicofluoridation of all North San Diego County water was accepted. Blood fluoride levels of all residents using this 1 ppm fluoride water have now jumped from 0.08 ppm prior to December [unavoidable from natural river leachate] to now a whopping 0.21 ppm from intentional, unnatural fluosilicic acid [NRC, 2006, page 72] as in other unnaturally fluoridated U.S. cities. Two years from now residents will have accumulated 2,500 ppm fluoride in bones in a nonphysiologic process that is not saturable (even to 14,000 ppm in bone) and is a linear function of water fluoride level, where the actual amount is dependent on water hardness of course. In Seattle, the water district finally decided to add calcium supplements into the water because fluoridation was being

done in their soft water containing only 10 ppm calcium naturally. Without that additive, the heart attack rate in Seattle [already the highest in the nation per capita] would be even higher. For your information luckily So CA has water calcium at about 80-100 ppm that helps mitigate the published effect on heart attack incidence that occurs now in fluoridated Newburgh, N.Y and Grand Rapids, Michigan (see fluoridedebate online).

Our local Vallecitos Water District wrote to all customers that reverse osmosis can b used to remove the fluoride. However, the ion cannot be removed by the RO mechanism. It's too small. RO also removes calcium ion which renders the remaining fluoride more readily assimilated from the gut. Also, RO wastes anywhere from 3-8 gallons per gallon cleaned and in our water shortage it seems this should not be recommended. Further, RO is not the answer for shower water and those 1% estimated at being hypersensitive to skin contact with HF must use a different procedure, such as an anion exchanger on a showerhead that is adjusted to a low flow rate so that an undersink exchanger unit (i.e. Aquathin, Florida $249.00) could be used to fill a tub for bathing. The actual sensitivity to skin uptake of fluoride additives is however difficult to predict because of its dependence also on water hardness of course.

The U.S. Supreme Court has confirmed that it is Congress and the language of its statutes that controls the jurisdiction of the Food and Drug Administration regarding chemical and other additives to foods, beverages and water an bodily contacted materials. It is not any statements by an agency or another governmental entity such as the CDC or PHS that are significant (FDA v. Brown & Williamson, 529 U.S. 120 (2000)). In a December 2003 decision also of widespread importance, the U.S. District Court ruled, and was not challenged, that even the U.S. government under emergency conditions of war can not force any individual to be medicated with a substance that has not been specifically approved for the purpose it is intended, and especially approved in the manner it is administered. The Court ruled that the approval of one substance, or manner of delivery, does not translate to an approval of another similar substance or a different mode of delivery. The Court for example clarified that the fact that the use of the anthrax vaccine was also subject to action by the FDA, and that the FDA had not taken action, even that did not refute the relevancy of the evidence that the drug was not approved by the FDA, and thus was "arbitrary" and therefore could not be permitted (Doe v. Rumsfield, 2003 U.S. Dist. LEXIS 22990 (December 22, 2003)).

Municipal water districts throughout the U.S. and now recently our own Metropolitan in Southern CA as of Dec, 2007 are in violation of Federal law, These agencies are injecting a combined mix of fluosilicic acid plus ‘drano’ caustic soda to form sodium fluorosilicate salts in water for the specific purpose of treating human tissue by ingestion into the bloodstream. It is against Federal law administer drugs into the human population even in time of war for any purpose with a substance that has not been granted FDA approval.

With this in mind we urge you to reconsider your vote and former support of the silicofluoridation of public waters in our state of California. We now learned from the National Research Council studies that our blood level which had been expose already to fluoride ions at about 0.08 ppm mg/kg has been intentionally raised to a whopping 0.21 ppm because of artificial silicofluoridation that has been authorized by the CDC under the direction of David Nelson, CA Dept. of Health Services without FDA approval. The CDC and DHS also have arranged for Metropolitan Water to sign an agreement that DHS and CDC will assume no financial or legal responsibility to respond to any lawsuits that may result because of this action. Rather, full legal responsibility rests exclusively with MWD and local water districts, such as Vallecitos, Valley Cebnter, Fallbrook, Carlsbad, Vista and other North San Diego and greater Los Angeles Water Districts. I realize it has taken many years of behind the scenes activity to now have led the state into this situation, but we cannot afford to take many years to unravel it back so that we have our normal water supply returned to us. The fluoridation Bills that had been passed at a time prior to the publication of the NRC and ASTDR (2003) studies must be revoked or filibustered in some way immediately. We urge you to plead with the legislature until the body understands the Federal law it has accidentally broken by this action. We understand that dentists and the ADA are altruistic in their motivation for decreased teeth decay but brushing and good dental hygiene must take precedence as a

remedy for this rather than breaking Federal law to achieve such an objective by drugging the people of the State through their drinking and bathing water supply.

The pages that follow summarize the condition of our water before and after Dec 2007 along with blood and bone measurements from the NRC study. Also included is a description of the chemistry involved with natural fluorides that we cannot avoid from soil leachates compared with the unnatural fluoridation process that is most certainly avoidable and a summary of the Hooper Bay disaster event in our nations water fluoridation history. Toxicologists tell us that inorganic toxic agents such as sodium fluoride rat poison or fluosilicic acid insecticides are routinely studies at very high doses until death of an organism occurs in order to make approximate assessments as to any health effects that might occur over long time periods at low doses. This is the only method we had of estimating the effects of low dose long term artificial fluoide consumption up until the NRC study was completed. It is clear that the heart attacks that occurred at high doses from the overfeed with fluoride in Alaska not only confirmed what toxicology predicted would happen based on animal studies but also predicted that heart effects would also occur even at lower doses if consumption occurred over a person's lifetime. Indeed, fluoride once swallowed resides for the most part in bones and resides permanently. It accumulates over one's lifetime and slowly, but progressively, interferes with normal calcium metabolism. Calcium is a necessary blood requirement for heart function, more exquisitely sensitive to subtle changes in blood level than most other bodily functions. We now know from the Grand Rapids, Michigan and Newburgh N.Y. experience, for example, that fluoridated cities exhibit about 1.7 times as many heart attacks as in nonfluoridated control cities. The specific outcome is largely dependent however on how hard a city water supply is prior to fluoridation. Soft water areas such as in Alaska and the Pacific Northwest cause full assimilation of artificial fluoride (without antidote calcium) into the blood and led to the disaster in Hooper Bay. Such an occurrence is not expected in Southern CA because we have about 100 ppm calcium in the water naturally and because the fluoride an drano tanks are electronically monitored and metered at low doses to prevent gross overfeeds. But on the other hand, chronic consumption over many years of time for children an elderly people and athletes and people who drink large amounts of water such as diabetics in particular and people with kidney disease that cannot eliminate fluoride quickly are at extreme risk even at the blood level of 0.21 ppm that currently has been forced into our population.

We urge your help on this issue immediately and welcome any suggestions you might have to eliminate this dangerous chemical from our water. Fluosilicic acid is not found in any water supply on earth. Promoters assume and have told the State Legislature and state Water Districts that the acid dissolves into ingredients that are found in natural water anyway, but the point is that even natural calcium fluoride is not something that is to be desired but rather is to be avoided. Addition of fluoride artificially into water has never taken into account the coincident importance of calcium ion. In the Pacific Northwest we believe it is not a coincident that soft water cities that fluoridate are logically at most risk. The highest heart attack incidence in the country occurs in fluoridated soft water Seattle, Washington. Our understanding is that calcium hardening agents are being added by that water district to help mitigate this. But to duplicate the effect on teeth in Texas for which this program was developed it is necessary to coincidentally adjust other ions in the water to mimic the effect on human tissue that had occurred there naturally and yet this is not how fluoridation is practiced in the U.S. in general or here in CA.. Ironically, the original dentist Dr. Heard who began this process note that the original idea was wrong because the lowered cavities in the Texas teeth enamel were caused by natural calcium fluoride, not artificial fluorides such as fluosilicic acid, and even with the natural water after many years the teeth interiors became crumbly in that water of 1 ppm fluoride. The last agency to take control of public water supplies is an agency such as the ADA whose exclusive focus is on teeth and who provide no proof of safety for the rest of the body upon ingestion of fluorides and rely on the original Teas teeth incidence so heavily as evidence of safety. The ASTDR and NRC are proof positive that the ADA already made their choice many decades ago to continue this action in spite of what adverse health effects were to develop later with the assumption that benefits to teeth would far outweigh any adverse effects that might be found after chronic consumption. We now know better and we also know now that such an action that has not been

approved by the FDA has been in violation of Federal law. It is time to act on behalf of the residents of this state.

Sincerely,

Richard Sauerheber, Ph.D..

Fluoride and Calcium Levels in Selected Waters, Related Blood Levels and Physiologic Outcome

Water Source	Calcium level	Fluoride level	Blood fluoride level	Result
Pacific Northwest U.S[1].	0 ppm (mg/kg)	0 ppm	0 ppm	Normal
Southern CA including Lake Skinner	100 ppm	0.4 ppm	0.08 ppm	Bone level 1,000 ppm
Lake Skinner water since Dec, 2007	100 ppm	0.9 ppm	0.18 ppm	Bone level 2,500 mg/kg 2 years, 4,500 mg/kg lifetime
Hooper Bay, AK municipal overfeed	20 ppm	25 ppm	4 ppm	Heart attack within hours

[1]This represents typical natural waters in Oregon, Alaska and the Pacific Northwest from snow melt into rivers and lakes prior to the institution of artificial water fluoridation (Agency for Toxic Substances and Disease Registry, 2003). Local natural water such as Palomar Mountain Spring Water also contains no detectable fluoride (contains detectable calcium) (BC Laboratories, Bakersfield, CA) as with most bottled waters.

[2]This represents the condition of drinking water from Lake Skinner prior to December 3, 2007 and the blood and health condition present at that time in most Southern Californians due to unfortunate natural calcium fluoride leachates into Colorado River water. Bone with finite levels of fluoride above zero are weakened with delayed healing, in a progressive concentration-dependent linear, non-saturable, nonphysiologic, pathologic manner. Teeth are altered in structure from normal. Lake Skinner provides all drinking, agricultural and industrial water for the Vallecitos Water District, San Marcos and most other water districts in North San Diego County except Encinitas, Poway, Camp Pendleton and parts of Oceanside. Water in the greater Los Angeles area was also comparable prior to August, 2007.

[3]This represents the condition of drinking water at Lake Skinner and the greater L.A. area after December, 2007, the blood condition in most Southern California consumers currently, and the bone condition that will develop within 24 months (2,000 ppm) and after lifetime drinking (4,500 ppm) (National Research Council, Report on Fluoride in Drinking Water, National Academies Press, Washington, D.C, 2006). This condition, as forced into waters of most major U.S. cities in recent decades, attempts to approximate the natural water condition in Colorado and Texas, but instead uses insecticide fluorosilicate salts, which are not found in any natural waters on earth. The Metropolitan Water District injects sodium fluorosilicate salts that are metered electronically (to prevent any overfeeds) from huge tanks of fluorosilicic acid [stored in stainless steel, rubber lined to insulate from fluosilicic acid corrosive action] plus tanks of caustic soda (sodium hydroxide ingredient in 'Drano') reacted to form the sodium fluorosilicate salt [to minimize corrosive destruction of plumbing components]. Fluorosilicic acid, sodium fluorosilicate salts and sodium fluoride all have comparable lethal acute doses of 150 ppm orally (Merck Index, 11th edition, 1996), comparable to that for lead and arsenic and are listed in all toxics registries as rat poisons and insecticides. The Food and Drug Administration prohibits artificial fluorides from being swallowed by children, or from use for anyone under 6, in toothpastes. The FDA has never approved oral ingestion of artificial fluorides from public water supplies, being an uncontrolled use of a drug in their view (Fleming, FDA advisor, ABC news 11, North Carolina report). Low doses of artificial fluorides cause fluoride ion to accumulate irreversibly in bone as a body burden and in teeth and brain and cause delayed teeth development that perpetuates the statistical illusion of cavities reduction. Calcium

fluoride however is not a toxic compound, with an acute lethal dose at 5,000 ppm, but is responsible for the famous "Colorado brown stain" (Fagin, Scientific American, Jan, 2008) and "Texas teeth" forms of fluorosis. Fluorosis is the first observable symptom of low dose chronic fluoride poisoning, with discolored teeth having crumbly interiors with, for a limited time, fewer cavities in the altered, more brittle surface enamel that occurred in water in those states naturally having such aberrant high levels of calcium fluoride. Dr. Heard proposed and then denounced water fluoridation for this reason.

[4]This represents the condition of drinking water from the infamous overfeed in Alaska after water valves were degraded by hydrofluoric acid that forms after unnatural fluoride salts (either sodium fluoride or sodium fluorosilicate) or fluosilicic acid are added into water. The blood and health condition resulted within hours after drinking (Gessner, et.al., Fluoride Poisoning from a Fluoridated Municipal Water Supply" New England Journal of Medicine 330:95, 1994; see analysis of clinical data in Sauerheber, "Toxicity of Water Fluoridated Artificially" at www.lulu.com search fluoride). Calcium lowers the assimilation of fluoride into the blood form the gut. Calcium deficient waters of the Pacific Northwest or near snow melt sources are the most problematic candidates for addition of unnatural fluorides.

This letter was sent **March 18, 2008 to the Pacific Fisheries Council, Oregon**

Donald Hansen and Chuck Tracy, Pacific Fisheries Council

The recent AP reports on salmon collapses have caused me to write you this note. I am a medical research scientist and for 35 years have fought against any addition of calcium chelator chemicals, including rat poisons and insecticides containing the elemental ion fluoride into public water supplies. The following letter I sent to our local newspapers. I also sent information to the Sacramento Water District who began adding fluosilicic acid, a potent calcium chelator, into the drinking water about Jan., 2006. Even reverse osmosis cannot eliminate fluoride ion below a fixed minimum because the free ion is so small. Its material diameter is 2.6 angstroms which is smaller than the water molecule. Reclaimed water that is reintroduced from toilets/laundry, etc. from reclamation plants increase artificial fluorides in Sacramento River water that will indeed harm salmon. Their navigation skills are not well understood but are exquisitely sensitive to only 0.3 ppm fluoride in the Pacific Northwest because of it being such low calcium soft water. People have blood calcium that helps mitigate its effects and of course bone that accumulates it to help protect peoples' blood. Fish are helpless and cannot navigate upstream to spawn while they must swim in it 24 hours a day every day forever. If you really want to help bring back a flourishing salmon population, then we must request that the Dept of Health Services stop ordering the injection of this noxious diluted rat poison into public water because salmon are far more sensitive than other organisms to this insult. The Columbia River experience proves that this can be reversed by removing artificial fluoride release into affected rivers. Donald Nelson at the CA Department of Health Services and Dr. Maas at the Centers for Disease Control in Atlanta, Georgia cannot for some reason understand the difference between natural calcium fluoride that that is not a toxic compound and occurs in some waters the Southwest that started this 'fluoridation' program, vs. unnatural artificial lab-synthesized fluorides that also usually contain arsenic and lead as well nor do they measure the calcium content of city water into which they silicofluoridate to 1 ppm and assume nothing else will be affected. I have sent a petition to the FDA to ban this practice and it is under review but a possible ban would be a long way off even though the FDA has never approved this practice, being an uncontrolled use of a drug. We appreciate you considering this information.

Richard Sauerheber, Ph.D chemistry

In 1985, salmon disappeared from the Columbia River when fluoride discharges elevated the river to only 0.5 ppm. University of Oregon researchers found it narcotized salmon, blocking navigation upstream

for spawning. After stopping the discharge, the river cleaned itself and salmon returned. Sacramento started fluoridating last year. It's no surprise salmon populations disappeared there (see recent AP news releases) when fluoride, smaller than the water molecule, cannot be eliminated before treated water returns to the river.

Dr. Kennedy posted a you-tube video on horses killed from drinking silicofluoridated water in a Colorado town. During winter the horses refused to drink city water from their troughs and ate snow instead. In summer they had no choice and then developed severe stomach pain, hoof and bone defects, and allergic skin reactions. Because horses drink 15 gallons daily, they were soon killed. Cornell pathologists analyzed tissues and proved severe chronic fluoride poisoning. The arsenic in the impure fluosilicic acid caused their lung cancer. After Hooper Bay, Alaska, where humans were poisoned, fluoridation should have been stopped. It's now spread even into open horse country. Colorado citizens protested and eventually their water district stopped silicofluoridation. Our Southern CA water districts haven't stopped yet.

Here are necessary references for this letter:

1.Dr. Kennedy, Youtube video called "Poisoned Horses", with interview of Pathologist from Cornell University who examined the horses and the horse ranch owners, available online.

2. Earth Island Journal, Foulkes, M.D., review article on effects of fluoride on fish, available online, 2008.

3. North American Journal of Fisheries Management, vol. 9, 1989, p. 154, "Evidence for Fluoride Effects on Salmon Passage at the John Jay dam, Columbia River, 1982-1986".

4. Neuhold JM, Sigler WF. "Effects of Sodium Fluoride on Carp and Rainbow Trout". Transactions, American Fisheries Society, 89 358-370 1960.

5. Pimental R. Bulkley RB. "Influence of-water hardness on fluoride toxicity to Rainbow trout", Environmental Toxicology and Chemistry, 2 381-386 1983;

6. Progress in Water Technology, volume 7, p. 579, 1975, "Effects of Extended Exposure to Low Fluoride Concentrations on Estuarine Fish and Crustacea."

February, 2008

Mr. Rodriguez
Olivenhain Water District
Olivenhain, CA

I appreciate your response to my e-mail informing you about the youtube video on 'fluoride poisoned horses'. These animals exhibited severe stomach pain, crumbling away of hooves, enlarged bones, and severe skin reactions over the body and eventually died from cancer. In the winter they refused to drink the water in the trough and instead ate snow and in spring drank residual muddy groundwater until in the summer they had no choice but to drink silicofluoridated water from the city of Pagosa Springs, Colorado. The animals all were killed and autopsy by pathologists at Cornell University confirmed death was due to chronic fluoride poisoning. This probably happened so quickly because the local water supply

is from the San Juan river, fresh snow melt soft water with little calcium, while water troughs allowed evaporation and concentration of fluoridation chemicals. The chronic fluoride poisoning developed was also associated with arsenic consumption since arsenic usually accompanies fluosilicic acid chemicals used by water districts. The arsenic is believed to have been the cause of the lung cancer in the young horses.

I understand that up to now the only silicofluoridated water you have is from Metropolitan Water District. Most U.S. farm horses use well water or creekbed water and would not be a problem, but horses in Olivenhain I would guess use this silicofluoridated water blend. Addition of sodium fluoride you plan this year will not add additional arsenic and lead that accompany fluosilicic, but notice that both sodium fluoride and fluosilicic acid have the same toxicity and neither have been approved by the FDA as water additives because this constitutes the uncontrolled use of a drug -- dosages cannot be regulated predictably when injected from a remote location into the water supply. Horses are the first to be affected by the total dose accumulated over time. The total dose is telling than the fluoride concentration in the water because the fluoride accumulates during longterm drinking into bones, hooves and other tissues.

Like all water districts around the country who feel legislated into 'fluoridating', remember that it is impossible to simply 'fluoridate' water. Fluoride only exists accompanied with other ions and AB733 does not specify fluosilicic acid or sodium fluoride be used. Natural calcium fluoride is not a listed toxic substance and could be used. Its lethal dose is a safe high 5,000 mg/kg and was the substance that caused all the original excitement that teeth structure might be improved by drinking it. When sodium fluoride was substituted for calcium fluoride, the severe poisonings began because fluoride from this compound is 100% assimilated into the blood after swallowing. The first humans to be poisoned were in Hooper Bay, Alaska with one fatality from heart attack by sodium fluoride (New England J. Medicine 1994, vol 95, p.330, "Acute fluoride poisoning from a public water supply"). The lethal dose killing 50% of animals with sodium fluoride compares with arsenic and lead (Merck Index, 1979) and for this reason the FDA placed warning labels on toothpastes that contain sodium fluoride. This product is forbidden from use by children under 6 and from being swallowed by anyone. Addition to public water supplies has been something that millions of people have had to tolerate in the U.S. already There is no reason at all for the Olivenhain Water District to voluntarily enter the fray.

It is unconstitutional to force drug use of any kind without informed written consent. Until this fluoridation issue comes to a halt, those who know the truth will live in constant fear of what this toxic waste is slowly doing to them, and rightfully so. Many people can't even afford to buy bottled water, let alone a water purifier. There are plenty of other ways to get fluoride without removing rights to undrugged, regular water.

One reason AB 733 must be overturned, or at least modified, is because it is in gross violation of the Federal Clean Water Act that takes precedence. This Act, as described in section 101a, clearly states that the intention of all its regulations and requirements is to insure that the natural normal chemistry of U.S. waterways is kept intact. I can assure you that fluosilicic acid (toxic crude hazardous waste) and sodium fluoride (pure, diluted toxic insecticide/rat poison) or any other synthetic fluoride other than natural leachate from calcium fluoride (always accompanied with antidote calcium) violate the Act. This should be sufficient grounds to stop adding this to any water, or at least to modify AB 733 to require addition of non-toxic natural calcium fluoride instead for this purpose.

There is also a new California law: *Drinking Water Statutes part 12, chapter 4, article 116270 (a)*. The California State Legislature has found and declared that "Every citizen of California has the right to pure and safe drinking water." It is thus against state law to intentionally inject artificial fluorides, where the maintenance of normal, nonfluoridated bone structure is an included aspect of what constitutes being safe.

Now it is also the policy of the state to reduce to the lowest level feasible all concentrations of toxic chemicals that when present in drinking water may cause cancer, birth defects, and other chronic diseases. If artificial fluorides were to be diluted sufficiently to eliminate adverse effects on bones, then there would also be no effects on the teeth. When increased high enough to affect teeth structure, then adverse effects on bones and other tissues are unavoidable. Please see the Feb 2, 2008 edition of Scientific American for the article by Fagin "Second Thoughts About Fluoride" that describes the mechanism by which fluoride from sodium or fluorosilicate salts alters the structure of bone in a pathologic, not a physiologic, manner. Also note that the National Research Council initially in 1956 endorsed the practice but completely reversed course. The NRC Report on Fluoride in Drinking Water 2006 proves that millions of people in the U.S. now have accumulated fluoride into their bones to thousands of times that in water from sodium fluoridated cities and this increases bone fracture rates with delayed healing and other effects.

Under-oath testimony and Congressional investigation have revealed that no producer of fluosilicic acid has performed all of the requirements of ANSI/NSF Standard 60 to merit certification that the manufacturers are required to provide and that the California law requires; yet the water companies are told they have to buy this hazardous waste. Why? Fluoridation is certainly not 'the will of the people.' When they have been allowed to vote, more often than not they have voted 'no.'

