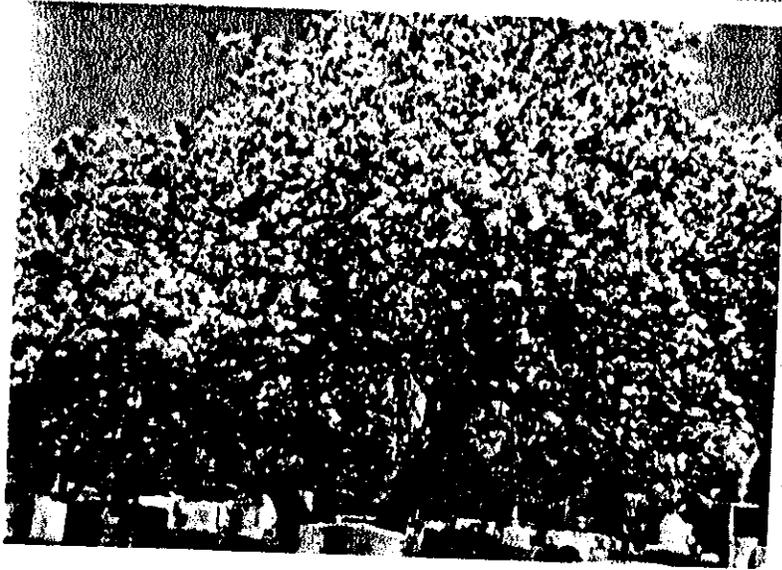


Submitted by Wynn Grady

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Photo Courtesy of Arlington Cemetery, Drexel Hill, Pa.

California Seeking to Ride The Alkaline Hydrolysis Wave Bill Advances to Senate, Approval Expected

SACRAMENTO – Last week the California State Assembly unanimously approved A.B. 2283, which would amend the state's Health and Safety code to change the definition of cremation to include alkaline hydrolysis, a "chemical dissolution process using heat, high pressure water, and potassium hydroxide to hydrolyze human tissue and the consumable container."

Robert J. Achermann, executive director of the California Funeral Directors Association, which supported the bill, noted that there is no opposition to the A.B. 2283 and he does not expect there to be any problem getting the bill through the state senate and signed by the governor.

"The association has had meetings with Miller's office about some of the technical issues about how you define the process," Achermann said. "I think most funeral directors believe this is something that will generate consumer interest as an alternative to traditional cremation." Another consideration in the state — cemeteries in California, especially near the major metropolitan areas, are running short on space.

Supporters call alkaline hydrolysis, which is also referred to as bio-cremation, Resomation or water resolution, a "greener" alternative to traditional cremation. The process itself reportedly uses about less than 20 percent of the energy used for a cremation. Further, CO2 emissions are reduced by nearly 90 percent and the process avoids putting mercury and other harmful contaminants into the atmosphere.

Basically, a body is placed into a stainless steel container with potassium hydroxide (a form of lye) and heated to more than 300 degrees F. Turbulence is used to accelerate the dissolving of flesh

Introduced by Assemblyman Jeff Miller, the bill has been advanced to the state senate for consideration. If approved, California would join Florida, Maine and Oregon as states that have taken legislative action to permit the process for the general public. A number of other states, including Minnesota and Colorado, permit the practice for institutional procedures, such as the disposition of cadavers at medical and veterinary schools. Meantime, a number of states are having the conversation about amending their laws to include the process in their approved methods of disposition of human remains. Some states argue that while the process isn't officially "legal" in their states for public consumption, it isn't illegal either. Meaning a business could test the waters and seek to install a facility following the licensing and permit process currently on the books.

The California bill also instructs the state's Cemetery and Funeral Bureau to adopt regulations for the safe operation of alkaline hydrolysis chambers no later than July 1, 2011.

and soft tissue. Usually the process takes, on average, about three or four hours. What's left is a sterile liquid substance containing amino acids, peptides, sugars and salts that are purportedly environmentally friendly and can be washed down the drain. The remaining bone fragments are whiter in appearance than those that are cremated. The bones are then pulverized into a fine white, ash-like substance and can be returned to the family.

"I am told there are no discharge issues, it is a process that has been used in Europe for some time," Achermann said. "But being California the environment is always at the forefront."

Assemblyman Miller was approached with the idea by a funeral director, Chris Miller (no relation), owner of Thomas Miller Mortuary in the assemblyman's home district of Corona. Chris Miller also approached the state association to lobby to have the law changed.

Eye on the Process

The forward progress in California has turned a spotlight on the process as a whole. The technology evolved out of necessity in Europe as the high volume of cremation in densely populated areas compelled nations to put limits on the emissions. The first application of alkaline hydrolysis to be used for processing human remains in the United States took place in 1998 at the University of Florida, Gainesville, to dispose of medical school cadavers. The second system, also for institutional purposes, was in 2005 at the Mayo Clinic in Rochester, Minn.

Currently, there are no funeral homes offering alkaline hydrolysis as a means of disposing of human remains in the United States. The first commercial application of the process is scheduled to be installed this summer by Matthews International, which partnered with a Scottish firm, Resomation Ltd. in 2008. The location of the unit, pending final approvals of the necessary permits, is at the Anderson-McQueen Family Tribute Center in St. Petersburg, Fla., which will be a showcase for the use and application of bio-cremation for the public.

According to Steve Schaal, division manager for sales and marketing of Matthews Cremation, Apopka, Fla., the opening of the facility is just a few months away. "The emission test data and technical solution are in the hands of the local

Alkaline Hydrolysis Step-by-Step

APOPKA, FLA. – According to Matthews International Cremation Division the bio-cremation process takes about three hours. Below is a step-by-step analysis of the cycle.

Step 1 – Load: Door is opened and the body (in a silk container) is placed in a stainless steel basket and loaded into the unit.

Step 2 – Preparation: Load cells automatically weigh the body and the system calculates the corresponding amount of water and alkali to be added to the vessel.

Step 3 – Fill: The correct amount of water and alkali is added to the vessel.