Recently I submitted a petition to the FDA to ban fluosilicic acid and sodium fluoride from oral consumption. It is now under review. You can read it by going to: www.lulu.com, *search* 'fluoride.'

For a great deal more information on fluoridation, you can go to Paul Connett's website: www.fluoridealert.org. He is a recently retired Professor of Chemistry at St. Lawrence University in New York. On his website you can send your online message to Congress in support of the Professionals' Statement calling for an end to water fluoridation, and a new Congressional Hearing. When you sign this message, it will automatically be sent to your US Senators and Representative. As of 12/1/07, there were more than 1,200 medical, dental, academic, and environmental professionals who signed an eight point statement calling for an end to water fluoridation. The statement cites new scientific evidence that fluoridation is ineffective and has serious health risks. Over 5,200 citizens have also signed the petition.

Everyone should realize that this is not a case of 'whoever has the most proof wins'; just 2 or 3 good reasons not to fluoridate should be reason enough to stop 'poisoning the well.' None of us can live without water! For other reliable information on fluoridation: www.lulu.com, search 'fluoride,' www.keepersofthewell.org, and www.fluoridedebate.com.

Thanks for your attention

Richard Sauerheber, Ph..D.

The following important letter was in response to a reply from the FDA's Jane Axelrad, who reported that the FDA has not yet resolved the issues raised in the petition and that FDA will respond as soon as possible after other numerous Agency demands are completed. The letter slightly mischaracterized the petition's intent stating that it "requests we ban unnaturally synthesized fluoride compounds sold for consumption through oral ingestion." The letter here it is hoped will clarify the petition's intent for the benefit of the FDA review committee.

April 9, 2008

Jane A. Axelrad
Associate Director for Policy, Center for Drug Evaluation and Research
Food and Drug Administration, Department of Health and Human Services
Rockville, MD 20857

Dear Jane Axelrad,

You may never know how grateful we Southern Californians are for your consideration of the petition [2007P-0400/CP] to ban the practice of treating human beings with artificial toxic fluoride compounds by administering these chemicals through municipal drinking water, instead of the legal method, through commercial stores or pharmacies where dosage instructions can be examined and reasonably understood by the consumer. The practice referred to by the CDC as 'fluoridation' has recently begun here in the Southwest, without the written informed consent given by the 18 million citizens now being treated with the drugged water. One of the statements in your letter dated March 31, 2008, however, suggests to me that clarification of the purpose of the petition is here absolutely necessary.

The petition does NOT request that artificial fluoride compounds sold through pharmacies or drug stores, such as prescription luride sodium fluoride drops, be banned. These chemicals are freely ingested, or not ingested, by the patient/consumer, with dosage instructions provided in writing on the container. Likewise, no ban is requested for bottled fluoridated water sold commercially, since this also is voluntarily used, or avoided, at liberty. Finally, no ban is requested for any known use of pharmaceutical grade natural calcium fluoride, since this compound is not a recognized toxic.

The petition only requests the ban of the addition into public municipal water of artificial fluoride compounds [including fluosilicic acid or sodium fluoride]. This is now a widely spreading practice without the usual required oversight from a physician after approval is granted specifically by the FDA. These are the only compounds that are disseminated into human tissues via municipal water, which is plumbed by cities with the intent to provide regular potable, non-drugged water for general use, such as for bathing, laundering, agriculture, as well of course for drinking and cooking. What motivated me to write the petition was the fact that all artificial lab synthesized fluoride compounds used in municipal water supplies are 3,000 times more water soluble than natural nontoxic calcium fluoride, all lie between arsenic and lead in lethality, and all produce detectable adverse health effects at minute doses, including those intentionally delivered into public water supplies (National Research Council, "Fluoride in Drinking Water," 2006).

Please understand that the original mistaken published statement by the National Research Council in the 1950's, where it was believed at the time that water containing some form of natural fluoride might suggest it is a normal body constituent, has been completely discredited by the NRC. The NRC (2006) report is armed with vast data demonstrating that there is no known nutritive value of fluoride for systemic tissues of the human being. In fact, we now know that breast milk is devoid of any fluoride ion for a reason, that many cultures and peoples worldwide have lived without detectable fluoride in their water or systems for indefinite historical times, and that dental practitioners know full well that the complete absence of fluoride from teeth does not cavitate enamel. The complete absence of fluoride from the human being is nothing other than being completely normal. Cavities are instead caused by lack of dental hygiene coupled with sugary foods and are mitigated by routine cleaning, certainly not by exposing peripheral tissues to fluoride from artificial toxic fluoride compounds intentionally added to municipal water where dosage is unregulated and thus out of control. For example, because the FDA has not yet forcibly entered into necessary regulations of this practice, no agency has bothered to yet measure the amount of calcium in any public water supply prior to injection of fluorides. This action constitutes obvious uncontrolled use of a drug because fluoride's effects are so highly dependent on prevailing conditions. We agree with former official FDA published statements, and with FDA advisor Michael Fleming, that artificial fluorides added to public water, for the purpose of treating human tissues, constitutes uncontrolled use of a drug. Simply put, we now humbly request the FDA to formally ban that practice. As it stands, the CDC has had two full years to learn of the significance of the NRC Report insistence that the allowable limits for fluoride in municipal water be significantly and substantially lowered. Because of CDC inability to act, as quoted below, three of the NRC (2006) authors announced that fluoridation of municipal water must now be formally halted. But only the FDA is able to draft a meaningful appropriate ban and to enforce it afterward.

Artificial fluoride compounds have now become the most widely consumed drug in the entire country because of method of delivery through public water supplies, automatically plumbed directly into private homes, even when homeowners do not ask for it and in most cases do not want it in the home but are not provided any choice except: intake the drugged water, or have no plumbed water at all.

The practice of using artificial fluoride compounds [under the supposition they have use as drugs without any adverse systemic tissue consequences, as the CDC dental wing routinely claims with their 'safe and effective' exclusive endorsements] violates Federal law and medical ethics. The mission of the CDC never included the manipulated ingestion of non-prescribed drugs by U.S. citizens. This is now a huge concern, with 67% of the citizens in this country now expected to drink artificial fluoride compounds in public drinking water, without a prescription, whether permission is granted or not by those citizens. We have fluoride-free toothpastes for those not wanting to expose their children to the toxicity risks of ingested artificial fluorides, and yet no such free choice is provided from water districts that provide only drugged water, piped directly into homes. With such vast numbers of people incorporating fluoride [efficiently from artificial fluoride compounds] into bone, pineal gland in the brain, in addition to teeth (NRC, 2006), what FDA here considers less serious than other drug-related concerns is nevertheless of tantamount importance.

The CDC website just six days after the NRC (2006) report was released (http://www.cdc.gov/fluoridation/safety/nrc_report.htm) wrote:

"The findings of the NRC report are consistent with CDC's assessment that water is safe and healthy at the levels used for water fluoridation (0.7 - 1.2 mg/L)."

As described by Dr. Paul Connett however, "such a statement confuses the difference between concentration and dose, and ignores the reality that some people drink far more water than the average, that people get fluoride from many other sources than water, and that there are subsets of the population who are more vulnerable to fluoride's toxic effects than others. Moreover, three members of the NRC panel, including the primary authors of the key chapters on the brain and the endocrine system, have since gone on public record as saying that their report was relevant to water fluoridation as currently practiced in the U.S. and that the practice should be halted worldwide (http://fluoridealert.org/professionals.statement.html)."

Poughkeepsie, New York and Redding, California recently discontinued fluoridation of their public water, after it was learned to be a violation of Federal law to drug any person without written informed consent, even in times of war, as recently ruled by the U.S. Supreme Court verses Donald Rumsfeld (personal communication, Jeff Green, National Director, Citizens for Safe Drinking Water). To make this decree of personal freedom widely applicable and enforceable, we would appreciate the help that only the FDA is in a position to provide. These lawsuits are prohibitively expensive and time-consuming, conducted one city at a time.

The EPA has formally relinquished regulatory capability for water additives. We citizens are thus solely dependent on the FDA to protect the rights of U.S. citizens to have access to regular, fresh water, without intentionally injected drugs designed to treat those citizens. Recent news that U.S. public water supplies contain minute amounts of various drugs accidentally is of little concern to this petitioner because all are FDA approved drugs, are present in extremely minute amounts and can be easily filtered. Artificial toxic fluoride compounds, intentionally added at thousands of times higher doses that that, are not FDA approved, are not removed even by efficient reverse osmosis filtration because the fluoride ion material diameter is smaller than the water molecule, and are thus of more concern. The ratio of calcium ion, ppm, to fluoride ion ppm, in our own Southern California water, has been lowered from a natural high level of 400 down to 89 by the fluoridation program instituted recently by the Metropolitan Water District, at the request of the CDC office of dental health, with well meaning, sincere intentions that are nevertheless completely mistaken. Corresponding blood ratios (from NRC blood fluoride measurements for control and 1 ppm fluoridation) were lowered from 1,000 down to 330, where blood calcium levels average 80 ppm..

Fluoride exposure is now known to be out of control because municipal water supplies are so widely disseminated through foods and beverages, and the amounts are increasing constantly as we speak. If FDA remains in a state of inaction on this practice, knowing full well that fluoride slowly chronically accumulates irreversibly into bones and other tissues, the entire country of the United States of America will be unable to escape continued, slow, progressive health deterioration. This unregulated, illegal and completely unnecessary practice must be reversed at FDA's earliest possible convenience. Total lack of official regulatory oversight by FDA in fact

constitutes a complete reversal of the original mission and policies for which the FDA was originally created. This must not stand.

Since December, 2007 the Metropolitan Water District's Lake Skinner treatment plant has electronically injected fluosilicic acid plus sodium hydroxide mixtures into public dinking water for San Diego County to target 0.9 ppm free fluoride ion. Unfortunately at another location aluminum sulfate is added to clarify the water prior to fluosilicic acid injection. This introduces aluminum into the water, measured over a range of levels to as high as 0.15 ppm (Vallecitos Water District water quality reports enclosed). The coincident presence of aluminum and fluoride at approximately these levels in experimental animals has been found in repeated experiments to induce over a few months time neurobehavioral changes of Alzheimer's disease (Varner, J.A., et.al., Brain Research 784, 1988, p.284). Fluoride is known to accelerate the uptake of aluminum from drinking water into the brain. The mechanism of this is most likely due to the high binding constant for aluminum with fluoride (dissociation constant of $3.2x10^{-19}$) that cause the aluminum charged ion to then be an uncharged fluoride complex AlF_3 which is more easily assimilated into the blood. As found by Varner in repeated studies, adding additional fluoride above that which binds the added aluminum, no increase in adverse effect rate was found, which is consistent with the effect being due to the aluminum fluoride complex, rather than fluoride ion alone.

We have now measured the free fluoride ion content of North San Diego County VWD water samples in normal and acidified conditions and found that indeed approximately half of the fluoride now in that water is bound to cations that are released by acidification! Our data indicate that the average level of free fluoride ion in San Marcos is 0.80 ppm before acid treatment but is 1.63 ppm after acidification releases fluoride ion from bound cations. The binding of fluoride is due to the aluminum precipitation mentioned which is consistent with the solubility product constant of aluminum fluoride. The prevailing level of aluminum and fluoride in VWD water now exceeds its known solubility (Facanha, A. and Meis, L, Plant Physiology 108, 1995, p. 241). At the prevailing pH of Vallecitos Water District water of 8.2, the Ksp is significantly smaller and thus the observed increase in fluoride readings after acidification we are forced to conclude is due to fluoride release from aluminum, rather than other potential, binding sites. Also fluoride levels throughout the county vary widely.

Effects of Fluosilicic Acid on Water Quality

Although the Vallecitos Water District officially wrote that addition of artificial fluoride compounds at the Lake Skinner facility does not alter the quality of North County drinking water, specifically as far as visibility, taste and odor is concerned, no mention is made as yet of the properties of water that are indeed changed by the chemical. The reaction of fluosilicic acid, H_2SiF_6, used as source chemical for fluoride, F^-, mixed with Drano caustic soda, NaOH, is:

$$H_2SiF_6 + 4NaOH \rightarrow 2HF + Si(OH)_4 + 4F^- + 4Na^+$$

(National Research Council, Report on Fluoride in Drinking Water, 2006)

Notice that this process forms trace amounts of hydrofluoric acid, HF, the most corrosive substance in the world, while natural waters on earth contain no HF at any time because the ratio of calcium ion to any fluoride found naturally in water is so high. The ratio of calcium ions to fluoride ions before fluoridation began in San Diego and Los Angeles Counties was 400, but since silicofluoridation began this ratio was lowered to 89, allowing the fluoride ion to react with hydrogen ions, H^+, in water to form the acid HF. At

1 ppm fluoride and 80 ppm calcium the ions both remain soluble and unattached. If water is evaporated however, the concentration of the ions increase and the water becomes cloudy when the fluoride and calcium ions attach to each other to form the insoluble compound calcium fluoride, CaF_2.

As is seen in these photographs, normal drinking water such as is present in the nearby city of Encinitas, boiling 1 liter down to 25 milliliters, remains crystal clear. Artificial fluoridated water from San Marcos however becomes intensely cloudy, and upon settling for several minutes forms a pile of precipitate on the bottom of the container. The same water after passing through an aluminum oxide filter specially designed to remove fluoride ion, when evaporated from l liter to 25 ml, produces only barely detectable precipitate, suggesting that the precipitate contains the very insoluble compound calcium fluoride. The exact amount of water that must be evaporated to just cause the water to become cloudy can be easily calculated from the known solubility of the solid in water.

The chemicals are invisible in water prior to evaporation, but water spots on dishes and on autos in carwashes occur after evaporation. Silicofluoridated water is more dense than clean water, raises the boiling temperature and lowers the freezing temperature and other effects. At cold temperatures the precipitates form more readily and thus scaling of water pipes and shortening lifespans of water heaters is expected (Buck, The Grim Truth About Fluoridation, 1963). The chemical is used as a drug, injected into water to treat human tissues, which is a violation of Federal law and has never been approved by the FDA. It is mistaken to state that the treatment does not affect water quality, and instead, the practice must be halted. Unprecipitated fluoride ion in the water accumulates into bones at 2,000 ppm in only 2 years drinking, with associated weakening of bones (National Research Council, 2006). The ion also incorporates into the brain pineal gland and at these doses inhibits the functioning of the thyroid gland. The energy that is spent by the kidneys, to filter waste fluoride from the blood, and the bones, to replicate new bone tissue to overcome fluoride accumulation, over long time periods is inconsistent with normal health and in fact is the first suspicious cause of why the most recent U.S. data indicate that the lifespan of Americans has been declining since the mid 1960's. 67% of U.S. cities now are artificially fluoridated. On average, fluoridated cities have significantly higher heart attack rates per capita, which confirms laboratory studies with rats on water with only 1 ppm artificial fluoride that have lifespans shortened 10% (Agency for Toxic Substances and Disease Registry, 2003). The FDA has been petitioned to ban the practice, but as of April 2008 its current review committee is split on whether to do so nationwide. The practice nevertheless must be abandoned.

Upper: San Marcos water, 1 liter reduced by boiling down to 25 ml, note cloudiness. Lower: San Marcos cloudy water transferred to glass container, allowed to settle 10 minutes, viewed from above on left; comparable glass on right is of 25 ml residue from 1 liter distillate of nonfluoridated water from Encinitas. Glass in center is from San Marcos water after pass through a Vitasalus commercial fluoride filter.

Additional close-ups of San Marcos water from Vallecitos Water District on left and corresponding distillate from San Marcos water treated with a crushed aluminum oxide fluoride filter. This demonstrates that the cloudiness that appears when a liter of water is reduced in volume by boiling is insoluble calcium fluoride. Cloudiness in a water supply depends on pH and calcium and magnesium levels in the water supply that is fluoridated.

September 28, 2008

Centers for Disease Control
Division of Oral Health
Atlanta, Georgia

This letter is in response to your website not providing a procedure suitable to lower fluoride for whole house water, or to eliminate or lower fluoride down to 0.2 ppm for drinking water, though citizens asked.

Our city water has been treated with fluosilicic acid since December, 2007 and I have for a full year spent thousands of dollars trying to remove the fluoride down to where it has been here for centuries, to 0.2 ppm, but I have failed. The problem is our water is pH 8.2, so hematite, aluminum oxide, anion exchange resins, and calcite are worthless. I next will try gypsum, calcium sulfate, and prefer not to use charred animal bone methods. Distillation could be used only for drinking water, not whole house water, but removes desired minerals from the water. Reverse osmosis cannot lower fluoride very far below 1 ppm because the ion is smaller than the water molecule, and RO wastes water, lowers protective calcium about 90%, and also cannot be used for whole house water. Some of my students are allergic to HF and have rashes upon showering unless calcium gels are used. Donald Nelson at the CA DHS told me "it's a free country and you're entitled to filter out the fluoride if you don't want it." But he has still not provided information on how this can be achieved for whole house water, or drinking water to lower fluoride near the 0.2 ppm level, nor does your website provide such information.

The Osmundson data presented at the fluoride conference in Toronto proves that as the percent of a state population using fluoridated water rises, from Utah with the lowest %, all the way to Tennessee in progressive order, that so also rises the heart attack rate, mental retardation and infant mortality. Artificial fluorides, as opposed to the nontoxic natural calcium fluoride, have always been nothing but rat poisons and always will be, and if CDC takes on the responsibility that others started years ago, then you also have the responsibility to provide a specific method to remove the chemical from water for those who do not want your services. It is supposed to be a free country where people have rights to normal fresh water and to deny treatment with any drug. Many people here are waiting for your answer on how to remove fluoride because our water not only has a high pH, but also has aluminum ion as an additive. The coincident presence of fluoride with aluminum is far more brain-damaging in the long run than fluoride alone, according to all the studies done by Varner and coworkers.

18 million citizens in So CA have been subjected to an unnecessary chemical that the FDA recognizes as an unregulated, non-approved drug, that you regard as a useful medicine, and this is injected without consent of the consumer, and as Osmundsun found, there is no correlation between % fluoridation and any lowered dental caries. This is why the Niagara Regional Water District, Canada ordered their chemists to cease and desist fluosilicic acid injections, that overrides their previous fluoridation laws that are now suspended. Oral consumption into blood of artificial fluorides without calcium, even at low l ppm levels according to Dr. Shusheena a 35 year fluoride toxicology expert, eventually deteriorates intestinal villi that lowers iron absorption, causing anemia and may be the mechanism by which the heart data occurs. Understanding the mechanisms in detail for fluoride's long term adverse health effects however are not necessary to institute a ban, at least until CDC is able to develop an acceptable and affordable removal method that works in alkaline, aluminum treated water. The NRC reversed its earlier pro-fluoride position and so too can the CDC. Fluoride has never belonged in blood.

Since December, 2007 the Metropolitan Water District's Lake Skinner treatment plant has electronically injected fluosilicic acid plus sodium hydroxide mixtures into public dinking water for San Diego County to target 0.9 ppm free fluoride ion. Unfortunately at another location aluminum sulfate is added to clarify the water prior to fluosilicic acid injection. This introduces aluminum into the water, measured over a range of levels to as high as 0.15 ppm (Vallecitos Water District water quality reports enclosed). The coincident presence of aluminum and fluoride at approximately these levels in experimental animals has been found in repeated experiments to induce over a few months time neurobehavioral changes of Alzheimer's disease (Varner, J.A., et.al., Brain Research 784, 1988, p.284). Fluoride is known to accelerate the uptake of aluminum from drinking water into the brain. The mechanism of this is most likely due to the high binding constant for aluminum with fluoride (dissociation constant of $3.2x10^{-19}$) that cause the aluminum charged ion to then be an uncharged fluoride complex AlF_3 which is more easily assimilated into the blood. As found by Varner in repeated studies, adding additional fluoride above that which binds the added aluminum, no increase in adverse effect rate was found, which is consistent with the effect being due to the aluminum fluoride complex, rather than fluoride ion alone.

We have now measured the free fluoride ion content of North San Diego County VWD water samples in normal and acidified conditions and found that indeed approximately half of the fluoride now in that water is bound to cations that are released by acidification! Our data indicate that the average level of free fluoride ion in San Marcos is 0.80 ppm before acid treatment but is 1.63 ppm after acidification releases fluoride ion from bound cations. The binding of fluoride is due to the aluminum precipitation mentioned which is consistent with the solubility product constant of aluminum fluoride. The prevailing level of aluminum and fluoride in VWD water now exceeds its known solubility (Facanha, A. and Meis, L, Plant Physiology 108, 1995, p. 241). At the prevailing pH of Vallecitos Water District water of 8.2, the Ksp is significantly smaller and thus the observed increase in fluoride readings after acidification we are forced to conclude is due to fluoride release from aluminum, rather than other potential, binding sites. Also fluoride levels throughout the county vary widely.

Key reasons why the U.S. FDA has never approved adding any medicines through public water supplies is that the dosage cannot be regulated properly and it violates informed consent laws. The different readings between East and West San Marcos exemplify this problem, especially when the average temperature is significantly higher in East San Marcos, where water consumption on average is also higher. It is likely that older plumbing, compared to newer plumbing that is asbestos lined, may account for wide variations in fluoride ion that remains solubilized in different parts of the city.

The most significant cause for concern however is the coincident presence of aluminum and fluoride at levels that exceed at various times the solubility of aluminum fluoride, which indicates that aluminum fluoride contaminants are now posing a significant health effect on citizens of San Diego's North County. It is imperative that the FDA ban the injection of artificial fluosilicic acid into Lake Skinner water that is now ongoing by the Metropolitan Water District, Los Angeles, while simultaneously using aluminum sulfate as a water clarifying agent.

Enclosed is a recent Canadian Water Works article by Peter Van Caulart (Environmental Science & Engineering Magazine, July, 2008) that led to the recent ruling that all chemists throughout their huge Niagara Regional Water District discontinue injection of fluosilicic acid into public water supplies because of the adverse health effects of this perturbant now understood, and because of the now understood mistaken correlation originally made that fluoride decreases teeth cavities when it does not.

Enclosed are copies of recent VWD water district water quality reports from 2007 including fluoride levels and 2005 showing typical levels of aluminum associated with adding the agent as a treatment method to as high as 150 ppb (0.15 ppm). Note also our water contains many times higher uranium levels than our stated public health goal which is actually due to drainage from the massive uranium tailings pile left by the Atlas Chemical Co. near the banks of the Colorado River in Moab, Utah when that company

bankrupted. Congressional funds to move the pile have been decreased by the current administration and the tailings are expected to require 20 years for cleanup (Las Vegas Review Journal) and represents another concern for injecting fluoride ion that must also be thoroughly evaluated..

The recent comprehensive conference on drinking water and silicofluoridation held in Toronto, Canada presented the epidemiologic data for the 50 United States in terms of adverse health effects that are now ongoing in human beings. The work was compiled by Dr. Bill Osmundson and is summarized briefly here.

Significant positive statistical correlations were found when the 50 U.S. states were placed in rank order of percent of the population receiving fluoridated water, verses disease states such as infant mortality, heart disease, diabetes, obesity and mental retardation. These striking observations are fully consistent with earlier data collected in carefully controlled animal studies previously cited in the petition (i.e. in Agency for Toxic Substances and Disease Registry, ATSDR, 2004). These outcomes were fully predicted many decades ago by toxicologists who recognized full well that all artificial fluoride compounds that lack antidote calcium ion are themselves calcium chelators. The poisoning of Eskimos in Hooper Bay, Alaska by fluoridated city water caused angina chest pain in 302 victims that led to one fatality with a heart attack when the blood calcium level was lowered by the blood fluoride ion ingested from water accidentally subjected to overfeed conditions (see petition). In animal studies acute heart attack occurs at high fluoride doses, while at lower fluoride levels instead what occurs mostly is swollen heart muscle tissue. At still lower fluoride levels such as in drinking water over chronic time periods without accidental overfeeds, data indicated a 1.4 fold increase in heart attack rates in fluoridated cities (see petition). The data presented at this conference (see enclosed graphs) confirm and extend this effect and may be due to the known incorporation of fluoride into calcium rich regions of the heart (such as the cell surface membrane) or aorta since fluoride is a general calcium chelator.

Calcium ion is a requirement for virtually all physiologic functions in humans and animals thus far examined and it is thus no surprise that fluoride ion adversely alters a plethora of biologic parameters. The mental retardation data confirm and extend the vast numbers of publications from China indicating that children raised in fluoridated cities experience significantly lowered IQ (fluoridealert.org). The infant mortality data is consistent with animal experiments on the effects of low level fluoridated drinking water. Significantly increased spontaneous abortions occur in guinea pigs drinking low level fluoridated water during pregnancy (ATSDR, 2004). The progressive increase in the incidence of diabetes in humans as the percent fluoridation of the population per U.S. State increases may be easily explained as well. Fluoride ion is known to form complexes with zinc, which is an essential cofactor that binds to insulin for normal functionality. There are many other possible calcium-rich sites in the overall pathway of insulin production and insulin stimulation of glucose transport in peripheral tissues that could also be perturbed by fluoride ion at drinking water levels. The well documented effects of fluoride at only 1 ppm in drinking water found by Dr. Susheena in India in decreasing iron assimilation in the small intestine cause lethargy, tiredness, low hematocrit and iron deficiency anemia, perhaps might be involved in the observation of a correlation between obesity and % water fluoridation among the U.S. States.

Drinking 1 ppm fluoridated water for less than 12 months typically equilibrates the blood level at about 0.2 ppm fluoride (NRC, 2006 reference in petition) and after only 24 months the fluoride level in bone hydroxapetite accumulates to 2,000 mg/kg, thousands of times higher than the water level. There is no reason to believe that the hydroxyapetite present in the brain's pineal gland is not also able to accumulate fluoride in a similar rapid manner that may be involved in the described effects on brain function. The absence of a correlation between % fluoridation and incidence of Alzheimer's symptoms in the states graph may be due to the fact that aluminum sulfate used in Southern California (see last petition sent to FDA) might not necessarily be a widespread practice and that neurobehavioral effects induced in animals with aluminum and fluoride, as reported in repeated studies by Varner, differ from Alzheimer's.

These epidemiologic data also confirm and extend the 4 largest studies we have available to date that fluoridated water cities have no detectable decrease in teeth cavity incidence (see petition for references). The diagrams below for the 50 U.S. States confirms that over a wide range of fluoridation population % that there are no detectable improvements in teeth cavities and oral health. The original decision, that the whitened teeth [in the Texas area where high levels of natural calcium fluoride caused this] was a desirable effect, without side effects, was retracted by its proposer many decades ago (see petition), because the teeth followed eventually became crumbly. There has also never actually been an actual decrease in teeth cavities due to intentional treatment of water with artificial fluoride compounds either, since the original apparent decrease was due to fluoride's adverse unnatural effects causing delayed teeth eruption. Finally, as stated earlier, the Niagara Regional Water District, Canada instituted a formal ban on artificial water fluoridation when it learned that discontinuing silicofluoridation of city water supplies does not increase cavity rates in vast numbers of cities, and that the original idea was a statistical misinterpretation, as published in their Canadian water works journal.

The FDA petition is a free download at www.lulu.com search "Toxicity of Fluoridated Water"

The following was submitted to the North County Times as an editorial October 7, 2008

Unnatural fluosilicic acid injection into North County drinking water began 10 months ago. We've compiled data on the situation. Whole house fluoride ion removal systems that are effective on the East Coast (either aluminum or calcite-based) do not work on our naturally alkaline water. Also, reverse osmosis only efficiently filters contaminants larger than the water molecule, so fluoride cannot be fully eliminated with this procedure either, which also wastes water and lowers protective calcium.

For drinking water, practical options are fortunately available, such as zero fluoride waters from the widespread commercial vending machines, bottled water made by Coke or Pepsi, some, but not all, spring waters, and bottled seltzer and carbonated waters. Distillation units also produce affordable zero fluoride drinking and cooking water but carry no useful minerals. Most brands of apple and orange juices tested fluoride free.

Sadly, studies presented at the Toronto, Canada Fluoride Conference last month confirmed the long-held fears of fluoride toxicologists. When the 50 U.S. states are graphed in rank order according to the percent of residents living with artificial silicofluoridated municipal water, strong correlations are found with increased heart attack rate, mental retardation, infant mortality and other conditions, while no effect whatsoever is found on tooth cavity incidence. This confirms and also further extends studies on animals (Agency for Toxics and Disease Registry, 2003) and humans (National Research Council, 2006).

Natural calcium fluoride is a ubiquitous compound in rocks and soils and is not labeled a toxic. However, all artificial fluorides missing calcium, that are extracted from natural starting materials, are all toxic and are used as rat poisons, insecticides and, because of statistical interpretation errors in the 1940's, as 'water additives'. Adverse health effects are largely dependent on how hard or soft the endogenous water is. In soft water towns, human death has occurred quickly from heart attack during accidental overfluoridation (New England Journal of Medicine, 1994) and from brain cancer and bone fluorosis over a prolonged 9 year period in horses even during optimal conditions (Fluoride, February, 2006). Dr. Susheena lectured that chronic consumption of only 1 ppm fluoride alters the structure of peoples' intestinal microvilli, decreasing iron absorption, causing anemia, depending of course on water hardness and daily volume consumed..

Fluoride electrode measurements of our somewhat hard water (54 ppm calcium) indicate variations from 1 ppm in different North County cities, due to different types of plumbing or other variables. This is partly why the FDA has never approved adding medicine of any kind through public water supplies, which also violates informed consent law. Moreover, fluosilicic acid has never been tested in prospective human clinical trials for either its whole body safety or its effectiveness in lowering teeth cavities.

Environmental concerns stem from the super sensitivity salmon and other fishes have, swimming in fluoridated water. Lake San Marcos already is at 0.6 ppm fluoride probably due to runoff and irrigation

and the Batiquitos Lagoon varies from 0.3 to 0.7 ppm, where indigenous natural Southwest water usually ranges form 0.2-0.4 ppm..

March 10, 2009

Richard Sauerheber, Ph.D.
Palomar College
1140 W. Mission Rd.
San Marcos, CA 92069

Temecula Police Department - Main Station
30755-A Auld Road, Murrieta, CA 92563

Dear Department and the Honorable District Attorney Rod Pacheco, Riverside County,

We here in San Marcos, CA have nowhere to turn but to you for help on an important problem. Our water supply from the Colorado River, under the auspices of the Metropolitan Water District, Los Angeles, is now, for the first time in our history in North County San Diego, drugged with the artificial toxic hazardous waste compound, fluosilic acid H_2SiF_6, that is mixed with Drano (caustic soda or sodium hydroxide NaOH) at the Lake Skinner treatment plant in massive volumes. Sadly, many of us see this as a white collar crime, violating at least 7 counts of Federal drug law, affecting up to 18 million residents in Southern California. A partial list of drug law violations are:

1) Fluosilicic acid is not a U.S. FDA approved drug.

2) The FDA has written that administering any substance to treat human beings, even a known useful body component such as a vitamin, through the public water supplies is an uncontrolled use of a drug, since dosage depends on water volumes consumed, the prior nutritional and disease status of the consumer and other effects, and is against U.S. FDA policy.

3) FDA concluded officially in the 1960's that, specifically, no form of fluoride is a mineral nutrient of any kind; it is a drug used to treat humans, not the water (the FDA letter is available upon request).

4) Most importantly, the facilities where the artificial fluosilicic acid drug is produced (fertilizer waste pollution scrubbers in Florida, and some from similar plants in China), and the Lake Skinner facility at which the final drug product is formulated by mixing with caustic soda just prior to injection for public consumption, are not registered with the FDA, a gross violation of the U.S. Food, Drug and Cosmetic Act, Section 510, as amended through December, 2004.

5) The drug fluosilicic acid has not been tested in controlled human clinical trials for either safety or effectiveness, as required by law.

6) It is illegal to inject into public water supplies any ingredient for the purpose of treating human beings that is known to cause cancer in animals. Artificial fluorides tested in animals for chronic, long time periods cause lethal osteosarcoma (bone cancer) (Agency for Toxic Substances and Disease Registry, 2003; National Research Council, Report on Fluoride in Drinking Water 2006).

7) The U.S. Supreme Court validated Federal drug statutes by deciding recently that the U.S. Army, even during times of war, are not authorized to treat military personell with nthrax vaccine without permission from the treated individual. The Hippocratic Oath was the original driving force behind this law, which simply states that no individual can be treated with any drug without his informed consent. For good or bad, any drugs added through public water supplies intended to treat tissues of all consumers are obiously illegal in the United States of America.

The dental section of the Centers for Disease Control has a long-standing vested interest in promoting and insisting that cities inject fluosilciic acid into public waters. The original idea was 'grandfathered' in since many FDA drug laws were passed after experiments had already begun fluoridating a community in Michigan. The CDC is aware of most of the above data, but perhaps are not aware of the Federal drug laws being violated and have chosen to

continue their original plan to treat city water supplies anyway, as listed on their website on 'water fluoridation'. Usually they rely on, and submit to inquirers statements of, endorsement from authorities, without having actual written materials demonstrating testing or proof that the process has been reviewed and approved by the FDA, the only organization with Congressional authority to authorize the production, formulation, distribution, dosing, administration and consumption of drugs in this country.

Based partly on previous lethal poisonings from fluoridated water supplies in the soft water cities of Hooper Bay, Alaska and Pagosa Springs, Colorado (New England Journal of Medicine, 1994; Fluoride Jan., 2006; www. fluoridealert.org) a petition to ban this substance from city water supplies was submitted to the FDA 1.5 years ago and is under review. Thus far the committee consists of half which support a ban on all artificial fluorides in public drinking water and the rest who do not wish to take action at the present time. The final conclusion has been put on 'temporary hold'. We have also written to the CDC to inform them that the drug they have chosen is an artificial fluoride that does not compare with natural calcium fluoride found in some waters in the Southwest. The lethal dose killing 50% of experimentally treated animals for artificial fluorides compares with the toxicity of arsenic (125 mg/kg). The lethal dose for natural calcium fluoride is a safe high 3,500 mg/kg (Merck Index, 7th edition), explaining why lethal poisonings usually occur in soft water cities lacking calcium.

Although the Lake Skinner facility is at an advantage, since So CA water is reasonably hard with protective calcium and magnesium that should avoid acute lethal poisonings during accidental overfeeds at the facility, the ratio of calcium to fluoride ions (as a molar or atom ratio) nevertheless has been lowered from a natural safe 20:1 two years ago to an unnatural 5:1 as a result of increasing fluoride levels from their natural level at 0.2 ppm (mg/kg) (accompanied by many calcium and magnesium salts of ions other than fluoride) to 0.8-1.0 ppm without additional added calcium. Blood fluoride levels in consumers now jumped to 0.21 ppm (NRC, 2006 p 71 for 1 ppm artificially fluoridated water) because of increased assimilation into blood from the lowered ratio. The ocean for example has 1 ppm fluoride but is accompanied by very high water hardness, so salmon thrive in this water. In fresh water with low calcium, however, salmon brain is narcotized, blocking navigation upstream, at fluoride above only 0.3 ppm.

The CDC claims that all fluoride is 'the same' no matter what the source. This hides the fact that the pathological behavior of fluoride ion is determined by the ingredients, particularly divalent cations, co-existing in its water environment. Artificial fluorides are accompanied by hydrofluoric acid, HF, the most corrosive substance known to man, that dissolves metals and thus require neutralization with caustic soda, and storage in special rubber-lined tanks. Natural calcium fluoride contains no HF and does not require neutralization with sodium hydroxide or special storage. Much data prove that artificial fluorides, but not natural calcium fluoride, can induce, in genetically susceptible people, horrible, painful, untreatable, lethal bone cancer, particularly in children raised on artificially fluoridated water after many years (fluoridealert.org; WebMD; Agency for Toxic Substances and Disease Registry, 2003, page 86). Artificial fluorides have huge water solubility; natural calcium fluoride does not. The FDA thus prohibits swallowing toothpaste and denounces toothpaste use in all children under six years of age because of the toxicity of artificial fluoride compounds. The dental section of the CDC responded that although they are aware of these bone cancer and other data, they will continue to silicofluoridate water supplies for human consumption across the U.S. anyway.

Understand that the National Research Council in their official 2006 Report on Fluoride in Drinking Water found that consumers drinking 1 ppm artificially fluoridated water accumulate fluoride ion into bones irreversibly to 2,000 mg/kg in only 2 years, which weakens bones and delays healing of any fractures. Yearly increments of 500 ppm or more continue for as long as the individual lives and consumes such water, until extremely high amounts load the bones of the elderly. We currently have a well-recognized epidemic of hip fractures in the elderly in the U.S. and I hold artificial water fluoridation as the chief cause.

We have written to the U.S. Surgeon General, Rear Admiral Steven Galson. We are awaiting his reply to see if he will join with us and help overturn this blind spot the dental section of the CDC currently has. Information sent to Metropolitan has been received and acknowledged, but they feel they are bound by CA AB733 state 'fluoridation law'. This law was written many decades ago that requests cities to 'fluoridate' if they can sustain funds to afford it. No provision is made allowing substitution of the artificial toxic rat poison fluosilicic acid mixture from the fertilizer industry instead, and Federal Drug laws and the Federal Water Pollution Control Act Section 101a supercedes any such feeble state 'law' in the first place. Secton 101a calls for all U.S. waters to maintain their normal, natural chemistry. In the end, Metropolitan Water and the CA Department of Health Services place responsibility for their

actions on the CDC for ordering them to do this. But the CDC, when pressed, claim that the states are responsible for any action actually taken, because this is a "states' rights" issue; CDC only makes 'recommendations', not enforcements or law. Each agency points a finger at the other, while both complete the action.

Although we do not anticipate you will have the will to make an arrest on persons at the Lake Skinner facility, who inject the non-FDA approved fluosilicic acid-Drano mixture in a non-FDA approved facility without informed consent of those being drugged, we are writing this letter to inform you of the truth of what is being done, and we humbly urge you at the very least to investigate in detail the Lake Skinner facility and its operations. The huge tanks of caustic soda with hazardous waste labels, and tanks of fluosilicic acid with their labels, are visible from the Highway to the Lake in a barb-wired chain link compound that caused a horse ranch owner across the street to leave Temecula. Ironically, horses poisoned with artificial silicofluoridated water in Colorado were killed over a 9 year period while suffering horribly from crumbly hooves, pitted and destroyed brown fluorotic teeth, skin rashes and lethal cancer, all while veterinarians were unable to deduce its 'mysterious' cause. It required an expert pathologist from Cornell Univesity to solve the crime, which led citizens to storm the water district and demand artificial silicofluoridation in this soft water city be stopped. In such a small town, this outcome was possible.

We appreciate your attention on this matter and any advice you could provide, such as whether we are in a position to contact the FBI or other drug enforcement agency. Please consider this letter as me, a native Californian and medical research scientist of 35 years, officially pressing charges against Metropolitan Water District employees who continue to participate in these actions that violate over half a dozen counts of Federal drug law. Letters to the Surgeon General have been forwarded to Governor Schwarzenegger..

Sincerely,

Richard Sauerheber , Ph.D., Chemistry, on behalf of conerned citizens, North County, San Diego

1) Attached please read letters to U.S. Surgeon General Admiral Galson; 2) Also please read 50 reasons to oppose fluoridation by Dr. Paul Connett at www.fluoridealert.org; 3) Vast data supporting these charges are available in the FDA petition at www.lulu.com, search 'Toxicity of Artificially Fluoridated Water'.

March 7, 2009

Richard Sauerheber, Ph.D.
Palomar College
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San Marcos, CA 92078

Office of the Surgeon General
5600 Fishers Lane
Room 18-66
Rockville, MD 20857

Dear U.S. Surgeon General, Rear Admiral Steven Galson, M.D., M.P.H.,

I am a medical research scientist of 35 years, specializing in diabetes and membrane biology, with expertise in toxicology. A rumor has come to my attention, that artificial fluoride compounds, after ionization in water, yield fluoride ion that behaves "the same " as fluoride that ionizes from natural calcium fluoride (CDC website 'water fluoridation'). Unfortunately this is false, not only for its physical chemistry but also for its clinical chemistry and pathology. Amateur chemists seem to have a large following in the area of dentistry, which has led to widespread use of artificial calcium-chelating toxic fluoride compounds as 'water additives', even though the first data suggesting this practice were from natural calcium fluoride water in the Southwest (Buck, The Grim Truth About Fluoridation, Putnam and Son, N.Y., 1964). The Centers for Disease Control still enforces and insists, by decree of former Surgeons General, on adding the fertilizer industry toxic hazardous waste fluosilicic acid, neutralized onsite with sodium hydroxide, directly into public drinking water, as a result of this false assumption that there is no significant difference.

Please understand that a fluoride ion solution made in soft or distilled pure water has a very high chemical activity, or chemical potential, compared to the activity of the ion at the same concentration when accompanied also by

calcium or magnesium ion in solution. Much less sensitive and exquisite than an actual biological cell membrane, even a fluoride specific electrode senses such a difference. In the following graph for example are fluoride electrode measurements of a solution of sodium fluoride made fixed at 0.8 mg/L (ppm) (0.042 mM) actual concentration, in pure de-ionized water, and at various calcium levels that mimic a range of water hardness and ionic strength. As little as 30 mM calcium alone (Figure 1) causes substantial inter-ionic interactions with fluoride that significantly lower diffusion or Brownian motion of the fluoride ion because of the relatively massive divalent positive charge on the compact calcium ion. This phenomenon applies to all Group II cations including magnesium ion, prevalent in all foods and natural hard waters.

In contrast, fluoride accompanied in solution with Group I metal cations, such as sodium or potassium, exhibit little decline in activity over a broad range of cation concentration, because these ions are only monovalent in charge (Figure 2.) Notice that a 1 ppm fluoride solution in pure water has only a slight activity decline as a function of added potassium ion, where electrode activity is not significantly decreased until 200 mM, a concentration at which fluoride activity would be already reduced a massive 50% by calcium ion (Figure 1). Magnesium ion, or in particular calcium and magnesium together, as in most natural U.S. waters, decreases fluoride mobility even more efficiently.

The physiologic behavior of a given concentration of fluoride ion is mostly determined by the prevailing water hardness. Soft water states in the U.S., devoid of divalent cations, are higher in fluoride chemical activity, particularly when added from artificial fluorides without calcium, in contradiction to claims on the CDC website. The ratio of calcium ion molarity (around 0.12 mM) to added fluoride molarity (0.05 mM) in soft water states, particularly in the Pacific Northwest, in an artificially fluoridated city, is a pathetically weak, unsafe 2 to 1 ratio. In hard water states the ratio is typically about 20 to one, better, but insufficient to prevent blood levels from reaching 0.21 ppm (NRC p. 70). Hard water states are thus more protected from fluoride ion than soft water states in the U.S., since assimilation of fluoride is more marked in the latter due to fluoride distribution according to the extent to which a given side of the membrane is more enriched in calcium. These factors determine the overall biologic effect of fluoride ion for living organisms, by affecting assimilation through the gastrointestinal tract, and other events not well understood because membranes exhibit such complex structural and functional features (Sauerheber, R., et.al. in "The role of Calcium in Biological Systems", CRC Press, Inc., Boca Raton, FL, or any of many reviews of calcium and membrane physiology). Fluoride tends to remain concentrated in a solution containing calcium ion, even though far below the level required for binding as calcium fluoride. The higher the calcium concentration of a region, the less fluoride is able to diffuse away from it. This electrical attractive force is also responsible for the fact that fluoride, even at levels far below the known solubility constant Ksp for forming calcium fluoride precipitate, is trapped into bone, with an ion exchange mechanism due to directed collisions.

The actual, LIVING importance of the chemical differences between sodium fluoride or fluosilicic acid verses calcium fluoride has been amply demonstrated in biology: the precise dose at which lethal fluoride poisoning occurs in tested animals, the LD_{50}, for calcium fluoride is a safe 3,750 mg/kg single dose, whereas lethality for sodium fluoride or fluosilicic acid, as expected, compares to that for arsenic at 125 mg/kg single dose (Merck Index, 7th edition). Moreover, it is well publicized (Fluoride, Jan 2006; youtube.com search 'fluoride poisoned horses') that horses were slaughtered in Pagosa Springs, Colorado after only 9 years drinking artificial silicofluoridated SOFT water, deficient in calcium and magnesium from nearby snowmelt. These animals drink their body weight in water every few days and all suffered severe skin reactions, crumbled hooves and browned, pitted, cracked, destroyed teeth, muscle weakness, and were eventually killed by skeletal fluorosis with severe associated tumors. The owners were newcomers who assumed city water was acceptable for hoofed animals. The city townspeople insisted on stopping fluoridation, something that large city residents are not allowed to do by vote.

Understand, if natural calcium fluoride had been the agent employed, the above quick lethal reaction could not have happened. For example, fluoride water levels even 10 fold higher than this from natural sources exist in areas in India. Natural fluorides are always accompanied with other calcium and magnesium salts from the natural erosion from which the fluoride also erodes. This hardness prevents acute lethality, and instead these people, with lifelong drinking, exhibit bone deformities.