Step 4 – Heat Up and Cycle: The vessel is heated to approximately 300-350 degrees F by passing steam through the internal coil and the solution is continuously mixed allowing for a fast bio reaction. Begins to heat up to the desired operating temperature of approximately 370°F - it will hold that temperature for approximately 45 minutes.

Step 5 – Cool Down: The bio remains are then rapidly cooled through a recirculation pump and cooling water. This process also takes about 45 minutes.

Step 6 – Drain: When the bio-cremation process is complete, the vessel is drained to leave only the bio remains.

Step 7 – Rinse: The vessel and porous bio remains are rinsed with hot water for cleaning purposes.

Step 8 – Bone Removal & Drying: After rinsing, the bio remains are removed from the vessel, dried and processed into a fine, pure white ash. This can be placed in an urn and returned to the family.

Source: Matthews International Cremation Division. Used by permission.

Wynn Greich

Submitted at
Council meeting
6/7/2011
8:50 pm

Fluoride in Drinking Water Increases Toxicity of Aluminum

Posted: July, 2001

In 1994, the New York Times reported a scientific study that revealed that aluminum and fluoride in water could be responsible for the alarming increase in Alzheimer's Disease and senile dementia.

This confirmed the long-held suspicion of environmental writer George Glasser that fluoride has the ability to react with other toxic minerals in drinking water. Serious drug interactions are common in medicine, and for years Glasser has badgered various US government agencies to investigate this specific interaction between fluoride and other substances.

"Aluminum sulfate (alum) is used to clarify drinking water and I could see the possible relationship with Alzheimer's-like dementia," said Glasser. "In 1999, the US Environmental Protection Agency finally reviewed three studies carried out by scientists at Binghamton University in New York. The scientists reported 80% death rates, kidney damage and brain damage in rats exposed to half of one milligram of aluminum fluoride complexes in a liter of drinking water. This is less than half of the amount of fluoride which is added in fluoridation schemes.

Finally, the National Toxicology Program was asked to commission studies to determine the extent of neurotoxic damage from aluminum in drinking water, particularly stressing the fluoride interaction."

Last October, a Report by the National Institutes of Environmental Health Sciences (NIEHS) acknowledged that fluoride has been observed to have synergistic effects on the toxicity of aluminum.

"I was particularly pleased when the US Environmental Protection Agency report by Urbansky and Schock on the toxicity of lead and fluoride in drinking water confirmed that fluoride complexes with other substances in the water. They also acknowledged that most drinking water contains a substantial amount of fluoro-aluminum complexes. This should be a warning to dentists who hold with the simplistic notion that fluoride only affects teeth and is perfectly safe in drinking water."

According to the NIEHS Report, most water treatment processes result in increased levels of aluminum in the finished drinking water.

It stated that fluoridation will result in aluminum fluoride complexes which will enhance neurotoxicity, or that fluoride itself will enhance uptake and synergise the toxicity of the aluminum.

Other studies have shown that in the presence of fluoride, aluminum leaches out of cookware. Boiling fluoridated tap water in an aluminum pan leached almost 200 parts per million (ppm) of aluminum into the water in 10 minutes.

Leaching of up to 600 PPM occurred with prolonged boiling. Different releases of aluminum depend upon the composition of the pan and the type of food being cooked. Using non-fluoridated water showed almost no leaching from aluminum pans.

Glasser is frustrated that the Report recommended further studies. "There are more than 40,000 studies on fluoride in the scientific literature. How many more do they need? The

recent York review examined less than 300 - and they never bothered to review the Binghamton University studies.

The incidence of Alzheimer's Disease and Alzheimer's-like dementia is hitting people at much younger ages. The average age used to be 65 - now, it affects people in their forties in ever-increasing numbers. With these revelations, health authorities have a moral obligation to employ the precautionary principle and cease the practice of artificial fluoridation forthwith. In the meantime, six million people in England and about 160 million in the United States drink artificially fluoridated water."

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Alzheimer's in America: The Aluminum-Phosphate Fertilizer Connection

by Lynn Landes

Americans are losing their minds to Alzheimer's disease. It's an epidemic. And it's not typical of what's going on in the rest of the world.

The World Health Organization (WHO) estimates that there are 18 million people with Alzheimer's. Over 4 1/2 million Americans have the disease. We account for 25% of all Alzheimer's cases, even though we represent only 4.6% of the world's population. Europe is experiencing half our rate of disease. For Americans over 85 years of age, 50% are thought to have Alzheimer's.

The question is, "Why?"

Alzheimer's was first discovered in 1906. It is not a part of normal aging, says the National Institutes of Health (NIH). The NIH contends that the cause of Alzheimer's is "not known." They say, "Prior theories regarding the accumulation of aluminum, lead, mercury, and other substances in the brain have been disproved."

Don't believe that. Federal agencies have a talent for not finding environmental causes for many diseases. They live by the motto, "Do not seek and thou shall not find." Genetic triggers and lifestyle choices get the research dollars for pretty obvious reasons - their findings don't hurt polluters' profits.

The world's scientists and government researchers have not taken aluminum off the scientific table as a causal factor in Alzheimer's. Research scientists with the International Aluminum Network report, "Aluminum has been implicated ...as a potential factor or cofactor in the Alzheimer's syndrome, as well as in the etiopathogenesis of other neurodegenerative diseases, Parkinsonism, Amyotrophic Lateral Sclerosis and other diseases." That's a mouthful, but you get the picture.

Initially, it was thought that aluminum might be the sole cause of Alzheimer's. Persons with Alzheimer's have been found to experience increased absorption of aluminum in the brain, as well as exhibit densities of senile plaques and neurofibrillary tangles. However, there are reports that suggest plaques and tangles do not always signify Alzheimer's, and vice versa.

Further clouding the issue are patients on kidney dialysis machines. They are unable to excrete aluminum, plus they may also be treated with medicines that include aluminum. However, reports say that dialysis patients don't develop Alzheimer's, although they can develop dialysis dementia if the equipment doesn't filter out aluminum. And therein lies a clue.

The process of kidney dialysis requires very purified, non-fluoridated water. What does this mean? Perhaps fluoride is aluminum's partner-in-crime.