No bone cancer is known to be induced by lifetime drinking of natural calcium fluoride, whereas substantial proof exists that lethal untreatable bone cancer is produced from artificial fluoride when exposures are continued for a sufficient time (Agency for Toxic Substances and Disease Registry, 2003, p. 86 animal long term artificial fluoridated drinking water data; National Research Council Report on Fluoride in Drinking Water, 2006, p 336; www.fluoridealert.org/health/cancer/osteosarcoma.html). For rats this usually requires about ½ of the normal lifespan of the animal. Shorter duration exposure does not significantly increase osteosarcoma, which led the CDC's ATSDR to suggest that data are 'conflicting', but all prospective experimental data with proper controls are consistent when times of exposure are considered! Bessin at Harvard published that kids raised on fluoridated U.S.

water are experiencing 5 fold increases in lethal bone cancer (fluoridealert.org; WebMD). CDC acknowledges these data, but proclaims on its webpage that fluoridation of U.S. waters will continue unabated anyway. Many officials in the Dept. of Health Services (personal communications) feel that occasional lethal bone cancer is a small price to pay if it means cavities are decreased in children at the same time. I disagree.

Artificial fluoride, but not natural calcium fluoride!, during water district overfeeds have severely poisoned and killed in the U.S. This is because artificial fluorides, unlike natural calcium fluoride, are all fully soluble in water to extremely high concentrations without precipitation. In Hooper Bay, Alaska 302 people were poisoned with one fatality by heart attack due to fluoride assimilation into blood sufficient to decrease calcium ion activity to block heart function (Gessner, et.al., New England Journal of Medicine 330:95, 1994). The water district artificially fluoridated water caused pump corrosion and an overfeed. Natural calcium fluoride is unable to corrode metals as artificial fluorides do, which base-hydrolyze in neutral acidity soft water to form small amounts of hydrofluoric acid HF, the most corrosive substance in the universe, where $F^- + H_2O$ produces $HF + OH^-$. Natural calcium fluoride also and does not require neutralization with sodium hydroxide prior to injection into water, which now is a common practice for U.S. water districts under the forced direction of the dental arm of the CDC.

In conclusion, fluoride ion from artificial fluorides are not biologically or even physico-chemically the same as fluoride ion from natural calcium fluoride, for otherwise identical concentrations of ionized fluoride ion. Inexperienced or amateur chemists often feel this way, but this provides a false defense for CDC to continue artificial fluoridation in states not having very hard water. The Osmundsen data indicate that ranking states according to % of the population receiving fluoridated water correlates with increased incidence of per capita heart attack, mental retardation, cancer and other effects. When these data are plotted as a function of water hardness for the state, the correlation is even more striking, as toxicologists have long expected. The National Research Council Report of Fluoride in Drinking Water 2006 clearly proved that 1 ppm fluoridated water accumulates to about 5,000 ppm fluoride in bones lifetime and far higher levels are expected for type II diabetics, reaching levels associated with severe bone pain requiring hospitalization (p. 35, 179) and of course with weakened bones that resist healing after fracture. The U.S. currently has a well recognized epidemic of hip fractures in the elderly and this author holds water fluoridation as the most significant cause.

It is imperative that CDC measure existing calcium and magnesium levels in water prior to recommending mineral additives of any kind and that CDC realize that such measures represent opinion only; forcing any such action to alter the natural waters of the United States is outside the mission and scope of the United States Centers for Disease Control and in fact is in violation of the Federal water Pollution Control Act, section 101a, which explicitly mandates the maintenance and protection of the natural chemistry of all U.S. waterways. Fluosilicic acid, H_2SiF_6, is not found in any natural water supply and has nothing to do with natural water chemistry, and yet has reached gigantic widespread U.S. use U.S. Food and Drug Administration spokesmen have stated frequently that fluorides, as for any agent, added into public drinking water for purposes of treating human tissues constitutes an uncontrolled use of a drug and violates Federal drug law which prevents treating any person with a drug without informed voluntary consent. FDA has maintained for many decades that fluoride has no nutritive value of any kind. A petition has been submitted to the U.S. FDA to ban artificial fluoride injection into public water and is available together with much additional evidence of support at www.lulu.com search 'Toxicity of Artificially Fluoridated Water'.

The National Kidney Foundation and recently the National Institutes of Health formally wrote opposition to artificial fluoride consumption, for all with kidney disease and all diabetics who consume much water, respectively, joining the National Research Council in opposing this practice for everyone. It is time the U.S. Centers for Disease Control also reverse course. You, as current operating U.S. Surgeon General are in a unique position to complete a heroic action in support of the citizens of this country by ordering a halt to artificial fluoride injection for all of us. The massive Canada Niagara Regional Water District ordered all water chemists to cease injecting artificial fluoride into drinking water, after learning this year at the Toronto Conference on Fluoride that artificial fluorides are toxic compounds that accumulate irreversibly into skeletal tissue in progressive increments lifetime, progressively weakening bones, and do not lower dental caries significantly in the four largest studies we have.

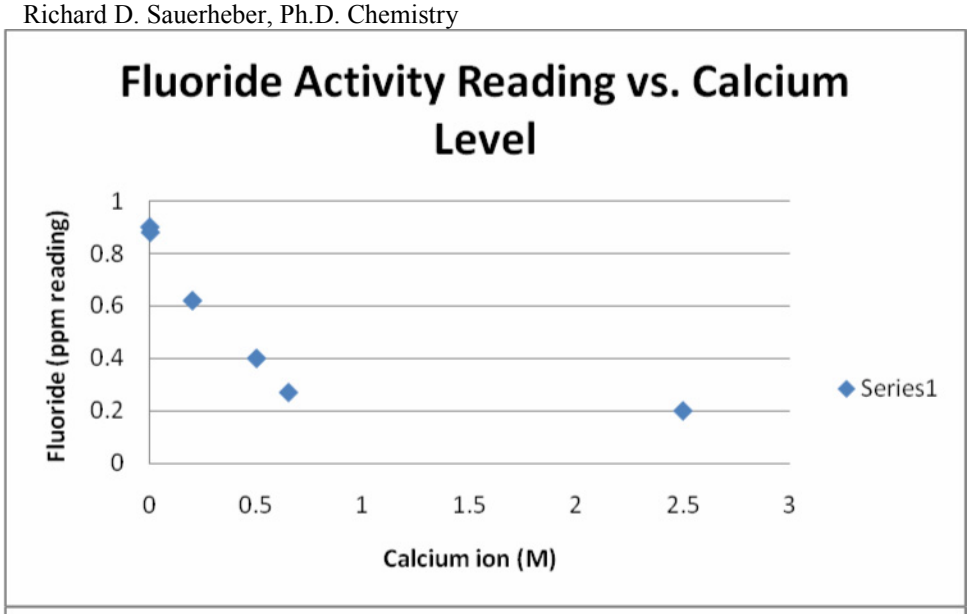
The CDC has a vested interest in continuing water fluoridation. The CDC has made a false claim that the NRC report is not relevant to water fluoridation practices because the main intent of the study was not majorly focused at fluoridation near 1 ppm fluoride. This is a gross error that allows the CDC dental lobby to justify ignoring vast volumes of data presented in the text for people inflicted with pathology at this level of artificial fluoridation lifetime. It does not take a genius to understand that at low 1 ppm fluoride, the 0.03 mg/kg body weight fluoride ingested daily leads, after 60 years, half entering the bones, to 4,000 ppm permanently stored in the bone as a non-mobilizable fraction. This causes bone cells to undergo cell division, since the main function of bone is to provide mobilizable calcium ion into the blood to maintain the normal heart beat. Calcium mediates mechanical contraction

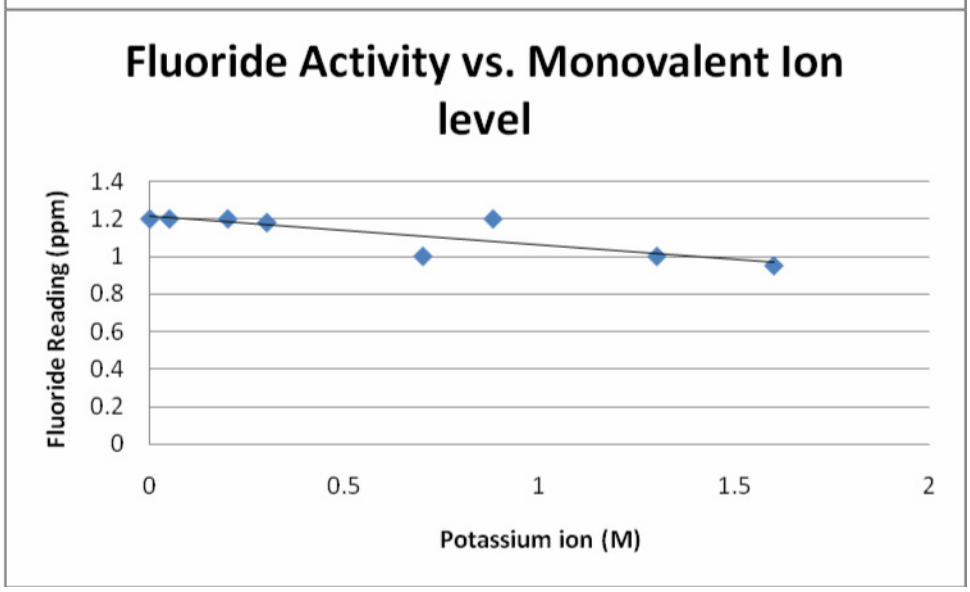
with electrical excitation during the plateaus phase of the cardiac action potential. Indeed, in other sections of the text, deceased bone from such regions measure fluoride in this expected, calculated range.

Going down in history for something so clear and logical as returning America's waters back to being as fresh as once before is a high calling and is immediately necessary for this country's health and strength now and in the future.

Thank you very much for your attention on this matter, and please do not hesitate to contact me for any questions you might have.

Richard D. Sauerheber, Ph.D. Chemistry





February 20, 2009

Richard Sauerheber, Ph.D.
Palomar College
1140 W. Mission Rd.
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M. Sue Kirkman, M.D.
Vice President, Clinical Affairs
American Diabetes Association
1701 North Beauregard Street
Alexandria, VA 22311

Dr. Kirkman,

I am a diabetes research scientist of 30 years with expertise also in toxicology. I was given a copy of a letter you sent to a Florida citizen by the name of Mrs. Poole. Unfortunately there were several egregious errors in the response you provided, that should be clarified for her regarding her concerns about artificial fluorides. I hate being annoying, but when it comes to millions of people who now consume a slow acting poisonous, albeit diluted, substance, being annoying should be the least of my concerns. I think it will be of benefit if you read the entire letter.

1) Your statement that fluoride does not harm the kidney when consumed at 1 ppm levels in drinking water is mistaken.

The National Research Council Report on Fluoride in Drinking Water 2006 presents vast amounts of data on humans treated with 1 ppm artificially fluoridated water. These data are real and accurate, even though the original mission of the study was not intended to focus on the adverse health effects occurring with water fluoridated at this level. It is clear, as toxicologists have feared for many years, that the original idea, to inject fluosilicic acid into public water supplies to treat human blood to 0.2 ppm fluoride for dental purposes, was a disastrous mistake. Fluoride ion incorporates into bone at thousands of times that present in water in an irreversible, cumulate, nonphysiologic, irreversible manner. Transfer of these subjects to non-fluoridated water cities for 25 years fails to remove fluoride form bone. This causes bones to be weakened and more subject to breakage. The U.S. has now an epidemic of hip fractures in the elderly and I hold fluosilicic acid treated water as the prime causative factor. Specifically, it is well-known that fluoride accumulates in soft tissues and in particular the kidney, as bone sites become increasingly occupied (Goodman and Gilman, Physiological Basis of Pharmacology). The sad truth is that diabetics with well described microangiopathy of kidney small blood vessels (due to blood glucose being not well-controlled) eliminate fluoride less efficiently. On top of this, diabetics with higher than normal thirst levels also are forced to ingest more fluoride. This prompted the NRC to list diabetics as a susceptible population for risk from 1 ppm fluoridated water because the blood level of fluoride matches that of consumers receiving fluoride concentrations in their water that the NRC declares is not protective against adverse health effects. Data indicate that diabetics on average consume enough water that 83% of total blood fluoride comes exclusively from that source, compared to 50% for the nondiabetic. The typical individual in a 1ppm fluoridated city has blood levels of 0.2 ppm, half from water, the rest from food, beverages and toothpastes, etc. The diabetic though has a blood level of a whopping 0.26 or higher, depending on associated kidney function, where the fluoride from other sources remains fixed, while the extra fluoride from higher water intake is 0.16 ppm or more. This means that the ratio of blood calcium (which protects from fluoride's toxic effects) is only 120:1 in most diabetics, compared to 800:1 in regions typically having modest natural fluoride in water (calcium fluoride). The ratio should be infinitely high, since fluoride has zero function in the human body and does not belong in blood in the first place.

The NRC report strongly warns all diabetics and diabetes practitioners in the U.S. to realize that fluoridated water presents a higher risk to diabetics because of increased water consumption. Diabetic fluoride levels in blood are higher than was originally called for by those dentists who began this practice in the 1950's. In fact, the original dentist who proposed the idea, Dr. Heard in the Midwest, only years after, formally denounced the practice in writing (see FDA petition 'toxicity of water fluoridated artificially' available at no cost at the online bookstore at www.lulu.com. He found that those children who appeared to be gaining tooth cavity benefit were later found to have crumbly teeth interiors who eventually required much more dental work to salvage teeth than those in nofluoridated communities (The Grim Truth About Fluoridation, 1960, Buck).

Recently the National Kidney Foundation formally reversed its position on water fluoridation and now opposes the practice. This was because it is with certainty that several patients on kidney dialysis were killed because of infusion of silicofluoridated water.

2) Your statement that fluoridated water contains less fluoride than some waters naturally contain falsely indicates to the reader that water injected with hazardous waste toxic fluosilicic acid may, because of dilution, be compared with natural fluoride found in some waters.

Fluoride is not injected into water in a natural form (i.e. calcium fluoride, a material not listed on any toxics registry). The fluoride ion is one ingredient in the injected material used, fluosilicic acid, H_2SiF_6 (listed on all toxics registries because of its very low LD50). This largely becomes silicic acid after sodium hydroxide is added to neutralize the potent fluosilicic acid (with its accompanying corrosive HF, hydrofluoric acid) at onsite facilities, to avoid dissolving water pipe fixtures, and is known to contain variable amounts of arsenic, lead and radioactive (as-yet-unidentified) substances that CDC presumes are of 'minimal' concern, even though written proof of testing data is unavailable. The material is described by CDC on their website as the hazardous waste byproduct of the phosphate fertilizer industry that is washed from pollution scrubbers. It is re-packaged and sent to water districts with the generic title of 'fluoride'. Fluosilicic acid has a lethal dose LD50 for acute poisoning in animal studies comparable to that of arsenic, while natural calcium fluoride is not a listed toxic with a high safe LD50. This is because, even at low levels below precipitation of calcium fluoride, the fluoride ion tends to accumulate in fluids and tissues where calcium ion predominates. Thus fluoride is not assimilated as well into the blood when consumed from hard water.

Our most serious poisonings in the U.S. thus have occurred in states and cities that have soft, calcium deficient water. In Hooper Bay, Alaska the first known consumer fatality was killed with a heart attack when the fluoride pump was degraded by the HF because the Yukon River is soft water from snow melt (New England journal of Medicine 1994). 302 people were poisoned in this disaster but fortunately most left the hospital still alive. Horses in Pagosa Springs, Colorado were killed by silicofluoridated very soft water. This took 9 years because there were no accidental overfeeds. These animals drink their body weight in water every week, unlike humans requiring normally a month. They died after much suffering, where their hooves and teeth were crumbly and destroyed (Fluoride Jan, 2008). The brain tumors precipitating their demise are presumed not due to fluoride because no animal data point to fluoride as causing brain cancer. However, we have no animal testing data where fluosilicic acid is given with soft water for 9 years. These incidents would not have happened if natural calcium fluoride had been the ingredient. Water supplies with very high natural calcium fluoride levels do not acutely poison to lethality but instead cause, for example in India, very substantial bone deformities.

The artificial, unnatural 'fluoridation' practice still persists now, largely by endorsement from the dental lobby of the CDC and their Public Health Service subgroups throughout the country. The citizens of Pagosa Springs demanded their small water district stop the injections. Although Hooper Bay remains

nonfluoridated today, the Public Health Service still insists that they be given another chance to fluoridate the town again. The citizens refuse. In large cities with huge water districts and boards, refusal is not possible. For example, here in San Diego, the city will soon start for the first time in history to slicofluoridate all San Diego city proper, even though the citizens were wise enough to vote against this on three separate occasions over the last several years. The city council has overturned the will of the people and is accepting several million dollars from a dental consortium as startup funds to purchase the huge rubber lined stainless steel tanks and the fluosilicic acid to being drugging the public without their consent, as is done in most cities now across the country (Fagin, Scientific American, 2006). Throughout the country when citizens have been allowed to vote, more often than not they have voted 'no.' The entire state of Nebraska retains rights to fresh, non-fluoridated water because of voters defeating the referenda.

The Osmundson data presented at the Toronto Fluoride Conference demonstrated strong correlations with increased per capita heart attack, infant mortality, mental retardation and diabetes incidence in states with progressively higher % populations using artificially silicofluoridated water. There are many cleansing agents that are useful for dental hygiene that do not cause the widespread adverse biological effects that fluoride does once in the bloodstream. I humbly urge you to join the National Kidney foundation and to please warn all diabetics under your directive care to avoid consumption of artificial fluorides.

Animal studies have routinely shown that longterm consumption of 1 ppm artificial fluoride (but not calcium fluoride) shorten lifespan by about 10%. Confusion arises among toxicologists since many fluoride induced effects do not become readily visible on many bodily processes for long periods of exposure, where the ion is a cumulative poison. There is no need to be confused. Studies of short duration, less than a full year, do not for example produce significant increased incidence of bone cancer in treated rats. Studies that treat animals longer than a year most certainly do (ATSDR, 2003). This is consistent with the new study by Bessin that young boys exposed to fluoridated water, years later, have a 5 fold increase in lethal bone cancer. The ion also accumulates in the pineal gland where hydroxyapatite, as is present in bone, resides (NRC, 2006). The detailed effects of this are not understood yet partly because the functions of the pineal are only now coming in to be understood, being for example important in regulating soundness of sleep, memory and other cognitive effects that are not easily studied by toxicologists.

The ongoing longstanding experiment of injecting artificial fluosilicic acid from the phosphate fertilizer industry waste scrubbers must be halted. The FDA has never approved of the practice because there are no long term clinical trials using fluosilicic acid in human subjects for them to support it. I have asked the FDA to ban the practice and that petition is under review. For a copy please see 'Toxicity of Water Fluoridated Artificially' at www.lulu.com search my name or the title.

I would appreciate you providing a copy of this letter to the board members of the ADA. In caring for our diabetic patients in this county it is imperative that this knowledge be made widely known. Moreover, legal action has been undertaken against the CDC for falsely promoting fluosilicic acid hazardous waste as a 'water additive'. In addition, trial lawyers are increasingly involved in legal attacks in defense of citizens for which harm can be proven. The fact that diabetics consume larger than normal volumes of water when not in good control of blood sugar will soon, I suspect, spawn lawsuits on behalf of affected victims. The ADA needs to remain in a position free of attack, and I urge you now to make a stand against the injection of fluosilicic acid into diabetic blood through the mandatory treatment of the general public via the public water supply. This, according to many FDA spokesmen, is uncontrolled use of a drug which has not been FDA approved in the fist place and for which dosage cannot be regulated.

To me, after fighting against this practice for many decades, I understand that the substance is a toxic calcium chelator and never belonged in any person or animal's blood in the first place. It has no nutritive value of any kind and only exerts pathologic effects because of its irreversible attachment to areas in the body enriched in calcium. This requires that bone tissue undergo unnatural extra replication in order to be able to release calcium in a relatively normal manner into the blood to support the heartbeat and most all other bodily functions. We must end this practice of drugging people without their informed consent, which is a violation of Federal drug law, once and for all, and we need the ADA to join us to help achieve it.

Thank you very much for your attention.

Richard D, Sauerheber, Ph.D.

p.s. I know you recall when the FDA banned the use of first generation sulfonylureas for treating type II diabetes because these drugs increased heart attack rates. I lost my grandfather because of them. Believe me, fluoride, whether officially banned by the FDA eventually or not, also comes under this category, where zealous and altruistic promoters thought their efforts would lead to something beneficial but sadly turned out not to be so in the slightest. It was better not to treat the person at all.

Approximately 4.5 quarts, 12 pounds, of bone char were placed in a whole house water filter tank of 8 inches diameter by 4.5 feet tall. The graph below indicates the fluoride concentration in Vallecitos Water District, CA municipal water at the time the tank was installed, 0.8 ppm, and for a several month period afterward. Two to three days after installation, the fluoride level plummeted to 0.3 ppm and remained at a low level for many thousands of gallons of water use as indicated. Notice that this is only about a gallon of char that largely de-fluoridated 16,000 gallons of water, which is quite impressive. Presently, we are examining 50 pounds of char under the same conditions, and also we plan to investigate flow rate vs. fluoride removal percentage for undersink filter devices from Promolife in Arkansas and from our own locally made filters with various amounts of char. Full flow usually decreases fluoride removal efficiency for undersink or shower units, and it is necessary to determine the volume required to ensure substantial removal.

March 26, 2009

Lyle Jaffe and Jane Axelrad
Center for Drug Evaluation and Research
Food and Drug Administration
Department of Health and Human Services
Rockville, MD 20857

Dear Lyle Jaffe and Jane Axelrad,

This attachment supports petition #2007P-0400/CP, submitted to the Federal Register, September, 2007 and here specifically requests that the drug fluosilicic acid be banned from injection into public water supplies. Claims by the Oral Health Division, Centers for Disease Control, that this compound when diluted provides fluoride ion that is biologically identical to that found in natural waters is unproven in clinical trials (see recent letters to you and the U.S. Surgeon General). Moreover, its interaction with aluminum ion, a widely-used water clarifying agent, here requires further description.

The repeated studies of Varner and coworkers, published in Brain Research and in Fluoride, summarized at www.fluoridealert.org, prove that the presence of aluminum ion and fluoride ion together in water, given to experimental animals, leads to rapid and substantial accumulation of aluminum into brain and symptoms similar to human Alzheimer's disease. The mechanism by which aluminum is efficiently assimilated into the blood is by forming the electrically neutral aluminum fluoride molecule, AlF_3. Ionic aluminum is not readily assimilated through intestinal villi. For example, separately added aluminum ion without added fluoride ion at the same levels were not rapidly effective.