In 1998 Julie Vamer and two colleagues published research on the effects of aluminum-fluoride and sodium-fluoride on the nervous system of rats. They concluded, "Chronic administration of aluminum-fluoride and sodium-fluoride in the drinking water of rats resulted in distinct morphological alterations of the brain, including the effects on neurons and cerebrovasculature." In layman's terms, it looked like fluoride and aluminum could cause Alzheimer's.

That was not a definitive study, but they may have been onto something. Aluminum is in our drinking water, foods, and many consumer products. Adding fluoride to drinking water in the U.S. started in the 1950's. America's drinking water is now over 60% fluoridated. Fluoride appears in many processed foods and beverages made with fluoridated water. Keep in mind, Europe has half our rate of Alzheimer's. They don't fluoridate their water supplies, but they do use fluoride supplements and dental products. Is there a connection?

There are other intriguing issues. Why do people with thyroid disease have an increased risk for Alzheimer's? In the U.S., thyroid disease has reached even greater epidemic levels than Alzheimer's, with as many as 20 million American victims. Besides problems with iodine intake, a common cause of thyroid disease is radiation.

There are also striking similarities between Alzheimer's, Creutzfeldt-Jacob-Disease (CJD), and mad cow disease. Mad cow has been linked to livestock feed and fertilizer.

So, what do radiation, livestock feed, fluoride, and fertilizer have in common which may have led to the emergence of the Alzheimer's epidemic? The phosphate fertilizer industry.

"Fertilizer use was not a common practice in the United States until after 1870, when phosphate and lime were applied to crops like cotton and tobacco. By the end of World War II, an era of intensive agriculture began....," says Cargill Fertilizer. "Of the phosphate produced in Florida, about 95% is used in agriculture (90% goes into fertilizer and 5% into livestock feed supplements)." The remaining 5% is used in a variety of foods and beverages, plus personal care, consumer and industrial products.

George Glasser writes in the Earth Island Journal, "Radium wastes from filtration systems at phosphate fertilizer facilities are among the most radioactive types of naturally occurring radioactive material wastes...Uranium and all of its decay-rate products are found in phosphate rock, fluorosilicic acid (fluoride) and phosphate fertilizer."

The Florida Institute of Phosphate Research says, "Removal of uranium as a product is no longer profitable and all of the extraction facilities have been dismantled. The uranium that remains in the phosphoric acid and fertilizer products is at a low enough level that it is safe for use." That's not reassuring. Chronic exposure to low levels of contamination can be as dangerous, or more so, than chronic high levels of exposure or acute occurrences.

Of particular interest is calcium silicate, another byproduct of the phosphate fertilizer industry. One of its uses is as an anti-caking agent in iodized table salt. Is calcium silicate also radioactive? Would that have a significant impact on the thyroid? Given the relationship between Alzheimer's and thyroid disease, Alzheimer's may be destined to increase exponentially.

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The Poisoning of America's Water Supplies

by Mark Sircus Ac., OMD, citizen journalist
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(NaturalNews) Every day in the United States more than 240 million people turn on their faucets in order to drink, bathe, and cook, using water from public water systems. But more people are arriving to the point where they will not let a drop of water touch their lips in their own homes unless that water comes from a bottle shipped from a fresh water source. And even then we still have trouble in the home. Researchers at the University of Texas found that showers and dishwashers liberate trace amounts of chemicals from municipal water supplies into the air [1].

"The frog does not drink up the pond in which he lives." - American Indian Proverb

Squirting hot water through a nozzle, to produce a fine spray, increases the surface area of water in contact with the air, liberating dissolved substances in a process known as "stripping." So if we want to avoid those chemicals drinking bottled water is not enough. Chemically sensitive individuals would also have to wear a gas mask in the shower, and when unloading the dishwasher if they want to avoid chemical contamination. And even then the skin will absorb directly in the shower chemicals like fluoride so we cannot assume we are safe from the contaminants even if we are drinking pure water. The majority of people still take the purity of their tap water for granted when they shouldn't.

When we look deeper we can see that even in a rich country like the United States, we all have reason to be concerned about not only drinking, but even bathing in water that comes from public treatment systems. Albuquerque, Fresno, and San Francisco are examples of cities that have water that is sufficiently contaminated so as to pose serious potential health risks to pregnant women, infants, children, the elderly, and people with compromised immune systems, according to Dr. David Ozonoff [2]. What we find in these waters are contaminants that occur with surprising regularity, regardless of location, such as chlorination by-products, lead, and coliform bacteria. Other contaminants, such as Teflon and rocket fuel occur less frequently but pose major health concerns. If we include the fact that fluoride is actually poisonous we have water that is slowly killing some Americans and depressing the health of almost everyone who drinks and showers in it.

And the problems with water just do not end. In August 2005 we learned that common household brass plumbing fixtures may release far more lead into drinking water than previously believed. As a result, even new homes built with brass fixtures like ball valves and water meters could end up with potentially unsafe lead levels. In a report trumpeted by the National Science Foundation, Virginia Tech researchers charged that the standards used to certify the brass plumbing supplies found at most hardware stores may be inadequate to predict lead contamination of water. This contradicts years of assumptions that lead contamination primarily comes from old leaden pipes or public water systems with lead contamination problems [3]. Contrary to popular belief, many plumbing supplies sold today are not lead-free but contain up to 8 percent lead content in brass fixtures [4]. Lead makes brass and other metals more malleable, helping manufacturers create intricate shapes.

The consequence though is extraordinarily high for exposure to lead in drinking water which results in delays in physical and mental development, along with slight deficits in attention span and learning abilities. In adults, it can cause increases in blood pressure. Adults who drink this water over many years could develop kidney problems or high blood pressure according to the American EPA [5]. The Romans had their

engineers turn the populace into neurological cripples when they started using lead in their water systems but they did not have to deal with either fluoride or mercury. The three together, mercury, lead and fluoride become a kind of devil's triangle of chemical toxicity that is only made worse by aluminum and a host of other hostile chemicals that are clogging up our bodies.