The CDC Oral Health Division, who are advocates for silicofluoridation, challenged the relevance of these data (visit their website) on the published grounds that fluoride and aluminum levels used in city water supplies are lower than this (P. Jackson, P. Harvey and W. Young, Chemistry and Bioavailability Aspects of Fluoride in Drinking Water, WRc-NSF Ltd, 2002; http://www.bfsweb.org/ducoments/wcreport.pdf). It must be emphasized however that chemists reported in this study that *aluminum fluoride molecules preferentially form at pH 5 for ion concentrations currently employed to fluoridate aluminum-treated public water supplies (Jackson, 2002). The biological significance of this startling admission was not understood by the study authors.* This, and their idea defended by CDC, that artificial fluorides biologically are 'no different' than natural calcium fluoride, were claims based only on water chemistry. No animal testing of any kind prompted these statements. Understand that the acidity of stomach contents at pH 3-4 causes (by admission of Jackson, et.al.) formation of stoichometric levels of aluminum fluoride compounds. Assimilation of some substances occurs through the gastric mucosa, but the tissue designed for efficient assimilation are the intestinal villi of the duodenum which first appear immediately after the gastric pyloric valve. Between this valve and the pancreatic duct, where bicarbonate finally re-neutralizes stomach acidity, the pH of the chyme fluid only slowly rises from 3-4, eventually to pH 8 for enzymatic digestion in ileum. No mechanism is present to block uptake of trace amounts of aluminum fluoride uncharged molecules into the blood in this post-pyloric section of the intestine. The amount of aluminum fluoride assimilated varies of course, depending on one's peristaltic action frequency and transit time toward the ileum, the length of the section, typically one foot, one's diet (including water hardness as mentioned previously), the residual aluminum level remaining after water clarification with the agent, and many other factors.

Most importantly, the brain phenomena discovered by Varner occur in a very rapid time interval, only a few months, which is about 5% of the experimental animals' usual lifespan. Concentrations of these ions ingested by human beings for entire lifetimes from silicofluoridated water have not been found to incorporate 'insignificant' brain aluminum fluoride. The complete absence of controlled human clinical trials with the drug fluosilicic acid under conditions employed by municipal water treatment facilities is a violation of the U.S. FDA Food, Drug and Cosmetic Act. In such absence, details of how quickly and

extensively fluoride and aluminum accumulate into human brain from silicofluoridated, aluminum-treated water may be only estimated. Also, as it stands, inferences from epidemiologic evidence correlating fluoridated water with Alzheimer's disease appear contradictory, and thus easily ignored by the careless, but are simply clouded, since hydrated aluminum ions at water pH are filtered out readily with carbon, reverse osmosis, or other methods commonly used by many people consuming municipal water.

Some people are unaware of the brain hazards inherent in fluosilicic acid treated water, including for example the well-published decreased mental I.Q. for children raised on fluoridated water, the recent correlations found by Osmundsen, ranking the 50 U.S. states according to % using fluoridated water with increased mental retardation and other effects, and the incorporation of fluoride into the brain's central endocrine pineal gland at 4 times that found even in bone (fluoridealert.org).

The finding that aluminum fluoride complexes exist at pH 5, for ion levels injected intentionally into public water, is a key step in explaining why water plant operators must be ordered to cease injecting fluosilicic acid into public water, a course that Niagara Regional Water, Canada has recently undertaken that now supercedes all previous Canada fluoridation law.

We all have the same objective, to help prevent childrens' cavities while also not affecting their lifelong health and well-being. By not clarifying that aluminum fluoride molecules are assimilated, that it chemically forms at pH 5 in the stomach and early duodenum at levels injected into public water supplies, and that aluminum accumulates from ingested artificially fluoridated, aluminum containing water into animal brain, the CDC misrepresents this drug. Excluding the required listing of all known potential hazards for any agent, proposed to be ingested to treat human tissue, constitutes a violation of Federal drug law that we citizens cherish and rely on for our protection.

The sophisticated and systematic attempt by vested interests at the Oral Health Division attempts to reduce this problem to be 'insignificant'. Continued claims that fluoride ion in hard water, or together with aluminum, behaves 'no differently' than in soft water, or in the absence of aluminum, because the ion remains dissociated at pH 7 in city water, is unethical misuse of chemistry. The intended implication is that the water data 'proves' biological relevance after ingestion, where sophisticated tissues react to the drugs that are present. After assimilation, compartmentalization of molecules and ions inside cellular regions are well known. For example, fluoride uptake into calcium-rich bone forms irreversible calcium fluoride insoluble precipitates at concentrations far below those causing precipitation in water.

Fluoride and aluminum ion accumulation into selected tissues is a progressive, cumulative, incremental process occurring over the lifespan of individuals consuming such drug-treated water. It is impossible to conduct controlled human clinical trials for decades of time. Therefore, the CDC has no satisfactory proof whatsoever that ingesting silicofluoridated, aluminum treated water for such time intervals are completely unrelated specifically to the current epidemic of Alzheimer's disease in this country, or the mental

deficiencies that have been correlated with decades of fluoridated water consumption by children (fluoridealert.org).

Human controlled clinical trials, with various levels of water hardness, with/without aluminum ion, have not been done, again in clear violation of the Food, Drug and Cosmetic Act for any chemical, natural or artificial, purified for human ingestion. Promoting fluosilicic acid use in the absence of such trials is a matter for Drug Enforcement Agencies and district attorneys. FDA must end this procedure now that we have confirmed it is a national mistake with long-term unacceptable biological effects that are so easily ignored and assumed unimportant. For example, hip fractures in the elderly that commonly lead to final demise is usually attributed to pneumonia that develops from longstanding immobility, while the fluoride concentrated bone that exhibits delayed healing is usually dismissed (NRC, 2006). Brain functional effects of aluminum fluoride are impossible to quantify because no one can be certain of one's functionality that would have existed in the absence of aluminum fluoride after consumption has already taken place.

All fluorides should be avoided, rather than sought, where FDA classified artificial fluorides as drugs having no nutritive value (see petition). Natural fluoride is always accompanied by much protective alkaline earth ions from non-fluoride salts, lowering its activity and biological effects. Intentionally injecting fluosilicic acid constitutes uncontrolled use of a drug with un-regulatable dosage (in mg/kg/day units). For aluminum-treated municipal water, we know understand that fully soluble fluosilicic acid poses exceptional risk to human and animal populations. Even when aluminum injection is tightly controlled below fixed maximum amounts, remember that other sources of aluminum in the diet are considerable, including cooking with fluoridated water in aluminum cookware and consumption of carbonated beverages in aluminum cans and other sources. The low assimilation of the ion would minimize this accidental risk if not for water fluoridation, which does not treat water for sanitizing purposes but intentionally treats human teeth and is therefore unnecessary and replaceable.

FDA's own home base, Washington, D.C., has been artificially fluoridated since 1952, and past Surgeons General have often touted the procedure. But please understand that these difficult hurdles have already been overcome. Data for Washington, D.C. indicate that artificial fluoridation has been ineffective in its intended use, being one of the highest per capita dental caries areas in the country. The "typical new patient, age 6, has five or six teeth with cavities -- a 'staggering" number'" at the Children's National Medical Center." This compares with what is found in many states, where longterm fluoridated cities experience twice the cavity rates as nonfluoridated regions (fluoridealert.org). No trend toward fewer cavities was found by Osmundsen when the 50 U.S. states were ranked according to % of the population consuming fluoridated water. The data taken together prove that the expensive, unhealthful, useless procedure must be called off. Sufficient data exist to require a ban of fluosilicic acid injection into

public water supplies, and as this information becomes widely accepted, the world waits for the FDA to honorably take charge.

Richard Sauerheber, Ph.D.

Richard Sauerheber, Ph.D.
Palomar College
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May 14, 2009

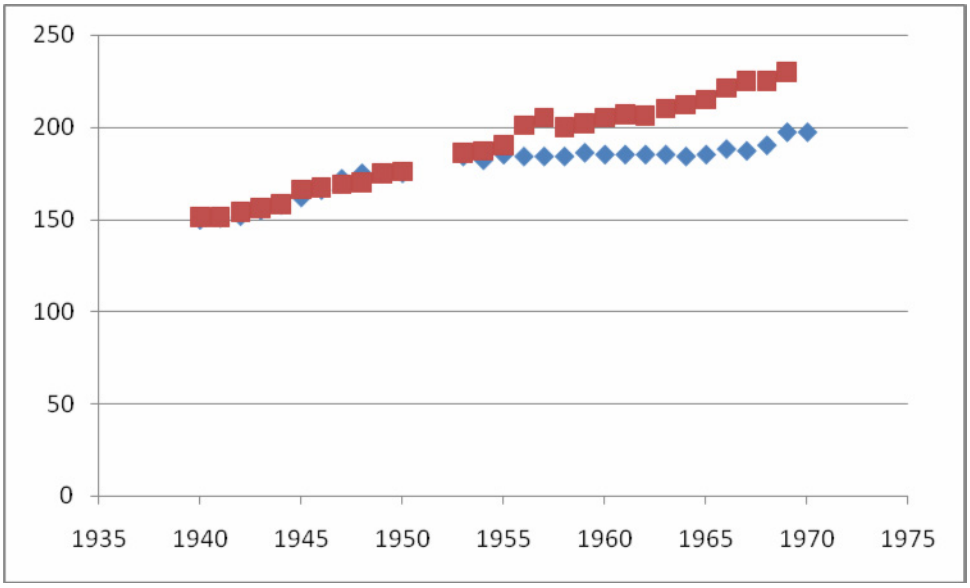
Lyle Jaffe and Jane Axelrad
Food and Drug Administration
Department of Health and Human Services
Rockville, MD 20857

Dear Lyle Jaffe and Jane Axelrad,

This attachment supports petition #2007P-0400/CP, submitted to the Federal Register, September, 2007 that specifically requests the agent fluosilicic acid be banned from injection into public water supplies because it is being used as a drug to treat humans without FDA approval. Our last attachment described claims by the Oral Health Division of the Centers for Disease Control that fluosilicic acid when diluted provides fluoride ion that acts biologically 'identically to that found in natural waters' as a gross error. Natural fluorides from calcium salts are always accompanied with large amounts of divalent cations from nonfluoride salts. Injection of fluosilicic acid without calcium raises the ratio of fluoride to calcium in most cites by a huge 5-fold (where natural fluoride at 0.2 is increased to 1.0 ppm). The adverse biologic effects of fluoride are largely determined by the environment in which the ion resides, where hard water is protective and tends to decrease assimilation from the GI tract.

Presented here are important data demonstrating that artificial fluorides are carcinogenic agents at levels currently injected into U.S. city water supplies. We have now examined these data that for various reasons have not been widely disseminated. The text currently out of print (Yiamouyiannis, J, Fluoride the Aging Factor, Health Acton Press, 1993) was donated to me from dentist Dr. Layton in the San Diego area who has long opposed use of the insecticide/pediculicide fluosilicic acid as an oral drug and has opposed all unnatural fluorides lacking calcium as dental treatments of any kind. Enclosed also is a letter written by local dentist Dr. Banks that lists dentists and physicians in the San Diego area who have fought for many decades against artificial fluoride compounds used either in dentistry or as oral drugs. Another enclosure includes data that show how the original Kingston-Newburgh test cities were interpreted incorrectly until health officials did so after a 10 year thorough analysis.

The key data FDA must acknowledge is on page 75 of the textbook, reprinted here for your convenience. In all U.S. history, the period from 1940 to 1970 spanned 12 years before and 12 years after artificial fluoridation was begun in 10 of 20 large cities above 100,000 population. The cancer death rates per capita in these 20 cities in the U.S. steadily increased since World War II in parallel fashion. Artificial fluoridation of city water supplies began in earnest widely in 1952, and those cities which were fluoridated (red squares) exhibit dramatic increases in cancer deaths per capita compared to cities that did not participate in artificial fluoridation (blue diamonds).



These data are reprinted here with permission from a longtime friend of the deceased author, whose text is now out of print, who wished the information be spread to all fluoridated city residents. His caption for the figure reads: The vertical axis represents cancer death rates per 100,000 population. The horizontal axis are years from 1940 to 1970. Red squares are yearly average cancer death rates of the 10 largest cities that were to become fluoridated after 1952, before 1957. Blue squares are yearly average cancer death rates of the 10 largest non-fluoridated cities that had comparable cancer death rates during the period before fluoridation (1940-1950) which never fluoridated before 1970. Data were from standard government sources of vital statistics and census figures (not available for 1951 and 1952). The graph represents one million cancer deaths, the experience of 18 million Americans during the 30 year period.

These data, naturally, were challenged extensively by promoters of fluoride, and in each case these criticisms have been answered so efficiently that it is beyond any reasonable doubt to confidently conclude that artificial fluorides in water act as carcinogens when consumed by humans over chronic time periods.

The data are not surprising since it has long been known to occur in animals consuming 1 ppm fluoridated water as long as the consumption time period is sufficiently long, usually approximately half the normal lifespan of an animal (Agency for Toxic Substances and Disease Registry 2003; National Research Council Fluoride in Drinking Water, 2006) and with data from Bassin detecting a huge increase in lethal bone cancers in young adults if they were raised on fluoridated water in the 7 year age time period (fluoridealert.org). Even the OHD at CDC acknowledges that chronic consumption of fluorides for long time periods causes lethal bone cancer (as written on the CDC website under fluoridation), and yet then state their goal to force fluosilicic acid into all public water supplies will remain in effect anyway.

The idea that somehow data, on the graph might be explained by factors other than fluoride are now untenable. One criticism for example was that by coincidence at the time fluoridation began, the population demographics suddenly changed for those cities such that older ages were more concentrated than in non-fluoridated cities. However, a Pennsylvania state court carefully examined this and other critical proposals and discovered that this, and differences in race, sex and other factors, were satisfactorily answered by the epidemiologists who reported the data (November, 1978, p. 201, Fluoride the Aging factor, 1993). Judge John Flaherty ruled the data required him to be compellingly convinced that fluoridated water is a carcinogen. He ordered a halt of this practice in his region. He ruled that every

criticism was carefully analyzed point by point and fully explained in that detailed trial. There is no doubt that artificial fluoride injected into drinking water is a carcinogen. Later, the Pennsylvania State Supreme Court argued that state courts do not have the authority to make rulings over what citizens drink, so the practice continued on, but the conclusion of carcinogenicity was nevertheless unchallenged!

Fluosilicic acid is a carcinogen. It is a violation of the Food, Drug and Cosmetic Act to offer for pharmacologic use any agent that is known to cause cancer in animals or man at doses within an order of magnitude of that proposed for use. Fluosilicic acid injection into public water supplies to treat human tissue is a violation of this important law, and since courts struggle with this issue, it is imperative to request the FDA to revoke anyone from having a right to dispense such drugs through the public water supplies, transforming normal fresh water into a noxious drug.

It has come to my attention that FDA has recently taken the time to pursue a cereal manufacturer because of claims that oat cereal lowers blood cholesterol levels. Some at the FDA feel that since drugs are widely disseminated for this purpose that Cheerios should be regulated as drugs are, if that claim is made. However, eating celery or other types of foods that substitute for cholesterol-rich foods also lower cholesterol. Whether oats intrinsically also lower beyond this effect or not is immaterial, because the claim is correct that it at least lowers it, as does celery by substitution. Any amount of cereal, or celery, eaten leaves less capacity to consume cholesterol-rich foods, other things being equal, so the claim is not anywhere near as misleading as are claims made by the CDC for fluosilicic acid. CDC claims that 1) fluosilicic acid treated water is safe (when it is not as seen here and in the original petition), 2) effective (when it is not, as seen in the enclosed handout on incorrect statistics from the original Newburgh study), 3) is a mineral nutrient (which it is not, as FDA officially wrote decades ago (see petition) based on superb data from who grew generations of animals on feed and water containing zero fluoride and found no alterations in any physiologic parameter of any kind), 4) is not a drug (when it is used as a drug to treat humans to specifically raise blood fluoride levels (see petition) rather than to sanitize water), 5) is legal (when it is a violation of at least 7 counts of Federal drug law where this non FDA approved chemical (which is nothing but crude hazardous waste) is produced at fertilizer pollution scrubber facilities and formulated with caustic soda 'drano' at water district locations to dispense into municipal water supplies that are not registered with nor approved by FDA.

FDA, not the courts, is the only organization to serve the public that is authorized by Congress to ban fluosilicic acid injections into public water supplies. Now that we have obtained such vital information after-the-fact, it is impossible to avoid this ban. Given the FDA struggle with Cheerios, there is obviously time available to devote to this overwhelmingly massive problematic insult on the health of most all U.S. citizens.

The cancer incidence graph is particularly important to Californians. The city of San Francisco is one of the fluoridated cities included, and incredibly our state chief fluoridation officer Donald Nelson, CA Department of Health and Human Services, under the authority and guidance of the OHD at CDC, announced publicly that he has personal firsthand experience, residing in San Francisco, where fluoridation for decades has not increased cancer in that city. This was obviously a false claim, designed to assuage public concern at the time, when Metropolitan Water was ordered by Nelson to begin fluosilicic acid injections into the greater Southern California's water supplies, December, 2007. He wrote a personal e-mail to me stating that the CDC is doing an exquisite job in assessing whether cities have increased disease characteristics after beginning fluosilicic acid injections and that San Francisco would have seen the evidence of more cancer or other diseases. And yet now it is clear that cancer incidence has been increasing steeply since world war II in most all U.S. cities nationwide, so evidently what he meant was that the rate of increase seems not to be increased further by fluosilicic. Obviously though cancer incidence nationwide had a steep curve from 1940 to 1955 that reached a high but leveling plateau

EXCEPT in fluoridated cities. Living among filth it is difficult to recognize its effects until one moves to where filth is absent, cleans himself, and learns how human beings are supposed to live. Californians are to be protected, not subjected to the additional unnecessary onslaught of chemicals that are out of place in fresh drinking water. Again, fluoride in the ocean at 1 ppm is not poisonous. And not because people know it is pathological to drink ocean water, but because even salmon are not adversely affected when the calcium to fluoride ion ratio is extremely high there. But extracting fluoride and concentrating natural salts and turning them into artificial fluoride compounds without calcium is what makes them poisons with an LD5-0 comparable to arsenic. Injecting fluosilicic acid into fresh water without high salt content forces fluoride to be poisonous because as it seeks a calcium-rich environment where it normally exists. Levels as low as 0.3 ppm fluoride in fresh waters of the Columbia River decimated salmon populations until the emissions were stopped; such levels narcotize salmon brain, preventing spawning.

Whether the graphed data are specifically caused by fluoride alone, or the contaminants known to be present in the fluosilicic acid crude preparations injected into water, such as arsenic, is immaterial and not necessary to further 'prove' in order to institute a ban against this noxious, FDA-unregulated material. Purified artificial calcium-lacking fluoride compounds, even at levels as low as 0.5 ppm in vitro, are well-known to block DNA repair enzyme activity and to cause genetic damage with readily visible chromosomal abnormalities in a wide variety of animal and human tissues (Yiamouyiannis, 1993). In the review by the NRC in 2006, pp. 304-339, examined data included many inconsistent findings but this is expected since the pathologic effects of fluoride ion are largely dependent on ionic strength and activity from divalent cations and carcinogenicity is a chronic event dependent on long-term exposures, the genetics of the organism [i.e. the presence or absence of cancer homeobox genes], the coincident presence of other carcinogens in public water supplies, and other factors. This does not detract from the studies that report significant aberrations in carcinogenicity, mutagenesis, and other cytogenetic effects. In well-controlled 1 ppm fluoridated drinking water studies, high incidence of various cancers occur when animals are treated for prolonged periods, compared to controls without fluoride over such periods (ASTDR, 2003). Most importantly, Dr. Mohamed and coworkers, geneticists at the University of Missouri, found that 1 ppm fluoridated water in mice cause chromosomal damage in only several weeks of duration in apparently very sensitive cells in the testes and bone marrow (Yiamouyiannis, 1993, p. 67). It is quite clear that fluoride causes genetic damage under a wide range of conditions. The mechanism of action cannot be precisely pinpointed in any cases because the ion interferes with so many metabolic processes, but evidence mostly suggests that it is the DNA repair enzymatic activity because this is so grossly inhibited at dilute fluoride levels (50% inhibition of activity at only 0.5 ppm ambient artificial fluoride).

In spite of the very cautious NRC report that considered inconsistencies, note on p. 336 their conclusions that "fluoride appears to have the potential to initiate or promote cancers, particularly of the bone" ,and "the increase in osteoma in mice is related to fluoride treatment," and "several in vivo human studies of genotoxicity suggest fluorides potential to damage chromosomes." There is little doubt that any drug firm application reporting this type of information, together with information presented in the original petition #2007P-0400/CP, to the FDA for approval of a proposed drug for human ingestion, such application would be denied.

Please remember the quote from Dean Burk, Chief Chemist Emeritus of the U.S. National Cancer Institute, "Everything causes cancer? Perhaps. But the real question is, how likely is any one particular cause? In point of fact, artificial fluorides cause more human cancer death and cause it faster than any other chemical". We all know the recent news of the sudden rise in mouth cancer, but Dr. Layton and the late Dr. Yiamouyiannis and many others lay the blame squarely on the prolonged use since the 1950's of artificial fluorides, increasingly used in dental treatments and pastes, coupled with the widespread additional use of fluosilicic acid water treatment in so many water supplies across the country.

It must be emphasized that a ban on fluosilicic acid injections into public water supplies, to treat humans rather than the water, is not a punitive act, but rather a health maintenance declaration. The individuals who first began this practice (before the FDA rules for drug developers were in place) that used calcium fluoride misleading information (see enclosure), including Dr. Heard, Gerald Cox, Anthony Mellon, Trendley Dean, Howard Hodge and their followers, are no longer with us. Also, U.S. President Barack Obama declared, after his ban on torture, that we are not interested in finding past fault, but rather in the future. Halting fluosilicic acid injections according to FDA guidelines that safeguard public health, as so many other countries have done, looks forward to the future of our nation and in particular the health of our nation's children. FDA is not responsible for anything else.

I do not know how to explain this any more clearly. Richard Sauerheber, Ph.D.

July 21, 2009

Dr. Richard Sauerheber
Palomar College
1140 W Mission Rd.
San Marcos, Ca 92069

Wild Animal Park
Escondido, CA

To whom it concerns:

I am Richard Sauerheber, Ph.D., medical researcher of over 35 years. When I directed the Rees Stealy Research Foundation laboratory, one of my board advisors was Dr. Charles Schroeder, D.V.M., former director emeritus of the San Diego Zoo and founder of the San Diego Wild Animal Park. As Schroeder told it, when he presented the idea to form the Wild Animal Park, most all people thought it was ludicrous and that such an adventure would be of no interest to the general public. Schroeder pressed on anyway and today we have the Park and it is a proud landmark in North San Diego County.