Water pollution by drugs is an emerging issue that is extremely important. Pharmaceuticals are now attracting attention as a whole new class of water pollutants. At the recent American Chemical Society conference, Chris Metcalfe of Trent University in Ontario reported finding a vast array of drugs leaving Canadian sewage treatment plants. Padma Venkatraman, a postdoctoral fellow at Johns Hopkins concluded that antidepressants, anticonvulsants, anticancer drugs and antimicrobials are among the pharmaceuticals most likely to be found at "toxicologically significant levels" in the environment.

These drugs and many more [vi] are finding their way into public water systems because pharmaceutical industries, hospitals and other medical facilities as well as households dispose of unused medicines and even human excreta can contain incompletely metabolized medicines. Millions of doses of prescription drugs that Americans swallow annually to combat cancer, pain, depression and other ailments do not disappear harmlessly into their digestive systems but instead make their way back into the environment where they may contaminate drinking water and pose a threat to life, according to researchers at John Hopkins medical center.

These drugs pass intact through conventional sewage treatment facilities, into waterways, lakes and even aquifers. Discarded pharmaceuticals often end up at dumps and land fills, posing a threat to underlying groundwater. And farm animals also are a huge source of pharmaceuticals entering the environment because of the massive use of hormones, antibiotics and veterinary medicines used in their care. Along with pharmaceuticals, personal care products also are showing up in water. Generally these chemicals are the active ingredients or preservatives in cosmetics, toiletries or fragrances. For example, nitro musks, used as a fragrance in many cosmetics, detergents, toiletries and other personal care products, have attracted concern because of their persistence and possible adverse environmental impacts. Some countries have taken action to ban nitro musks. Also, sun screen agents have been detected in lakes and fish.

It is hard to tell which is worse, the toxic chemicals and drugs that are leeching into the public water systems or the noxious chemicals deliberately put in the water by public health officials. Standard water treatments result in health threats yet health officials are loath to admit any problem that we should beware of. Chlorination of drinking water supplies virtually eliminates most disease or bacterial contamination, but creates traces of several toxic by-products in drinking water -- such as chloroform, trihalomethanes and other chlorinated organic compounds. In recent years municipal water districts across the United States are changing the way they disinfect public water supplies. Many are adding ammonia to chlorinated water to produce chloramines [vii], or chloraminated water. They are doing that in order to meet standards set by the U.S. Environmental Protection Agency (EPA). While chloramination has been used as a way to lower the level of carcinogenic disinfection byproducts (DBPs) created by chlorination, it has led to extreme water toxicity. Chloraminated water kills fish and reptiles and there is no reason to believe it is safe for human consumption.

"I almost died," Denise Kula Johnson of Menlo Park said the day after chloramines were added to her water supply. "I was in the shower and suddenly I could not breathe. I passed out on the floor. I was terrified."

"The government is hiding the fact that the drinking water is not usable," says medical scientist Dr. Winn Parker who tells us that the most at-risk groups from chloraminated water are the fetus in the first trimester, children to age three, people over age 60 and those with human immunodeficiency virus (HIV). Women in the 35-45 age group are at risk of recurring rashes on the inner thighs and chest, he added. Parker is calling for government funding of alternative disinfection methods, such as ultra-violet and reverse osmosis, which would make harmful chemical disinfection methods obsolete. "We need to amend the Constitution," Parker said, "to give the people in each state the right to vote on what goes into their water." [viii] A recently discovered disinfection byproduct iodoacetic acid, found in U.S. drinking water treated with chloramines, is the most toxic ever found according to Dr. Michael J. Plewa, a genetic toxicology expert at the University of Illinois [ix].

"Individuals who consume chlorinated drinking water have an elevated risk of cancer of the bladder, stomach, pancreas, kidney and rectum as well as Hodgkin's and non-Hodgkin's lymphoma." [x] - Dr. Michael J. Plewa

The Poisoning of America's Water Supply

When Washington DC changed in 2000 to chloramines, this newly treated water reacted with the lead in the pipes to poison the drinking water. Lead levels were found in Washington's water 3,200 times the EPA's "action level" and 4,800 times the UN's acceptable level for the toxic heavy metal. Americans have been conditioned to believe that the problem with lead has mostly disappeared but nothing could be further from the truth. According to the Washington Post, "In New York City, the nation's largest water provider has for the past three years assured its 9.3 million customers that its water was safe because the lead content fell below federal limits. But the city has withheld from regulators hundreds of test results that would have raised lead levels above the safety standard in two of those years." [xi]

"The drinking water lead crisis in Washington D.C. poses serious public health risks to thousands of residents of the national capital area, and casts a dark shadow of doubt over the ability, resources, or will of federal and local officials to fulfill their duty to protect our health," said Paul D. Schwartz, National Policy Coordinator, Clean Water Action [xii].

After switching to chloraminated water, children in Washington ingested more than 60 times the EPA's maximum level of lead with one glass of water [xiii].

Jim Elder, who headed the EPA's drinking water program from 1991 to 1995, said he fears that utilities are engaging in "widespread fraud and manipulation. It's time to reconsider whether water utilities can be trusted with this crucial responsibility of protecting the public. I fear for the safety of our nation's drinking water. Apparently, it's a real crap shoot as to what's going to come out of the tap and whether it will be healthy or not."

Cities across the country are manipulating the results of tests used to detect lead in water, violating federal law and putting millions of Americans at risk. - Washington Post [xiv]

Underground aquifers can become contaminated with bacteria and viruses because of insufficient topsoil layers to filter rainwater as it trickles down to recharge the groundwater. Livestock manure, human sewage sludge, fertilizers, weed killers [xv] and pesticides seep down into groundwater supplies. The intensification of agricultural practices -- in particular, the heavy use of fertilizers and pesticides -- has had a huge impact on water quality. The main agricultural water pollutants are nitrates [xvi], phosphorus, and pesticides. Rising nitrate concentrations threaten the quality of drinking water, while high pesticide use contributes substantially to the direct poisoning of our water supplies.

The Netherlands National Institute of Public Health and Environmental Protection (RIVM, 1992) concluded that "groundwater is threatened by pesticides in all European states." WHO (1993) has established drinking water guidelines for 33 pesticides but an awareness is growing that in all matters water related we are not being protected from serious harm. There really is no limit to the concerns and chemicals that make drinking public water a bad idea.

There really is no end to the serious problems with tap water that are being seriously underestimated. The National Academy of Sciences has concluded that arsenic is so dangerous in drinking water that stringent levels set by the Clinton administration and later suspended by the Bush White House were not strict enough. For decades, the Environmental Protection Agency set an acceptable arsenic level of 50 parts per billion in drinking water. But recent studies suggested that this level was too high and increased the risk of bladder and lung cancer. A report by the National Academy of Sciences in 1999 said the standard should be made stricter "as promptly as possible." President Bill Clinton ordered the limit to be lowered to 10 parts per billion in 2006 and scientists doubt if even this low level of concentration is safe [xvii].

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i. (<http://www.agonist.org/story/2005/8...>)

ii. National Resources Defence Council. Ozonoff is chair of the Environmental Health Program at Boston University School of Public Health and a nationally known expert on drinking water and health issues (<http://www.nrdc.org/water/drinking/...>)

iii. (<http://www.roanoke.com/news/roanoke...>)

http://www.naturalnews.com/z023565_water_lead_drinking.html

1/3/2011

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iv. Drinking Water Act in 1996 banned plumbing devices with pure lead pipe but still allows low levels of lead. Homes built before 1986 are more likely to have lead pipes, fixtures and solder. However, new homes are also at risk: even legally "lead-free" plumbing may contain up to 8 percent lead. The most common problem is with brass or chrome-plated brass faucets and fixtures which can leach significant amounts of lead into the water, especially hot water.

v. (<http://www.epa.gov/safewater/lead/i...>) Amendments made to the federal Safe

vi. Detected contaminants include caffeine, which was the highest-volume pollutant, codeine, cholesterol-lowering agents, anti-depressants, and Premarin, an estrogen replacement drug taken by about 9 million women. Also chemotherapy agents were found downstream from hospitals treating cancer patients. Final results from the study are expected to be released in the fall. For additional information about the U.S.G.S. study check the website: (<http://toxics.usgs.gov/regional/emc...>)

vii. Chloramine is a disinfectant put into many municipal water supplies. In recent years it has often replaced chlorine for two main reasons. The first is that it is much longer lasting, so it continues to provide a disinfectant action in supply pipes, where chlorine typically loses its capacity to disinfect. The second is that it does not react with organics nearly as readily as does chlorine. The reaction products of chlorine and organics (chlorinated organics) are very toxic to people, and water supply operators elect to use chloramine to reduce this toxicity.

viii. Bollyn, Christopher. The Unhealthy Consequences of Chloraminated Water.
(<http://www.americanfreepress.net/ht...>)

ix. (<http://www.sciencedaily.com/release...>)

x. Sep 2004 (<http://www.watertechonline.com/News...>)

xi. (<http://www.americanfreepress.net>)

xii. US House of Representatives, Committee on Government Reform
Hearing on the District of Columbia's Lead Contamination Experience
Statement of Paul D. Schwartz, National Policy Coordinator, Clean Water Action
May 21, 2004. (<http://www.dcwatch.com/wasa/040521i.htm>)

xiii. From April 2 to May 8 of 2004, utility officials switched back to chlorine, a yearly change intended to rinse bacteria from the pipes before summer. During that time, officials said yesterday, lead level test results in homes with lead service lines were 25 percent to 30 percent lower than they would have predicted. (<http://www.washingtonpost.com/wp-dy...>)

xiv. (<http://www.washingtonpost.com/wp-dy...>)

xv. The weed killer atrazine affects the levels of a number of hormones needed for normal development and function of the reproductive system, including estrogen, prolactin, luteinizing hormone, and follicle stimulating hormone. Atrazine has been linked to sexual malformations in frogs that were exposed to water containing just 1/30th as much atrazine as the EPA regards as safe in human drinking water. Sanders, Robert. Popular weed killer atrazine feminizes native frogs across Midwest, could be impacting amphibian populations worldwide 30 October 2002. University of Berkely. (<http://www.berkeley.edu/news/media/...>)

xvi. Nitrate in drinking water is also associated with increased risk for bladder cancer, according to a University of Iowa (UI) study that looked at cancer incidence among nearly 22,000 Iowa women. The study results suggest that even low-level exposure to nitrates over many years could cause increases in certain types of cancer, said Peter Weyer, Ph.D., associate director of the UI Center for Health Effects of Environmental Contamination (CHEEC) and one of the study's lead authors. The study was published in the May 2001 issue of the journal Epidemiology. "From a public health perspective, source water protection is a main concern. Sources of nitrate which can impact water supplies include fertilizers, human waste, and animal waste," Weyer said. "All of us, rural and urban residents alike, need to be more aware of how what we do as individuals can impact our water sources and, potentially, our health." (<http://www.nesc.wvu.edu/ndwc/articl...>)

water were within the "safety guidelines" established by the EPA. No other causes for this damage were found.

Individuals who counter these results say there was up to 4.5 ppm of fluoride in the water, and guidelines call for only 1 ppm. I object to their finger-pointing and say it doesn't take a brain surgeon to see that this does not leave much of a margin of safety, especially when the EPA usually uses a 100-times margin of safety for such toxins.

And we have seen that fluoride accumulates in the brain, reaching levels equal to these studies. Yet most important is the fact that even their estimates found that the average person is taking in 3 ppm per day through foods, drinks and pesticide exposure. More accurate estimates found an average daily consumption of fluoride of 4 to 8 ppm.

Here's a great example of how fluoride can sneak up on you. In the South, most people drink iced tea with their meals. All teas contain very high levels of fluoride as well as aluminum. Because the summers are so hot, a large number of people are drinking large volumes of this fluoride-laden tea.

Many foods and drinks also are high in fluoride, such as de-boned meats, gelatin and American wines, especially California wines.

Pesticides, too, are a problem, because they contain cryolite, a compound containing aluminum and fluoride in high concentrations. Interestingly, workers in cryolite industrial plants have been found to have a high incidence of thinking disorders as well as genetic damage.