The reason I am writing for the second time in a few years is because I too like Schroeder have a mission that many claim is foolish and yet it is true. Water that is injected with the insecticide fluosilicic acid exerts significant harm to humans and animals after longterm consumption (see enclosed letter sent to the FDA, the CA EPA, the U.S. Surgeon General, the Metropolitan Water District, and the Los Angeles District Attorney). My concern is that when I tested a sample of water at the petting zoo, I was surprised to find the level of fluoride is 1.2 ppm, a level usually seen in So Ca only when it is from intentionally injected fluosilicic acid treated water. An employee at the park confided that city water is used to water all the animals, even the zebras. Zebras should be the first to develop symptoms such altered behavior and possible skin reactions, the extent of which all depend on the prevailing level of water hardness for calcium and magnesium, and mottled or browned teeth and crumbly hooves for animals raised from youth on such water. Zebras turn over their whole body water in about 3-4 days and are thus of most concern for accumulation of fluoride into their bones, teeth and hooves, while humans require about a month to hydrate this much. Remember that accumulation of fluoride in all animals is irreversible and that it is impossible for artificial fluoride ingestion, which typically produces levels in the blood of about 0.2 ppm under these conditions (NRC, 2006), to magically produce no adverse consequences. In humans, swallowed fluoride accumulates into bones in an irreversible manner where even after 25 years on fresh water the level in the bones remains (National Research Council 2006 report on Fluoride in Drinking Water, National Academy of Sciences, Washington, D.C.). This weakens bones and delays healing of any fractures. We in America now have an epidemic of hip fractures in the elderly (recent report in Nature, 2009) and I blame fluoride exclusively for this. We also now have vast data proving that cancer deaths are substantially increased in all fluoridated cities compared to nonfluoridated. Lethal bone cancers were virtually unheard of in America prior to water fluoridation and now we have significant cases, mostly 20 year olds dying of the disease after having been raised on fluoridated water at age 7 when the ends of long bones incorporate the deleterious ion (fluoridealert.org review of Dr. Bassin published data, Harvard

Univ.).

It is probably time to move the zebras, as was done for the elephants, from the park to the Zoo downtown where water as yet remains un-drugged. I've noticed the zebras have been segregated in their own pen and have been taken off the park visitor map apparently due to their showing 'aggressive behavior'. In my humble opinion what we may be dealing with is fully expected for these animals on intentionally fluoridated water, where the ion crosses the blood-brain barrier and accumulates into one portion of the central pineal gland which eventually becomes calcified. This gland is at the seat of brain subconscious. For human children raised on fluoridated water, dozens of studies have found that IQ drops substantially due to altered development (fluoridealert.org).

The Park began being insecticide treated 4 years ago and later began blending with Metropolitan Water which is fluoridated and injected with aluminum. Just last year the elephant shows were canceled permanently and the elephants were moved to the Zoo where gross mental derangement is a complicating factor. The coincident presence of low level aluminum and fluoride in water causes rapid accumulation of aluminum into animal brain and neurologic pathology similar to human Alzheimer's disease (Varner, Brain Research).

The fact that the city of San Diego citizens on several separate occasions voted against fluosilicic acid injections into public water has thus far fortunately prevented the City of San Diego Water Department from fluoridating, but the source of the problem is Metropolitan Water, Los Angeles, who feels mistakenly that AB733 law (which does not mention fluosilicic acid) requires them to inject it, so North San Diego County now receives their water blended with ours. It has been difficult to stop MWD although litigation is ongoing.

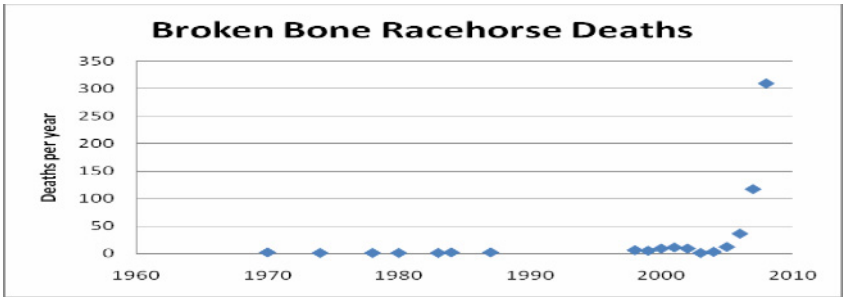
In soft water, the artificial fluosilicic is most deleterious. Please watch the brief 5 minute Youtube video from our own La Jolla dentist Dr. Kennedy called 'fluoride poisoned horses' documenting the fluosilicic acid ordeal that slaughtered prized horses in about 9 years, because the Colorado River water in Pagosa Springs was soft snowmelt without sufficient protective calcium. The detail published scientific manuscript describing this 9-year incident may be found at fluoridealert.org or in the original journal article printed in Fluoride, Jan. 2006. Although we in So CA have calcium at about 60 ppm, the ratio of calcium to fluoride when injected at 1 ppm is not sufficient to block all symptoms, but merely delays them compared to those in Colorado. Some San Pasqual valley water is very hard, but not other sections. Fluoride ion is smaller than the water molecule and It is simply too difficult to eliminate after injection. The FDA, CA EPA, MWD and LA DA are concerned, but sadly it is not likely to be stopped in the near future. In fact, I learned that the San Diego Water Department plans in 2010 to begin their own injections, feeling they are 'required' by state law to overturn the vote of the people. They were unduly influenced by 5 million dollars from a dental consortium to pay for start-up facilities, but most cities, such as Sacramento, sign agreements to give that money back if they change their mind and no longer wish to drug the water, so those that start typically remain so from that point on, although litigation occasionally works to reverse it. Moreover, it is a violation of Federal Drug law to offer for public consumption any chemical known to cause cancer in man or animals and to formulate chemicals for consumption used to treat human tissue in a facility that is not registered with AND approved by the FDA. FDA labels fluoride in toothpaste as a substance that cannot be swallowed, in drops as prescription-only drugs, and in water supplies as uncontrolled use of a drug.

San Diego, as most other U.S. cities, is being extorted. Fluoridated cities experience as high a cavity rate as nonfluoridated, as published in our four largest studies (fluoridealert.org). Artificial fluorides without calcium are always listed on all toxics registries for their low LD50 and are most commonly used as rat poisons, insecticides and pediculicides. In natural waters with atypically high fluoride, water calcium is always very high to help protect from its effects, but even then teeth interiors become crumbly and for this reason the dentist Dr. Heard in Texas who first recommended the treatment later apologized for this mistake. Because of these facts, most regions in Canada have stopped and rejected water fluoridation. The PHS and CDC Oral Health Division however are committed to and have vested financial and political interests that have caused them to feel they are on a 'noble quest' to help childrens' teeth and will not be stopped from continuing their program at nearly any cost. In fact, of the millions of pounds of fluosilicic injected into San Marcos water here, less than 1% is actually consumed by the people.

Letter to Governor Schwarzenewgger, 2009

FLUORIDE WEAKENS RACEHORSE BONES -- KEEP IT OUT OF DRINKING WATER

Adverse health effects are now ongoing in So CA due to fluosilicic acid injections into public water supplies, designed to 'decrease teeth cavities'. The graph below depicts data presented by the Equus Memorial, dedicated to horses mostly in the U.S. that have lost their lives since 1970 while participating in the 'sport of kings'. Many of the deaths include the recent precipitous rise of bone breakage deaths noted in So CA's Santa Anita, Hollywood Park and Del Mar racetracks. Del Mar alone had 8 lethal bone breaks in 2008 and in the first week in 2009 already has 7 such deaths. These are memorial descriptions after strict criteria for inclusion, where the actual total lethal racehorse deaths mostly due to bone breakage has been published to be 800 deaths just last year, 2008 in the U.S.



I cannot tell what all the possible reasons might be for this precipitous increase in broken bones in racehorses, but I do not agree that it is simply abrupt changes in breeding practices or worn-out track surfaces or synthetic polytrack alone that could be responsible. I am certain that fluoride, that accumulates from unnaturally drugged drinking water, into horse bone (see Youtube video 'fluoride poisoned horses' and 'Fluoride Poisoning of Horses from Artificially Fluoridated Drinking Water", Fluoride, January, 2006) plays a significant role. Fluosilicic acid (a crude hazardous waste from the fertilizer industry) or sodium fluoride injections into public water initially spread widely in the 1960's into many U.S. cities, but ranchers typically use wells to water livestock. In So CA however, city water is commonly used for horses so when acid injections began in 2006-2007 over the wide greater Los Angeles and North San Diego County area, suddenly 18 million So CA residents and animals began treatment with this insecticide (Merck Index) used as though it is a drug useful for children's cavities. The FDA has never approved of fluoride for human ingestion because its toxicity compares with that for arsenic and lead in tested animals and there is no way to regulate dosage through public water supplies.

CA ranchers that moved quarter horses to Pagosa Springs, Colorado did not realize that such drugged city water, that was there, was unsuitable for horses which were killed by fluoride in 9 years (no fluoride was present in animal feed or in nutritional supplements). X-rays on autopsy revealed that the earliest effects of fluoride were incorporation into bone, causing them to be thickened and weakened. Later on, hooves and teeth became crumbly, skin reactions spread and their eventual deaths were due to associated cancers. Fluoride incorporates into bones at thousands of times that in water after drinking 1 ppm fluoride for only fractions of a lifespan (2 years in humans). The natural bone converts to a fluoroapatite derivative, altering the structure that interferes with whole body calcium metabolism, where the effect is fastest in soft waters. The indestructible, nonfilterable fluoride ion (smaller than the water molecule and oxidized by no chemical substance on earth) is now leeching into various ground water sources throughout the country as well.

No decrease in teeth cavities occurs from blood fluoride after swallowing, but instead adverse biologic effects occur in the fluoridated human population, including detectable increases in per capita cancer deaths (Yiamouyiannis, Fluoride the Aging Factor, 1970; National Research Council, 2006), increased mental retardation (Osmundson, 2008 see fluoridealert.org), increased heart attack per capita incidence (see www.lulu.com 'Toxicity of Fluoridated Water'), and the well-described epidemic we are now experiencing of lethal bone fractures in elderly

people (Nature, 2008). Likewise, the Irish Osteoporosis Society (see fluoridealert.org) reports recently that Ireland, the most heavily fluoridated country in Europe, reports vast increases in hip fractures in the elderly since fluoridation practices began there.

It is time to request that Metropolitan Water District, Los Angeles cease and desist injecting into public drinking water any further fluosilicic acid and caustic soda (active ingredient in 'Drano' drain cleaner to slow the fluosilicic acid corrosion of District water pipes). The drugs were injected to treat children's teeth where humans drink their body water volume monthly, and was not designed for horses who consume 30 gallons of water every day, turning over their entire body volume every 4 days.

Del Mar itself is not yet fluoridated, but Escondido (4 years), the entire Los Angeles basin (2 years) and North San Diego County (2 years) are. Mayor Sanders overturned the votes of the people and accepted $5 million from a dental consortium to fluoridate in May, 2010. After 1-2 years, horses on fluoridated water develop pathologic bone structure and other symptoms that progressively worsen over time while drinking it because it is irreversible after incorporation. Drinking non-drugged water for 25 years does not lower the fluoride that had already accumulated (NRC, 2006). All drug injections from water districts violate 8 counts of Federal drug law, where facilities formulating the fluosilicic-caustic soda mixtures, or sodium fluoride injectables, are not registered with nor approved by the FDA. CA AB733 does not mention "fluosilicic acid" that water districts mistakenly believe is 'required', which is actually against Federal law.

Metropolitan water is also treated with aluminum ion to clarify the water. The coincident presence of both aluminum and fluoride causes quick uptake of aluminum into brain and neurobehavioral pathology in experimental animals (Varner, Brain Research, see fluoridealert.org). Sadly, we recently discovered that the San Diego Wild Animal Park has been fluoridated for a few years now, and what has happened recently there is alarming. The elephant show has been permanently canceled and many of them were moved to the Zoo which is as yet not fluoridated. One animal has mental derangement (personal communication with an anonymous zoo employee) which is not surprising knowing they drank 60 gallons of the fluosilicic acid insecticide treated water that also contains aluminum, daily for two years. Likewise, all zebras (40 gallons of water daily) are isolated in a separate pen for new 'unusually aggressive behavior' (personal communication with two park employees). High volume consumption of artificially fluoridated water (without sufficient calcium) contributed significantly to these problems because fluoride in animal blood, which mostly comes from unnatural forms, cannot possibly 'hide' and exert zero adverse effects.

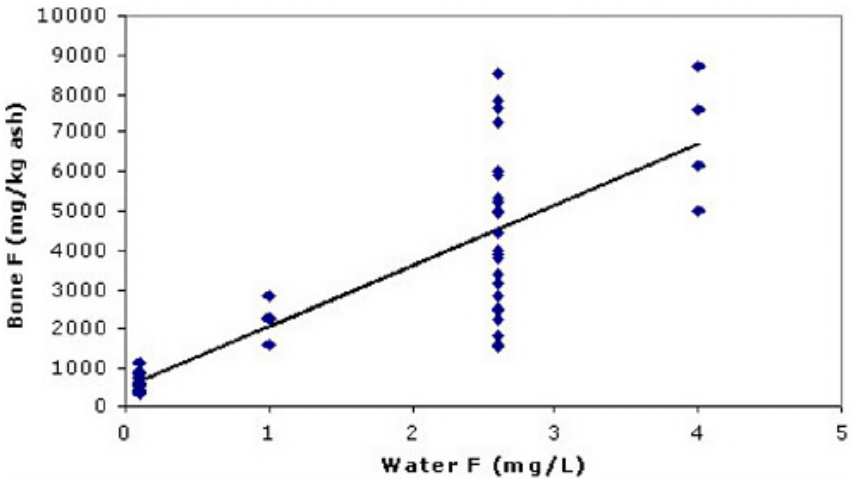
Fluoride Uptake into Human Bone

(Reprinted from National Research Council Report on Fluoride in Drinking Water, 2006, National Academy of Sciences, Washington, D.C.).

TABLE 3-2 Fluoride in Human Bone Due to Chronic Water Exposure for 24 months

Water Concentration, mg/L	Average Iliac Crest Concentration, mg/kg Ash
0.1	665 ± 224 (n = 17)
1	2,249 ± 506 (n = 4)
2.6	4,496 ± 2,015 (n = 25)
4	6,870 ± 1,629 (n = 4)
Total	3,203 (n = 50)

Figure 3-1 plots bone fluoride level versus water fluoride (F) concentrations



Note that 1) accumulation is linear, rather than saturable which proves it is a pathology, not normal physiology; 2) long-term consumption of fluoridated water at only 1 ppm incorporates fluoride to 3-4,000 mg/kg into bone after about 20 years typically that is usually associated with severe bone pain requiring hospitalization, and 3) subjects moving to non-fluoridated water source cities maintain their accumulated bone fluoride level for 25 years because this unnatural, pathologic accumulation is irreversible (NRC, 2006). Email: richsauerheb@hotmail.com phone 760-744-1150 xt 2448. Fluoride Poisoned Horses article: www.fluorideresearch.org/391/files/3913-10.pdf

Letter published in North County Times, July, 2009: Fluorides are the Patty Hearsts of chemicals. William Randolph's daughter was harmless in normal surroundings. When kidnapped by the SLA, she became a criminal. Likewise, natural fluoride, as in the ocean at 1 ppm surrounded with much calcium, is harmless. But when extracted from calcium, it's poisonous, like kidnapped Patty. Extracted fluorides are rat poisons/insecticides, nearly as toxic as arsenic (Merck Index). Hazardous waste fluosilicic acid injected into water isn't approved by the FDA. The EPA, allowing 4 ppm total fluoride, didn't understand that sufficient calcium must also accompany it. Metropolitan injects artificial, calcium-absent fluorides to 1 ppm total, not a 'small amount' for fresh water. Increased cancer deaths occur long-term in artificially fluoridated U.S. cities (Fluoride the Aging Factor, Yiamoumannis, 1993, p. 75) where most fresh water isn't hard enough to block the injected kidnapped form that water districts presume 'is natural'. Please contact District Attorneys about this; we've lost far too many to cancer. Incredibly, water bills are now going up, partly to pay for this (discovered by councilwoman Donna Frye), which violates AB733 that insists taxpayers and ratepayers NOT be charged for something nonessential.

Hope glimmers Toward healthier Water (North County Times, Escondido, CA, July, 2009)

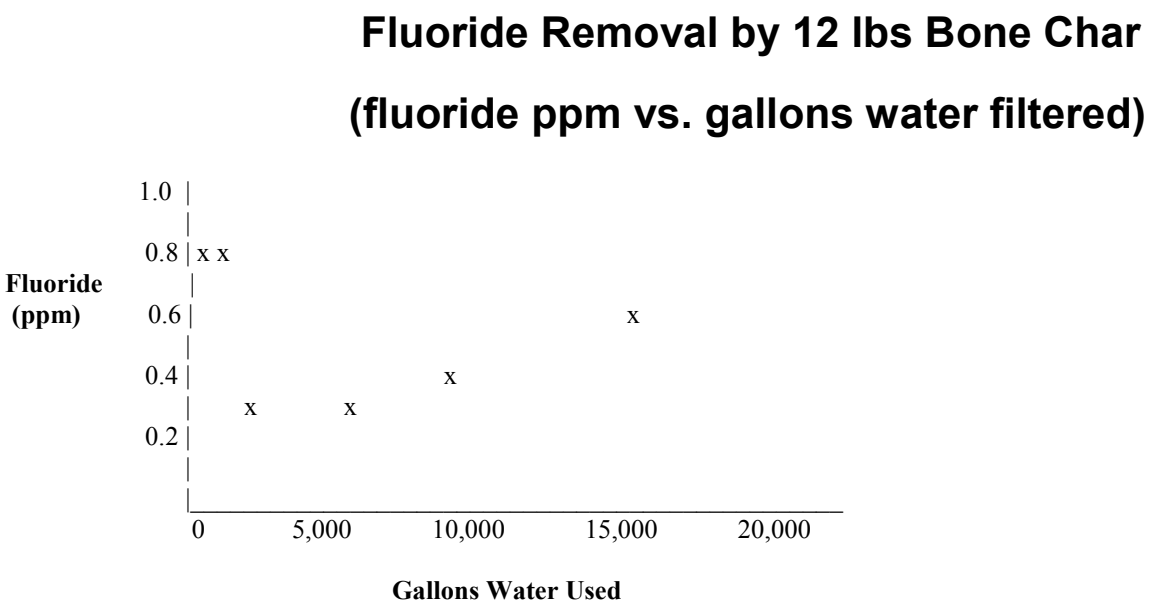
There's hope brewing toward someday rescinding the flawed plan to treat drinking water with hazardous waste fluosilicic acid-caustic soda ("Drano") to force fluoride into the blood of consumers.

First, the district attorney in Los Angeles responded that attorney Thomas Papageorge, head deputy, Consumer Protection Division, was given the list of eight counts of possible federal drug law violations by Metropolitan Water, which treats human tissues with its mixture without being registered with, nor approved by, the Food and Drug Administration. The fact that this DA didn't ignore the information is fantastic.

Second, the California Environmental Protection Agency placed fluoride salts in its highest category possible to review for regulations to minimize cancer-causing activity (http://www.fresnobee.com/547/story/1459684.html). This turn of events occurred for several reasons:

vast prospective experimental data on animal carcinogenity of unnatural fluoride, convincing epidemiological cancer data on humans in fluoridated versus non-fluoridated
cities, and the fact that nearly 70 percent of U.S. water is injected with these agents. The FDA has been notified of these California activities. The FDA labels toothpaste fluorides as drugs, fluoride drops as prescription drugs, and water fluoridation as uncontrolled use of drugs, where side effects and allowed daily doses can't be labeled.

Richard Sauerheber, Ph.D. Chemistry



Letter sent to North County Times, March, 2009: Happily, the National Institutes of Health concluded diabetics must stop drinking fluoridated water. Sadly, the CDC has vested interests against that. Uncertain why small numbers of Americans succumb to lethal, painful, untreatable bone cancer, the CDC enforces toxic hazardous waste fluosilicic acid consumption anyway, even though fluoride's a reported bone cancer cause in animals (Agency for Toxic Substances and Disease Registry, 2003) and in rare susceptible people. Bessin at Harvard reported 5 fold increased bone cancers for kids raised on fluoridated water (though 99.99% of people escape it).

Unluckily, comedian Ed McMahon is horribly suffering from it. Born in Detroit, raised in Massachusetts before water fluoridation, his cause may be elsewhere. However, significant bone cancers even develop in adult animals when forced to drink fluoridated water for half their usual lifespan (ATSDR); less time didn't increase it significantly. This may confuse CDC, but not toxicologists. 1 ppm water fluoride accumulates permanently into bones yearly, in sequential 1-2,000 ppm increments (National Research Council). 85 year olds generally have high bone loads. The burden to disprove cancer causation trumps proof it does. Ban synthetic fluorides as water drugs. Anyway, how do all diabetics avoid fluoride when it's plumbed into their homes?

Fluoride Levels in Various Fluids

All measurements were conducted by:
Dr. Richard Sauerheber, Palomar College, San Marcos, CA.

It is important to note that Niagara Regional Water in Canada ordered all water district chemists to cease and desist from injecting fluosilicic acid into public water that supersedes all existing fluoridation law. Also the fluoridation referendum in Nebraska during the 2008 presidential election voted down fluoridation in 53 of 60 cities participating. Oral consumption of artificial fluoride compounds has never been approved by the U.S. FDA and has been recently rejected as well by the National Research Council of the American Academy of Sciences. Fluoride levels are here reported for the public interest. A LaMotte Instruments electronic fluoride electrode meter was used to measure the free fluoride ion. (Some measurements shown employed a Hannah Instruments colorimetric photometer which likely measures fluoride from hydrofluoric acid HF, as well as the free ion).