Fluoride and Cancer

In 1975, Dr. Dean Burk, the former chief chemist of the National Cancer Institute, and Dr. John Yiamouyiannis conducted a study comparing cancer death rates in the 10 largest fluoridated cities matched with the 10 largest non-fluoridated cities. These cities were matched for equal cancer death rates before the fluoridation experiment was begun.

They found that once cities began including fluoride in their drinking water, cancer death rates began to climb. After 13 to 17 years of fluoridation of their drinking water, these cities experienced a 10

percent increase in cancer death rates compared with the non-fluoridated cities.

The incidence of cancer would be even higher than the cancer death rates, since many people with cancer will not die of the disease during the years studied.

The Centers for Disease Control and Prevention (CDC) repeated the study using a larger number of cities and found similar results. Interestingly, both scientists proved their case in court against representatives from the National Cancer Institute.

Several other doctors found even more frightening associations between fluoridation of drinking water and cancer incidences. Dr. Donald Austin of the California Tumor Registry discovered the cancer death rates in California were 40 percent higher in fluoridated communities and Dr. Victor Ceilioni showed the cancer death rates in Canadian cities were 15 percent to 25 percent higher in fluoridated Canadian cities compared with non-fluoridated cities.

Although a heavy proponent of fluoridation, the U.S. Public Health Service discovered similar results as Drs. Austin and Ceilioni after following up its initial fluoridation program.

In the first of the fluoridated cities in the U.S. — Grand Rapids, Michigan — the Public Health Service found a 22 percent increase in cancer death rates compared with the non-fluoridated control city of Muskegon, Michigan.

We can now show a strong connection between fluoridated drinking water and cancer death rates. And the evidence gets even stronger. As a result of these studies and the fact that the U.S. Public Health Service could not defend fluoride safety, Congress ordered a study of the problem to be conducted by the Battelle Memorial Institute in Columbus, Ohio.

The Battelle Institute announced its findings and released proof of the connection between fluoride and cancer of the mouth in February of 1989.

The study showed:

- At 45 ppm, there was a 12 percent increased incidence of oral cancers, such as cancers of the tongue and gums. Subsequent studies did indeed

Memorial Business Journal

MEMORIAL BUSINESS JOURNAL FOR PROFESSIONAL FUNERAL DIRECTORS, CEMETERY AND CREMATION SERVICES



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Photo Courtesy of Arlington Cemetery, Drexel Hill, Pa.

California Seeking to Ride The Alkaline Hydrolysis Wave Bill Advances to Senate, Approval Expected

SACRAMENTO – Last week the California State Assembly unanimously approved A.B. 2283, which would amend the state's Health and Safety code to change the definition of cremation to include alkaline hydrolysis, a "chemical dissolution process using heat, high pressure water, and potassium hydroxide to hydrolyze human tissue and the consumable container."

Introduced by Assemblyman Jeff Miller, the bill has been advanced to the state senate for consideration. If approved, California would join Florida, Maine and Oregon as states that have taken legislative action to permit the process for the general public. A number of other states, including Minnesota and Colorado, permit the practice for institutional procedures, such as the disposition of cadavers at medical and veterinary schools. Meantime, a number of states are having the conversation about amending their laws to include the process in their approved methods of disposition of human remains. Some states argue that while the process isn't officially "legal" in their states for public consumption, it isn't illegal either. Meaning a business could test the waters and seek to install a facility following the licensing and permit process currently on the books.

The California bill also instructs the state's Cemetery and Funeral Bureau to adopt regulations for the safe operation of alkaline hydrolysis chambers no later than July 1, 2011.

Robert J. Achermann, executive director of the California Funeral Directors Association, which supported the bill, noted that there is no opposition to the A.B. 2283 and he does not expect there to be any problem getting the bill through the state senate and signed by the governor.

"The association has had meetings with Miller's office about some of the technical issues about how you define the process," Achermann said. "I think most funeral directors believe this is something that will generate consumer interest as an alternative to traditional cremation." Another consideration in the state — cemeteries in California, especially near the major metropolitan areas, are running short on space.

Supporters call alkaline hydrolysis, which is also referred to as bio-cremation, Resomation or water resolution, a "greener" alternative to traditional cremation. The process itself reportedly uses about less than 20 percent of the energy used for a cremation. Further, CO2 emissions are reduced by nearly 90 percent and the process avoids putting mercury and other harmful contaminants into the atmosphere.

Basically, a body is placed into a stainless steel container with potassium hydroxide (a form of lye) and heated to more than 300 degrees F. Turbulence is used to accelerate the dissolving of flesh

MEMORIAL BUSINESS JOURNAL FOR PROFESSIONAL FUNERAL DIRECTORS, CEMETERY AND CREMATION SERVICES

and soft tissue. Usually the process takes, on average, about three or four hours. What's left is a sterile liquid substance containing amino acids, peptides, sugars and salts that are purportedly environmentally friendly and can be washed down the drain. The remaining bone fragments are whiter in appearance than those that are cremated. The bones are then pulverized into a fine white, ash-like substance and can be returned to the family.

"I am told there are no discharge issues, it is a process that has been used in Europe for some time," Achermann said. "But being California the environment is always at the forefront."

Assemblyman Miller was approached with the idea by a funeral director, Chris Miller (no relation), owner of Thomas Miller Mortuary in the assemblyman's home district of Corona. Chris Miller also approached the state association to lobby to have the law changed.

Eye on the Process

The forward progress in California has turned a spotlight on the process as a whole. The technology evolved out of necessity in Europe as the high volume of cremation in densely populated areas compelled nations to put limits on the emissions. The first application of alkaline hydrolysis to be used for processing human remains in the United States took place in 1998 at the University of Florida, Gainesville, to dispose of medical school cadavers. The second system, also for institutional purposes, was in 2005 at the Mayo Clinic in Rochester, Minn.

Currently, there are no funeral homes offering alkaline hydrolysis as a means of disposing of human remains in the United States. The first commercial application of the process is scheduled to be installed this summer by Matthews International, which partnered with a Scottish firm, Resomation Ltd. in 2008. The location of the unit, pending final approvals of the necessary permits, is at the Anderson-McQueen Family Tribute Center in St. Petersburg, Fla., which will be a showcase for the use and application of bio-cremation for the public.

According to Steve Schaal, division manager for sales and marketing of Matthews Cremation, Apopka, Fla., the opening of the facility is just a few months away. "The emission test data and technical solution are in the hands of the local

Alkaline Hydrolysis Step-by-Step

APOPKA, FLA. – According to Matthews International Cremation Division the bio-cremation process takes about three hours. Below is a step-by-step analysis of the cycle.

Step 1 – Load: Door is opened and the body (in a silk container) is placed in a stainless steel basket and loaded into the unit.

Step 2 – Preparation: Load cells automatically weigh the body and the system calculates the corresponding amount of water and alkali to be added to the vessel.

Step 3 – Fill: The correct amount of water and alkali is added to the vessel.

Step 4 – Heat Up and Cycle: The vessel is heated to approximately 300-350 degrees F by passing steam through the internal coil and the solution is continuously mixed allowing for a fast bio reaction. Begins to heat up to the desired operating temperature of approximately 370°F - it will hold that temperature for approximately 45 minutes.

Step 5 – Cool Down: The bio remains are then rapidly cooled through a recirculation pump and cooling water. This process also takes about 45 minutes.

Step 6 – Drain: When the bio-cremation process is complete, the vessel is drained to leave only the bio remains.

Step 7 – Rinse: The vessel and porous bio remains are rinsed with hot water for cleaning purposes.

Step 8 – Bone Removal & Drying: After rinsing, the bio remains are removed from the vessel, dried and processed into a fine, pure white ash. This can be placed in an urn and returned to the family.

Source: Matthews International Cremation Division. Used by permission.

Published on Monday, August 19, 2002 by CommonDreams.org

Alzheimer's in America: The Aluminum-Phosphate Fertilizer Connection

by Lynn Landea

Americans are losing their minds to Alzheimer's disease. It's an epidemic. And it's not typical of what's going on in the rest of the world.

The World Health Organization (WHO) estimates that there are 18 million people with Alzheimer's. Over 4 1/2 million Americans have the disease. We account for 25% of all Alzheimer's cases, even though we represent only 4.6% of the world's population. Europe is experiencing half our rate of disease. For Americans over 85 years of age, 50% are thought to have Alzheimer's.

The question is, "Why?"

Alzheimer's was first discovered in 1906. It is not a part of normal aging, says the National Institutes of Health (NIH). The NIH contends that the cause of Alzheimer's is "not known." They say, "Prior theories regarding the accumulation of aluminum, lead, mercury, and other substances in the brain have been disproved."

Don't believe that. Federal agencies have a talent for not finding environmental causes for many diseases. They live by the motto, "Do not seek and thou shall not find." Genetic triggers and lifestyle choices get the research dollars for pretty obvious reasons - their findings don't hurt polluters' profits.

The world's scientists and government researchers have not taken aluminum off the scientific table as a causal factor in Alzheimer's. Research scientists with the International Aluminum Network report, "Aluminum has been implicated ...as a potential factor or cofactor in the Alzheimer's syndrome, as well as in the etiopathogenesis of other neurodegenerative diseases, Parkinsonism, Amyotrophic Lateral Sclerosis and other diseases." That's a mouthful, but you get the picture.

Initially, it was thought that aluminum might be the sole cause of Alzheimer's. Persons with Alzheimer's have been found to experience increased absorption of aluminum in the brain, as well as exhibit densities of senile plaques and neurofibrillary tangles. However, there are reports that suggest plaques and tangles do not always signify Alzheimer's, and vice versa.

Further clouding the issue are patients on kidney dialysis machines. They are unable to excrete aluminum, plus they may also be treated with medicines that include aluminum. However, reports say that dialysis patients don't develop Alzheimer's, although they can develop dialysis dementia if the equipment doesn't filter out aluminum. And therein lies a clue.

The process of kidney dialysis requires very purified, non-fluoridated water. What does this mean? Perhaps fluoride is aluminum's partner-in-crime.

In 1998 Julie Varner and two colleagues published research on the effects of aluminum-fluoride and sodium-fluoride on the nervous system of rats. They concluded, "Chronic administration of aluminum-fluoride and sodium-fluoride in the drinking water of rats resulted in distinct morphological alterations of the brain, including the effects on neurons and cerebrovasculature." In layman's terms, it looked like fluoride and aluminum could cause Alzheimer's.

That was not a definitive study, but they may have been onto something. Aluminum is in our drinking water, foods, and many consumer products. Adding fluoride to drinking water in the U.S. started in the 1950's. America's drinking water is now over 60% fluoridated. Fluoride appears in many processed foods and beverages made with fluoridated water. Keep in mind, Europe has half our rate of Alzheimer's. They don't fluoridate their water supplies, but they do use fluoride supplements and dental products. Is there a connection?

There are other intriguing issues. Why do people with thyroid disease have an increased risk for Alzheimer's? In the U.S., thyroid disease has reached even greater epidemic levels than Alzheimer's, with as many as 20 million American victims. Besides problems with iodine intake, a common cause of thyroid disease is radiation.

There are also striking similarities between Alzheimer's, Creutzfeldt-Jacob-Disease (CJD), and mad cow disease. Mad cow has been linked to livestock feed and fertilizer.

So, what do radiation, livestock feed, fluoride, and fertilizer have in common which may have led to the emergence of the Alzheimer's epidemic? The phosphate fertilizer industry.

"Fertilizer use was not a common practice in the United States until after 1870, when phosphate and lime were applied to crops like cotton and tobacco. By the end of World War II, an era of intensive agriculture began....," says Cargill Fertilizer. "Of the phosphate produced in Florida, about 95% is used in agriculture (90% goes into fertilizer and 5% into livestock feed supplements). The remaining 5% is used in a variety of foods and beverages, plus personal care, consumer and industrial products.

George Glasser writes in the Earth Island Journal, "Radium wastes from filtration systems at phosphate fertilizer facilities are among the most radioactive types of naturally occurring radioactive material wastes...Uranium and all of its decay-rate products are found in phosphate rock, fluorosilicic acid (fluoride) and phosphate fertilizer."