Fluoride electrode readings:

Drinking Waters:

Public:

San Marcos city water (Redwing) 0.8 ppm (during last week in October, 2008)
Palomar College drinking fountain 0.7 ppm
San Marcos city water (Redwing) 0.6 ppm (November 3, 2008)
Palomar College drinking fountain 0.6 ppm (November 3, 2008)
Carlsbad city water at South Carlsbad Campground 1.0 ppm
Escondido city tap water (East of I-5) 0.8 ppm

Commercial:

Albertson's spring water .14
Alkaline (IonWays) .4
Aquafill 0.21
Aquafina 0.0
Arrowhead 0.4 - 1.3 depending on lot
Crystal Geyser drinking water .42
Culligan (Jimbo's Naturally) water 0.6
Dasani water 0.0
Essentia water 0
Ethos Spring water (Baxter and Sugar Pine, California) 0.0
Glacier machine water 0.0
Horizon Water (100% pure mountain spring water from private source atop Palomar Mountain (ozonated) .21
Kirkland .14
Nestle 0.0
Niagara 0.2
Palomar Mountain Spring Water 0.0 ppm
Safeway Refresher Spring Water 0.2
San Diego Spring water 0.2
Sparkletts drinking water .14

Beverages:

Albertson's apple juice 0.0
Albertson's orange juice 0.0
Benchley raspberrry tea 0.56
Bigelow apple cinnamon herb tea 0.0
Bigelow Green tea in zero fluoride water 4.34
Celestial seasonings green tea 1.54

Celestial seasonings orange spice black tea 0.56
Coke 0.0 (made with Dasani?)
Gatorade drinks 0 ppm
Lipton tea .98
Palomar College fountain sodas 0.0
Pauma Casino fountain sodas 0.0
Pepsi 0.0 (made with Aquafina?)
Silk soymilk 0.21
Squirt soda 0 ppm
(should be neutralized and re-read) and apple juice 0.0
tomato fluid 0.0
Valley View Casino Spring water 0.14 and soda fountain coke 0.14
V8 splash 0.0
watermelon fluid 0.0
West Soy soymilk 0.28

Environmental:
Batiquitos Lagoon open water, center, 0.28 ppm
" East open water 0.21 ppm
Ocean at Carlsbad shoreline Campground 0.4 ppm
Batiquitos Lagoon East shore under freeway 0.4, at shallow edge in lagoon near visitor center 0.5, at San Marcos Creek entrance 0.5-.7

A 1 ppm fluoride standard solution was made by dissolving exactly 1/4 teaspoon (1 ml) of 1,000 ppm purchased LaMotte standard into 1.0 Liter of freshly distilled water. With the electrode (previously calibrated assuming city water was 1.0 ppm) this fluid read 2.0 without buffer and after buffered read 1.4. The electrode was recalibrated to 1.0 pm with this standard and city water was re-read and reads 0.8 ppm on Redwing with or without buffer.
Essentia water read 0.2 without and 0.0 ppm with buffer which means it is soft water.
San Marcos city water the same, + or – buffer which means it is hard water.
Lake San Marcos water reads 0.3 ppm (+- buffer). The colorimeter had measured the Lake at 0.7 previously and this suggests that the colorimeter measures free and bound fluoride while the electrode only measures free fluoride as expected. Also the buffer may indeed be increasing the ionic strength to normalize the fluoride diffusion to make it a ppm reading instead of a high activity reading at least in cases where water is soft

Toothpaste formulations:
Aquafresh (1,500 ppm) diluted 400 to 1: 4 ppm (only expected if none were complexed)

Filtration Device Outputs
Many manufacturers sell fluoride filters that work outside California. However, crushed aluminum whole house filters (Vitasalus) or undersink filters (Seagull, Aquathin) eliminate fluoride to 0.0 ppm for only about 3 months and stop working because California Southwest water is alkaline; at pH 8.2 the hydroxyl ion degrades the filter. Filters using calcite (Wholly Water, New York) are unable to lower fluoride ion below 0.6 ppm in Southern CA water. Reverse osmosis units do not eliminate fluoride ion and only reduce it somewhat to around 0.5 in some tested units. State certified units lower fluoride by a large percentage only when starting at higher levels than is injected into municipal water. Bone char (commercially available from Carbon Resources, Oceanside, CA), baked in ovens in Scotland from bones obtained from cattle in India that die of old age, contain hydroxyapatite that traps fluoride, as in our own bones. Water filters (Promo filters, Arkansas) with hydroxyapatite are available but are expected to work for about 3 months before replacement, where bone char from Carbon Resources is one dollar per pound

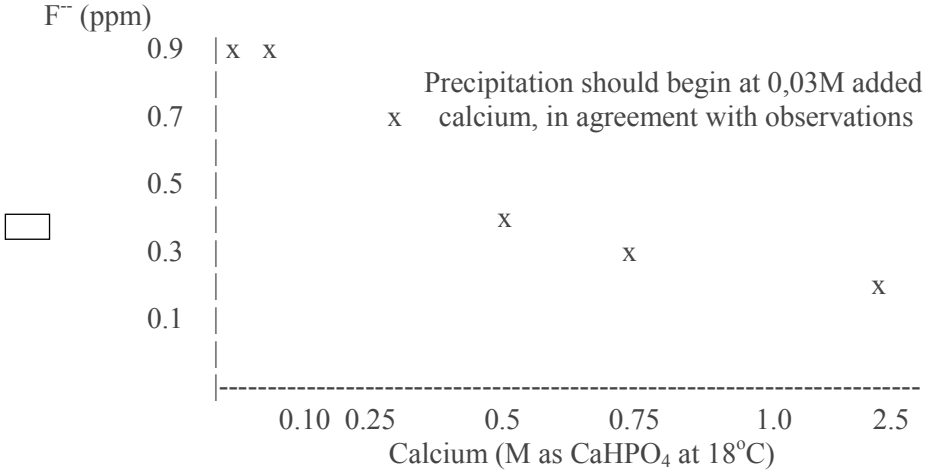
and the unit contains a few pounds. This is the procedure used by Glacier water machines outside most supermarkets to make zero fluoride water and, since the sugar industry has for 80 years used this method to produce white sugar from cane sugar, it is most likely the method used by Coke and Pepsi to make zero fluoride beverages. Lastly, several companies, in Phoenix, AZ and in Massachusetts, use KDF, 50/50 crushed granules of copper and zinc. It is not understood how fluoride is trapped (because the fluoride level in water is too low to cause either metal fluoride solid to precipitate) but the material de-fluoridates water for the longest time interval of all these devices. Undersink filters are $87 and whole house units are $499 and come with carbon after filters to prevent leakage of metal ions at a detectable level (by taste or by standard chemical determination procedures for these metals).

Temperature variations are read by most fluoride electrodes as different ppm values for the same fluoride level. Our data reveals the following variation of fluoride ppm readings, for the same pre-calibrated known standard at 0.7 ppm, as the temperature changes: 0.7 ppm at 16^{o}C, 0.7 at 18^{o}C, 0.7 at 19^{o}C, 0.8 at 21^{o}C, 1.0 at 43^{o}C, 1.1 at 53^{o}C. Since mixing fluosilicic acid with sodium hydroxide Drano produces large quantities of heat, it is likely that the metered fluoride level is that determined at a warmer temperature than the water that arrives to the customer. In wintertime the fluoride levels would read far lower than measurements produced at the mixing site. In summertime the readings would not be as substantially lowered. It is injected at the mixing site at probably approximately 1.0 ppm and arrives at the customer at levels below that, ranging in value depending on ambient environmental temperature.

The known solubility of calcium fluoride is dictated by the solubility constant of 1.7 x 10-10 when measured in pure water. We here determined whether this value is also followed when calcium and fluoride interact in municipal water of known hardness. Metropolitan water District water treated at the Lake Skinner facility contains about 54 ppm calcium ion, various levels of aluminum and fluoride ion at approximately 1.0 ppm as well as a wide variety of other ingredients with an overall average alkalinity of pH 8.2. Under these conditions we found that the solubility for calcium fluoride is predicted by the known published solubil8yt. The free fluoride ion measured as a function of changes in added calcium ion are as follows, where calcium phosphate of known concentration is diluted into the city water. 54 ppm calcium (endogenous), 0.9 ppm fluoride (injected by MWD); 20 parts per thousand calcium, 0.4 ppm fluoride; 30 parts per thousand calcium, 0.3 ppm fluoride; 50 parts per thousand calcium, 0.2 ppm fluoride. The fluoride ion levels calculated from solubility calculations assuming the above constant applies were comparable to those measured (0.9, 0.34, 0.24, 0.22 ppm, respectively).

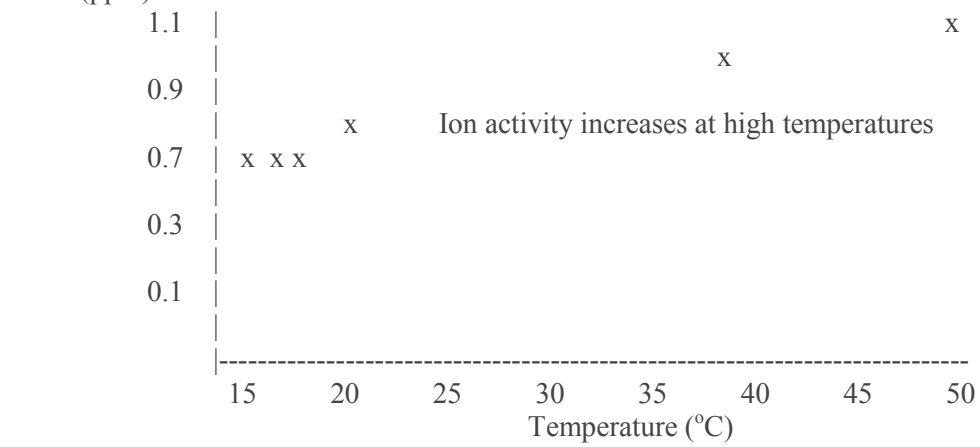
All fluoride measurements reported were in fluids at temperatures below 20^{o}C, 0.3M total salts or less, pH 7-8.2 (for water) and calcium levels 0.03M or less. Only at values exceeding these do fluoride readings change due to activity of the ion or to precipitation due to calcium as shown in the following graphs.

Fluoride Ion Concentration as a Function of Added Calcium



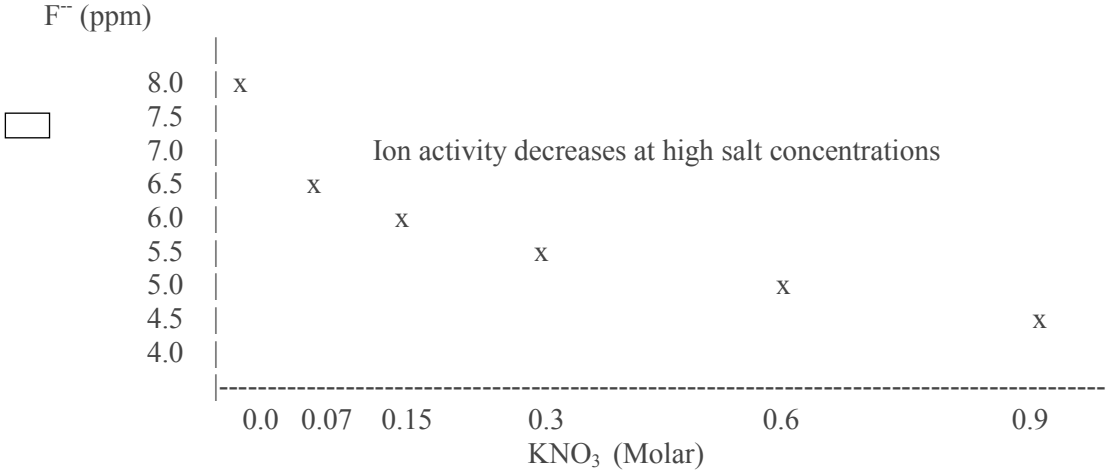
This graph demonstrates how the fluoride ion level is lowered as the calcium concentration is increased. The initial level of fluoride in the pre-made solution was 0.90 ppm. Addition of calcium from 0.1 to 2.5 molar causes progressive decreases in the free ion level due to precipitation of calcium fluoride particles that the electrode cannot detect. The calcium level calculated to first begin fluoride precipitation at 0.90 ppm fluoride is 0.03M, from solubility product constant published values of 0.34-1.7 x 10^{-10} (Roberts, J., General Chemistry in the Laboratory, Freeman and Co., N.Y., N.Y., 1996).

Fluoride Readings as a Function of Temperature



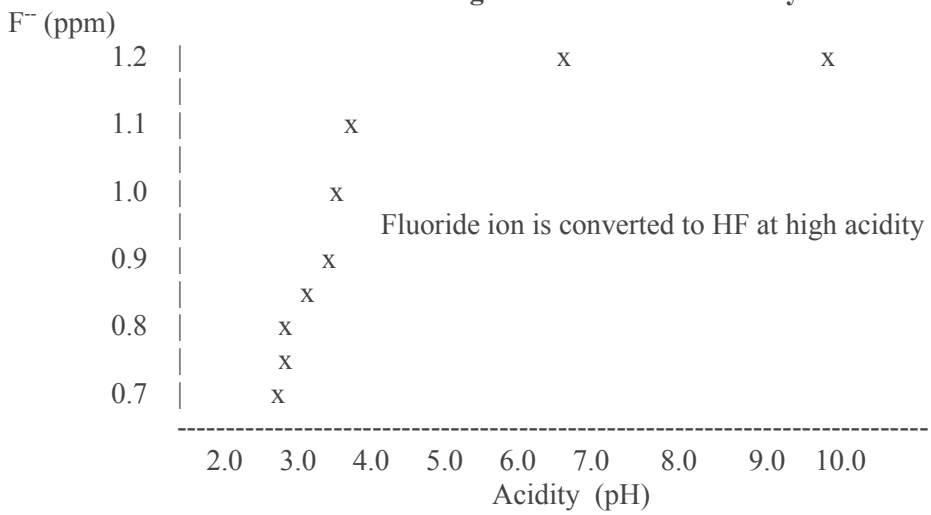
A solution pre-made at 0.7 ppm fluoride ion remains stable over the range from 15oC to 19oC due to temperature self correction by the electrode. At higher temperatures the increased diffusion of the ion is not corrected well.

Fluoride Readings as a Function of Added Salt



Increasing the salt concentration (potassium nitrate) causes the mobility or diffusion of the fluoride ion to decrease and electrode readings are thus lowered, even in the absence of precipitation. Ocean, salt water is about 20 molar in ions (as NaCl) and reads 0.4 ppm fluoride, but actually contains about 1.0 ppm fluoride. Similar percentage drops were found when 1 ppm starting solution was employed, with progressive lowering to 1.7 M salt.

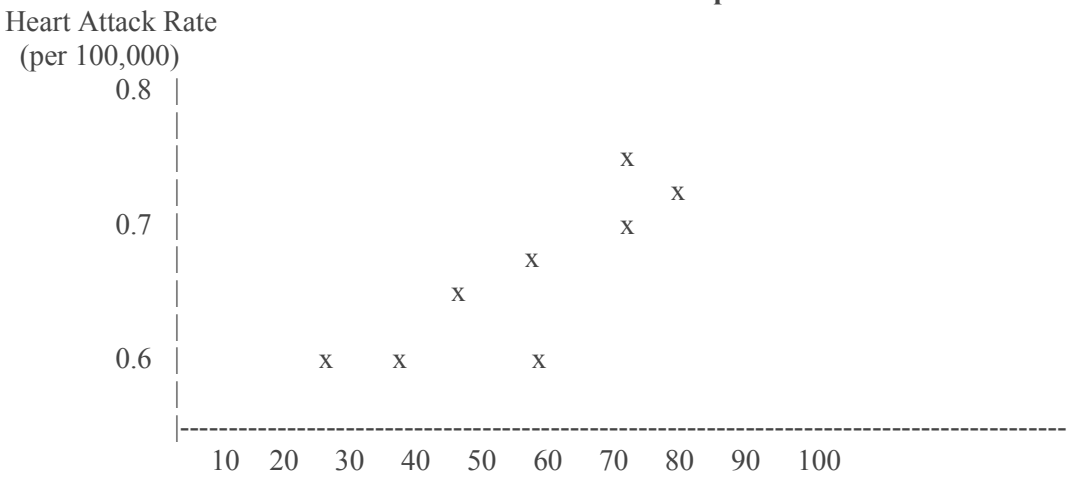
Fluoride Readings as a Function of Acidity



At stomach acid pH the fluoride is about 50% hydrofluoric acid HF and 50% fluoride ion F^-

Heart Attack Incidence in U.S. States

Correlated with % Fluoridation of Population over Several Years



Although all states have not been fluoridated for the same number of years the correlation is highly significant between heart attack per capita incidence and the percent of the population receiving fluoridated water. Soft water states were used to eliminate the known effect of calcium in minimizing assimilation of water fluoride into blood. All data were from U.S. government websites.

Formula for making artificial hydroxyapatite:

$$2Ca_3(PO_4)_2 + 2Ca(OH)_2 + 2Ca(HPO_4) \xrightarrow{\text{Acetic acid}} Ca_{10}(OH)_2(PO_4)_6 + 2H_2O \text{ heat to dryness}$$

calcium phosphate plus calcium hydroxide lime plus calcium hydrogen phosphate yields hydroxyapatite plus water.

Sent to North County Times:

Silicofluoridation began here in Southern California 11 months ago. Reverse osmosis units, tested with fluoride specific electrodes, don't eliminate fluoride and they waste water. Aluminum filters are quickly ruined by our alkaline water. But on a happier note, commercial beverage companies can make zero fluoride products by filtering fluoridated water through baked hydroxyapatite, the ingredient in our bones that efficiently traps fluoride. The FDA petition to ban injection of fluosilicic into drinking water is currently on hold. It's time for change.

(not printed by the newspaper): Undersink hydroxyapatite filters for homeowners exist for $47 at Promo filters, Arkansas. Whole house tanks can be filled cheaply with local supplies from Carbon Resources, Oceanside, CA for a dollar per pound but require change intervals expected to be about every 2 months. KDF, a copper and zinc mix, according to water purification experts in Pheonix, Arizona, traps fluoride for the longest time interval of any of these devices for our alkaline Southwestern water. KDF filters are commercially available at the Water Exchange in Massachusetts or at Wholly Water, New York.

The following was submitted October 8, 2008 at the request of the Batiquitos Lagoon Foundation.

Tim Dillingham
California Department of Fish and Game

Batiquitos Lagoon Fluoride Assessment

Unnatural toxic fluoride compounds are widely used in public water supplies in the U.S. for a perception in 1945 that fluoride lowered teeth cavities. Drinking natural calcium fluoride caused effects on teeth that initially was thought beneficial, but that eventually was found to cause crumbly teeth interiors. Artificial fluorides without calci8um meanwhile began being added to city water supplies in the hopes that no adverse effects on health would accompany fluoride ion accumulation in the blood of consumers. In December, 2007, fluosilicic acid injection began by the Metropolitan Water District into most public drinking water in Southern California. Fluosilicic acid is a fluoride containing compound that is as toxic as arsenic and lead when studied in experimental animals. High concentrations such as 50 ppm (mg/Liter) in drinking water lead to immediate heart attack from calcium lowering in the blood in research animals, in humans accidentally exposed to overfluoridated water in Hooper Bay, Alaska, and in rats when artificial fluorides are used as rat poisons. Lower concentrations, approximately 9 ppm, for longer drinking periods, several months in animals, leads to swollen heart muscle tissue and heart failure due to impaired contractility of the tissue. Still lower concentrations, 1 ppm, cause accumulation of fluoride in 2 years to 2,000 mg/kg into bones and into the brain pineal gland and aorta tissues and virtually anywhere in the body where calcium is concentrated. Depending on how soft the drinking water is and its calcium to fluoride ratio, the fluoride at this level usually lowers IQ in children, weakens bones and causes iron absorption deficiency (National Research Council, 2006, and Dr. Susheela, Conference on Water Fluoride, Toronto, Canada, Aug 2008). All artificial fluorides are calcium chelating toxins and do not belong in blood at any concentration.

The Batiquitos Lagoon, as for all lagoons around the world, provide spawning grounds from which half of the world ocean population of fishes are spawned. Fluoride is toxic to both salt water and fresh water aquatic life but varies with the species and with the calcium to fluoride ratio of the water. In soft water rivers, only 0.3 ppm fluoride blocks salmon navigation from salt water upstream into fresh water to spawn. Whether fluoride directly narcotizes salmon brain, or rather prevents them from recognizing fresh water because fluoride is present, is not known. Fluoride at this level decimated the salmon population on the Columbia River in the 1960's. Blocking the fluoride pollution source from the river was followed by a return of the salmon the following season. Sacramento city water was recently fluoridated and thereafter the salmon population in the Sacramento River virtually disappeared only a year later in 2008. Recommended safe fluoride levels not to be exceeded for fresh water containing hardness of 50 ppm calcium is 0.3 ppm or less and for soft fresh water with 10 ppm calcium the level considered safe is 0.2 ppm fluoride or lower (Environmental Protection Division, Ministry of Environment, Government of British Columbia, Canada).

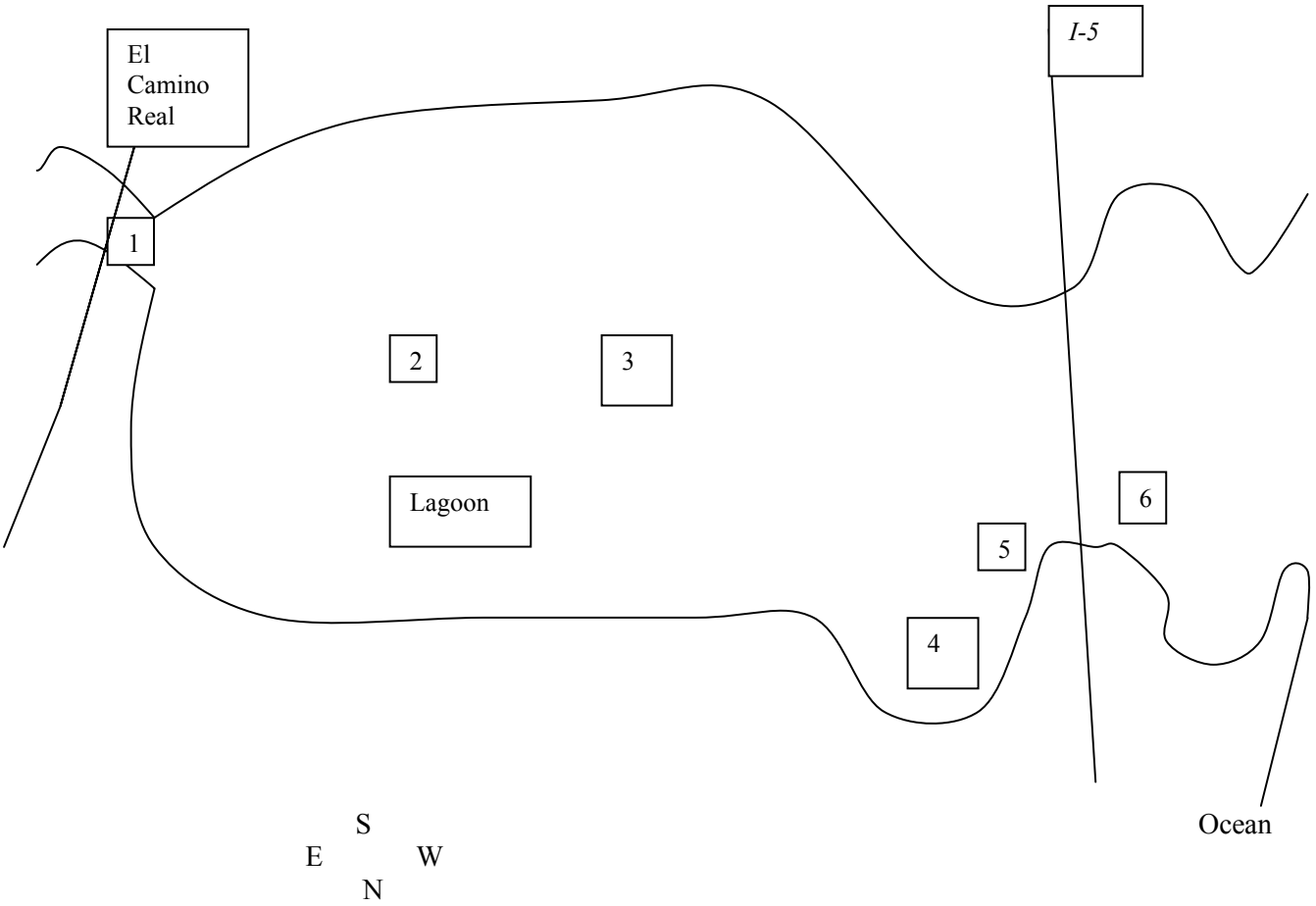
San Marcos creek empties into the Batiquitos Lagoon at its East edge. Although the creek originates in the foothills North of Escondido and is not directly silicofluoridated, Lake San Marcos has fluoride levels now at 0.6 ppm even though this is fresh, not salt, water, and is probably due to waste water and irrigation water from the now-fluoridated Vallecitos Water District that provides Metropolitan Water to San Marcos. Evaporation of the lake and San Marcos Creek prior to entry into Batiquitos may be responsible for the current reading of 0.7 ppm fluoride in the creek as it passes under the El Camino Real street bridge just prior to entry into the Lagoon. Local ocean water varies in free fluoride ion content, from above 1 ppm in Oceanside down to 0.5 outside the Lagoon, but this is accompanied with very high hardness, calcium at 400 ppm and magnesium of 1,270 ppm. Open water in the middle of the Lagoon is 0.4 ppm fluoride, in the Lagoon under the Interstate 5 bridge 0.5 ppm, an area East of I-5 at a shallow marsh edge 0.7 ppm and where water hardness decreases in the San Marcos Creek entrance area is, again, 0.7 ppm. The input of fluoride from San Marcos Creek or from nearby wastewater treatment facilities into the Lagoon is likely responsible for the unnaturally high fluoride levels in the Lagoon at its section that mixes with fresh water. Edge levels are higher than central water fluoride levels perhaps due to the high surface area to volume ratio with evaporation concentrating the ion in marshes. These results have accumulated in only 11 months and it will be necessary to monitor the Lagoon open water regularly as time passes from this point forward for any additional rise. Ocean fluoride usually becomes diluted in

lagoons upon mixing with fresh water but in this case the lowered levels do not continue lowering Eastward into the creek area but instead are high, implying that the fluoride level in the open water may be rising with time since institution of the silicofluoridation program last year.

The influence of fluoride levels on native halibut species that normally thrive there is of particular concern. Rainbow trout are killed at 2 ppm fluoride in soft water with 10 ppm calcium and at 4 ppm fluoride in water containing 50 ppm calcium, ratios of 5-12 to one, in about 3 weeks. Natural Colorado River water, and most water in the Southwest prior to artificial slilcofluoridation began in 2007, was typically 0.2 ppm from natural erosion from calcium fluoride in soil and is accompanied by calcium levels of 54 ppm, a ratio of 270 to one. Natural calcium fluoride is not classed as a toxic compound but all unnatural fluorides compounds are toxics.. It is the ratio of calcium to fluoride is most critical in determining toxicity of fluoride. The calcium level in open seawater is 400 ppm and fluoride is 0.8-1.4 ppm with only half of that being the free ion, from 0.4-0.7 ppm, thus the normal calcium to fluoride safe ratio being about 800 to one. Prior to adding the drug into public water, the calcium to fluoride ratio in fresh drinking water was a safe 270, but after drugging the water this safety factor lowered to only 54 (54 ppm calcium to 1 ppm free fluoride). Fresh river water in the Pacific Northwest that blocked salmon migration was 10 calcium to 0.2 fluoride, 50 to one. It is likely that the population of spawned fish in Batiquitos is now compromised by artificial fluoride since the calcium level in the ocean is of course substantially lowered by dilution, while the corresponding fluoride level is not.

Recent studies by Osmundson clearly indicate that ranking the 50 U.S. states as a function of their % population living with fluoridated municipal water correlates with increases in heart attack per capita incidence, mental retardation, infant mortality, diabetes and obesity and a complete lack of decrease in teeth cavities. These are in agreement with four other very large studies indicating no reduction in cavities in fluoridated cities and with animal studies of fluoride's toxic effects as reviewed by the Agency for Toxic Substances and Disease Registry, 2003 and the human data published by the National Research Council Report on Fluoride in Drinking Water, National Academies of Science, 2006. A petition to ban artificial silicofluoridation of public water is being reviewed by the FDA who has never approved the practice because it constitutes uncontrolled use of a drug, is a violation of Federal drug laws insuring rights to refuse medicine by the consumer, and because there still have not been controlled human clinical trials to evaluate the safety or effectiveness of oral artificial fluoride consumption. The fluoride ion is smaller than the water molecule and cannot be simply filtered out. Reverse osmosis can lower it from high levels but cannot eliminate it and lowers protective calcium. Aluminum traps are degraded by alkaline water of the Southwest unless filters are changed frequently. Commercial drinking water vending machines that regularly change activated charcoal filters are mostly fluoride free.

1 San Marcos Creek 0.5 pm Fluoride
2. Open Lagoon water 0.3
3. Open Lagoon water 0.3
4. Marsh edge 0.5
5. Lagoon shoreline 0.4
6. Lagoon shoreline under Interstate 5 0.4
7. Open Ocean South Carlsbad State Beach 0.4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11/12/7

Clark County Sewer District, Nevada

Dear Sirs,

A few years ago I wrote to the Colorado River Board regarding the choice made by the city of Laughlin to agree to dump treated sewage into the Colorado River. The Board is divided on this issue, some agreeing with me that it is unhealthy and problematic, but others allowing the procedure to continue.

I took photographs of the banks of the River recently, both North and South of the outlet location between the Bilbray Ranch housing development and the new Laughlin Marina and Big Bend park. There are soap-suds-like foam structures in vast numbers that float on the river bank, at and South of the outlet for the treated sewage, but absolutely no such foam material between the outlet and North to the Laughlin casino district. It is ironic that in my original complaint to the Board I made it clear that I was convinced that all water treatment procedures designed to clarify refuse and make it safe to swim in would not likely correct the problem of washing machine laundry detergents or kitchen sink dish soap effluent from being a problem down River after discharge. Indeed it seems this has come to pass.

Also it is my opinion now that since this process has been done for a few years now, where the River is being fertilized with organic matter, albeit treated for safety, causing the oxygen concentration in the river to decline, the normal flora that naturally thrive in the river is now being altered. The lower oxygen tension, coupled with the input of detergents and various types of soaps and wastes from general popular use in homes, is likely involved in allowing the brain eating amoeba to grow now in Lake Havasu. Laughlin refuse is basically fertilizing Lake Havasu. Such materials in stagnant lakes cause lake eutrophication and death of organisms vital to lake health.

This information should be sent to the city of Laughlin's administrators, to the parents of the child who was killed by the brain eating amoeba while merely swimming in Lake Havasu, to Laughlin Marine who invested huge sums of money for their facility that is immediately down river from the effluent site, and to local boaters and sports businesses.

It is time in my view to discharge treated effluent out into open desert land where the sun's rays will dry it. This is far superior to draining it directly into drinking and recreational water used by citizens from Bullhead, AZ and Laughlin, NV to Needles, CA. Although the EPA allows this to continue for now, EPA scientists admit that the oxygen tension in River water as it enters the area of Mexico is at its full minimum legal level. If this is how the U.S. treats waters that are used by our neighbors in Mexico, then it is time we made all this information fully public so that it can be addressed.

The City of Chicago stopped dumping treated sewage into the Great Lakes long ago and uses the waste as fertilizer in surrounding farmland. The city of Fallbrook, CA sells treated sewage to farmers for fertilizer. It is time to close the valve on any further River dumping immediately and to drain it into an intentionally made lake for processing further. The city of San Diego, CA grows water plants that naturally purify sewage water in lake settings. It would be instructive and helpful for you to contact any of these cities regarding this issue.

Enclosed are photographs of the appearance of River water North of the sewage outlet, the outlet itself that enters eel into the interior of the River, the homes on the East side of the River in Bullhead, AZ, the foam floating materials as they appear in several photos all South of the outlet, the manhole cover for the Clark County Sewer District in front of the sewage treatment facility and behind the outlet into the river nearby where the rushing sound of intense sewage flow is easily heard, and the water and power plant stack gated behind Laughlin, NV viewed from the effluent outlet.

Thanks very much,

Richard Sauerheber, Ph.D. Chemistry

Sewer Treated Effluent Outlet Pipe covered with rocks, descending into the River depths

Another view of pipe

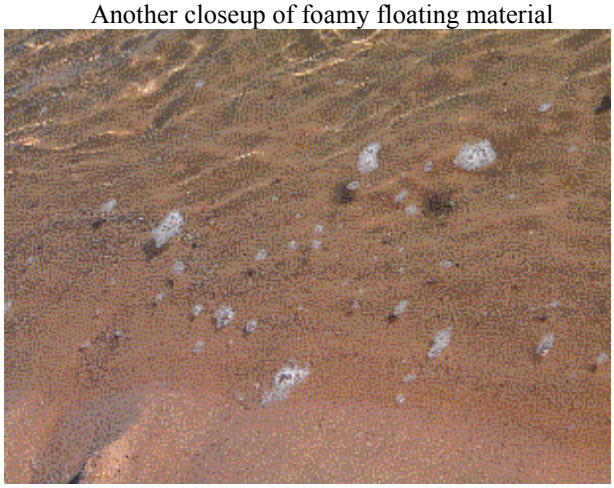
Foamy materials floating on river bank South of effluent pipe

To the North from the effluent pipe, note water is clear and remains so for miles toward Laughlin, NV casino district

View toward South toward Laughlin Marina and Big Bend Park, with foamy materials floating for miles down river.

Closeup of foamy material that casts shadows on river bottom; shadows are very numerous and extend for miles south of outlet

Another closeup of foamy floating material



Another view of foam south of outlet pipe

Homes on East bank of river in Bullhead City, AZ as seen from bank where outlet enters river


Clark County, NV Sewer District manhole cover

United States Drinking Water Under Siege

Richard D. Sauerheber, Ph.D. Chemistry

The United States Congress passed the Federal Water Pollution Control Act with the stated mission to protect and maintain the normal natural chemistry of United States waters as written in Seciton 101. Natural water is mostly snow melt and rain from evaporates from sun heated ocean water. The fresh water originally may be compared to distilled water other than small amounts of airborne particles collected while existing in the atmosphere. Water, H2O, is the most numerous molecule in every living cell from all species of life on earth and is the only liquid that has the characteristics required to sustain and support life. Violation of this structure for any purpose, no matter how seemingly rational, would be unethical. The purpose of this pamphlet is to delineate briefly just how far society can deviate from this norm in our industrial age.

The Colorado River supplies drinking water for much of the Southwestern United States. The Northernmost source for this massive river is drainage off the snowclad Wind River Mountain Range in West Central Wyoming, at a latitude as far North as is Toronto, Canada. Here is the headwaters of the Green River which combines later with the Yampa River from South Central Wyoming near Rangely,.Colorado in Dinosaur National Park, Utah. The water flows next to Canyonlands National Park where it is joined by waters from the Colorado River that had traveled from Rocky Mountain State Park, in North Central Colorado. The River courses through Lake Powell at Glen Canyon and then through the mighty Grand Canyon and into Lake Mead. The Virgin River from Cedar Breaks National Monument, Utah also drains into the Colorado River at Lake Mead near Las Vegas, Nevada. The River from there travels South through Boulder (Hoover) dam and on to Needles and the Gulf of Mexico. The mighty

river system travels 800 miles to arrive in Southern California where millions of citizens have for many years enjoyed its life-sustaining water.

Suddenly on December 3, 2007 the Southland underwent a dramatic transformation when sodium fluosilicate salts first began to be intentionally injected into the water prior to delivery to consumers for drinking. Sodium fluorosilicate does not exist in any natural waters in the United States or in the world. Under the auspices of dentists appointed to the Centers for Disease Control; the American Dental Association, the Department of Health Services and the Department of Public Health, have convinced water districts here and elsewhere across the country to chemicalize drinking water for altering blood levels of fluoride to influence peoples' teeth. And yet CDC warns that infants under 1 should not consume fluoridated water in infant dietary formula because small children are so easily poisoned by low levels of fluoride ion present in artificial fluoride compounds. The FDA banned the ingestion of artificial fluoride compounds found in toothpaste and banned the use of these compounds in children under six years age. Lethal does as low as 5 mg/kg have been documented in children age 3, which is compares to the toxicity of cyanide compounds. FDA has not formally banned artificial fluorides from water or from prescribed fluoride drops but has not approved their use because the compound is a toxic, listed on all toxics registries because of its calcium binding action that interferes with metabolism so efficiently.

Lake Skinner from East shore viewing toward dam on West shore controlled by Metropolitan Water in the distance.

Portion of area occupied and controlled by Metropolitan Water West of Lake Skinner between lake and fluosilicic acid tanks. One possibility is that this land was obtained to be used to dispose of any tainted water in case of an accidental corrosion-induced overfeed.

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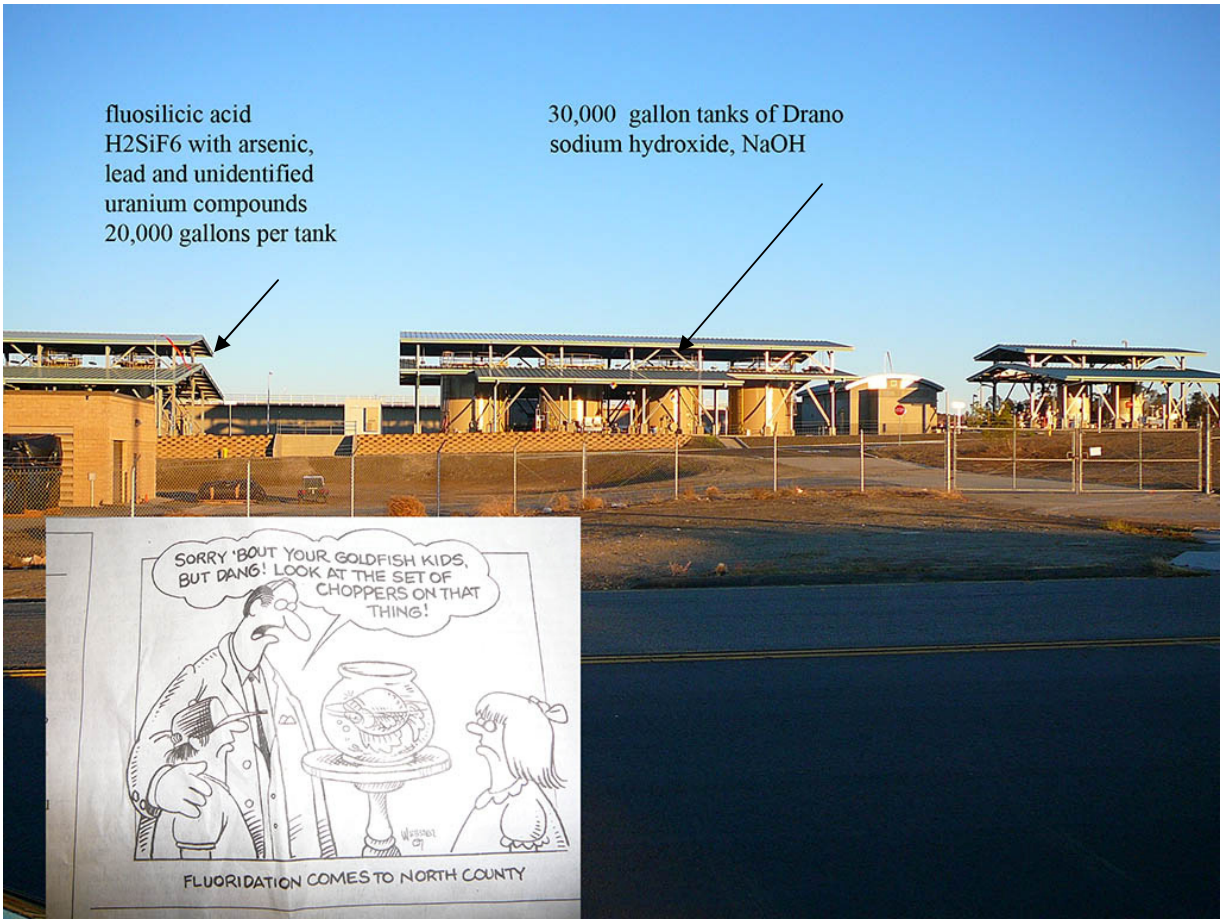
Fluosilicic acid and sodium hydroxide tanks behind fenced compound. Zoom view of one of the tanks is shown.

Lake Skinner was much smaller when I was younger and was surrounded by campgrounds and was easy to hike around. In the Valley to its West kids could hike to collect sticks and look for frogs and enjoy the view of the mountains behind, always snow capped in winter. Today however the Valley is a massive fenced, barbed wire compound with the empty land being inaccessible for the citizens to enjoy, controlled by the Metropolitan Water District of Los Angeles, CA for the purpose of providing drinking water to Southern California that is treated with sodium fluosilicate. The massive water volume is chemicalized with materials from 9 separate tanks, holding about 20,000 gallons each. The central four tanks contain sodium hydroxide, better known as lye, caustic soda, or the active ingredient in liquid Drano drain cleaner. The adjoining tanks have highly concentrated 23% fluosilicic acid from phosphate fertilizer pollution scrubbers that contain variable unknown amounts of arsenic, lead and uranium compounds of unreported form as well as tanks of ammonia.

The Drano is mixed with the fluosilicic acid in metered injection ports so that the fluosilicic acid will not dissolve the metal valves and plumbing. The intact acid corrodes stainless steel, glass, most all metals except gold of course, skin and leather. Upon neutralization at the site with Drano the sodium fluosilicate salt is formed plus heat. The formed salt is directly injected into the water supply for North San Diego

County. The lethal dose killing 50% of treated animals within hours for fluosilicic acid is 150 mg/kg. This does not compare to the dose required for natural calcium fluoride which is a safe high 5,000 mg/kg. The lethal dose for the sodium fluosilicate salt is 125 mg/kg. The lethal dose for artificial fluorides that do not contain the built in calcium antidote, killing 50% of animals in weeks of time is far lower. In the former case animals are killed with a heart attack because the fluoride in the blood cannot be cleared quickly by the bones and kidney so that blood calcium is precipitated which blocks the heart beat. Artificial fluoride cons kills rats in this way in commercial rat poisons. Other unknown mechanisms kill insects in commercial fluoride insecticides.

The slow mechanism of killing at lower doses of artificial fluorides is usually due to inflammation of heart muscle tissue. At far lower doses the mechanism by which fluoride exerts its adverse biological effects relates to the accumulation of fluoride into bone. Bone accumulates fluoride to thousands of times that in the water because bone is so enriched with calcium. The bone senses the presence of the fluoride and undergoes cell division so as to maintain calcium homeostasis in the body with normal levels of blood calcium to support the heart and all other tissues. Long term fluoride consumption causes increased bone fractures in animals and man and also when examined for over 1 years in rats, a high incidence of lethal bone cancer. In man lethal bone cancer, nearly absent from the U.S. before fluoridation ever began, is now seen. Children exposed to fluoride as low as 1 ppm in water during development through age 7-8 have 5 times as much bone cancer as nonfluoridated communities. Elderly consumers are now exhibiting high rates of hip fracture with delayed healing which is the cause of permanent demise in epidemic proportions.



This cartoon is borrowed from a recent North County Times newspaper. The truths it presents are profound. For example the man could be a water district chemist explaining to his kids why the tanks behind him are there and what they do. As a fluoride advocate he explains that even though the fish was killed it lived up to almost 90% of its expected lifespan and so the great teeth it has were well worth the effort. The kids are unimpressed and are perhaps thinking they wish the fish could still be their pet, even with junky teeth. Controlled studies with rats and other species of animals raised on water with as little as 1 ppm artificial, not natural, fluoridated water lose 10% of their respective normal lifespans compared to non fluoridated controls.

The following letter was sent to the Vallecitos Water District in San Marcos, CA on December 6, 2007 after having toured the above Lake Skinner facility.

December 6, 2007

Vallecitos Water District
201 Vallecitos de Oro
San Marcos, CA 92069
Dear VWD,

Congratulations. You've got the synthetic fluoride.compound in our city water, which Metropolitan, and the Dept. of Health Services' David Nelson, have for so long lusted after. You should be happy.

There are however two false statements on the VWD quarterly publication."Water quality will not be affected" is false. If it is not affected, then why pay to do it in the first place? Of course water quality is

affected, that's precisely why Metropolitan has forced you into accepting the cheap fluosilicic acid drug rather than the clean non toxic calcium fluoride. To overcome that problem of corrosion from the synthetic acid form, concentrated sodium hydroxide liquid Drano is injected at the same time from 4 massive 20,000 gallon tanks at Lake Skinner. You don't even realize what is being done. This forms the sodium fluosilicate salt. This increases the sodium burden of our local water by 2.5 ppm. according to my crude estimates. Natural fresh drinking water contains zero sodium. None of this was reported in your flyer. And when were those with high blood pressure and liver cirrhosis consulted about this choice that Metropolitan has made for them?

The other false statement that was reported twice on page 2 claims that reverse osmosis systems remove fluoride from water. We all wish it would but I guarantee you the diameter of the fluoride ion is 133 picometers which is the same size as the water molecule itself and cannot be efficiently removed with filtration. Actual fluoride filters are not available retail in CA but can be obtained online. I got mine from Michigan but they are of course very expensive.

And when pray tell were you planning, if ever, to inform nursing mothers, in both Spanish and English, not to give infants your new product, as ordered now by CDC and the ADA? How will the 10 students that have now asked me supposed to find regular water for their infants from their fluoridated tap you force them to buy or go without shower water? If you would have listened to me years ago and requested Met. fluoridated bottled water while leaving the water main intact, we wouldn't be having this discussion.

When were you going to inform the public who are on low salt diets that 2.5 pm sodium is now present in all our tap water? You've decided to take on the role of drugging this city, now answer these questions properly, not off the cuff from whatever Metropolitan feeds you.

This fraud will not go away because you go along with it without speaking against it. You are abusing the public trust, some of you intentionally, others unwillingly while remaining silent. This is nothing less than consumer fraud and false advertising and it is sickening to see our own VWD succumb to the evil that has befell Metropolitan and so many other U.S. cities.

Our country is not controlled by honorable people and I feel sorry for VWD for agreeing to play the game as well.

Good day.
Richard Sauerheber Ph.D. chemistry, UCSD, 1976
Palomar College