The Florida Institute of Phosphate Research says, "Removal of uranium as a product is no longer profitable and all of the extraction facilities have been dismantled. The uranium that remains in the phosphoric acid and fertilizer products is at a low enough level that it is safe for use." That's not reassuring. Chronic exposure to low levels of contamination can be as dangerous, or more so, than chronic high levels of exposure or acute occurrences.

Of particular interest is calcium silicate, another byproduct of the phosphate fertilizer industry. One of its uses is as an anti-caking agent in iodized table salt. Is calcium silicate also radioactive? Would that have a significant impact on the thyroid? Given the relationship between Alzheimer's and thyroid disease, Alzheimer's may be destined to increase exponentially.

MATERIAL SAFETY DATA SHEET
North American Version

FLUOROSILICIC ACID 23-25%

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Identification of the substance/preparation

Product Name : Fluorosilicic Acid, 23-25%
Chemical Name : Silicate (2-) Hexafluoro-dihydrogen
Synonyms : Hydrofluorosilicic acid, fluosilicic acid, HFS, FSA
Chemical Formula : H_2SiF_6
Molecular Weight : 144
CAS Number : 16961-83-4
Grades/Trade Names : None

1.2. Use of the Substance/Preparation

Recommended use : Chemical intermediates, Water fluoridation

1.3. Company/Undertaking Identification

Address : Solvay Fluorides, LLC
PO BOX 27328 Houston, TX 77227-7328
3333 Richmond Ave. Houston, Texas 77098

1.4. Emergency telephone numbers

General: 1-877-765-8292 (Solvay Chemicals, Inc.,)
All Emergencies (USA): 1-800-424-9300 (CHEMTREC)
Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC)
Transportation Emergencies (CANADA): 1-613-998-6666 (CANUTEC)
Transportation Emergencies (MEXICO-SETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro area)

2. HAZARDS IDENTIFICATION

2.1. Emergency Overview:

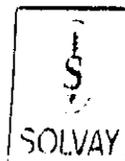
General Information

Appearance : liquid
Color : colorless
Odor : pungent

Main effects

- Corrosive product, very hazardous to human health and the environment.
- Presents hazards from its ionizing fluorine.
- In case of decomposition, releases hydrogen fluoride.
- Toxic by inhalation, in contact with skin and if swallowed.
- Risk of cardiac and nervous disorders.
- Causes burns.
- Chronic exposure (to the product) at high concentrations can cause bone fluorosis.

Solvay
Fluorides



DATE	TIME
9-8-10	CIRCLE AM/PM
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DANGER

PELIGRO

FUMIGATION

SULFURYL FLUORIDE

CHLOROPICRIN

PESTICIDA

VENENOSO

IT IS UNLAWFUL TO REMOVE THIS SIGN

AREA UNDER FUMIGATION,
DO NOT ENTER / NO ENTRE

ALL PERSONS ARE WARNED TO KEEP AWAY
PROHIBIDO EL PASO SIN DISTINCION DE PERSONA

The Konformist

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K2K
December 2000

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Water treatment chemicals contribute to Arsenic levels in drinking water

Sun, 29 Oct 2000

[George Glasser](#)

(gtigerclaw@worldnet.att.net)

FOR IMMEDIATE RELEASE

Oct. 29, 2000

From George Glasser, St. Petersburg, FL

Fluoridation chemicals contain highest levels of Arsenic

In an October 2000 *Opflow* article, "Treatment Chemicals Contribute to Arsenic Levels," the authors report that if the US Environmental Protection Agency Arsenic standard were set at three to five parts per billion, about ten percent of the Maximum Contaminant Level (MCL) for Arsenic would be contributed by water treatment chemicals. They stated that 90% of the Arsenic contamination found in drinking water is attributable to fluorosilicic acid used in artificial fluoridation schemes. The EPA is lobbying Congress and the Senate to reduce Arsenic levels to three to five parts per billion.

Many studies have concluded that chronic health effects due to low concentrations of Arsenic in the drinking water include prostate, skin,

google: Agenda 21 Repopulation

www.Fluoride Action Network.org
www.Dprogram.net

bladder, kidney, liver and lung cancers. The non-cancerous effects include skin pigmentation and keratosis (callous-like skin growths), gastrointestinal, cardiovascular, hormonal (e.g., diabetes), haematological, (e.g., anaemia), pulmonary, neurological and immunological effects and damage to reproductive/developmental functions.

The International Agency for Cancer Research has classified Arsenic as a Group 1 (a) substance, "known to cause cancer in humans," and the National Academy of Sciences strongly advocates urgent moves to reduce human exposure to this contaminant via the drinking water.

The EPA suggested that a reduction in the MCL for Arsenic from 50 parts per billion (ppb) to 5ppb will result in the lowering of the Maximum Allowable Level (MAL) in the fluoridation product - fluorosilicates derived from phosphate fertilizer pollution scrubbing operations.

The new MAL would prevent about 20 cases of bladder cancer and approximately 5 bladder cancer deaths per 100,000 population per year. This translates to 50,000 cases and 12,500 deaths from bladder cancer each year.

The results of tests indicate that the most common contaminant detected in the fluoridation product is Arsenic. The National Sanitation Foundation International (NSFI) showed that the average Arsenic levels in the fluoridation agent were well above the proposed MAL. They said that if the lower Arsenic MCL of 5 ppb is promulgated, future tests of fluoridation chemicals may result in "increased product failures".

The fluorosilicic acid is a toxic waste byproduct from phosphoric acid plant pollution scrubbers. This acid contains two other Group 1 (a) substances - Uranium and Beryllium. Studies have revealed that Beryllium is a causative of osteogenic sarcomas (bone cancers), and Uranium is also known to cause cancers in humans.

In response to a recent Congressional inquiry by the US House Committee on Science regarding the fluorosilicic acid used to fluoridate drinking water, the EPA disclosed that no safety testing has ever been conducted with the toxic waste byproduct. However, Charles Fox, EPA Assistant Administrator, indicated that a pharmaceutical grade of sodium fluoride was an adequate laboratory surrogate for the toxic waste.

The authors of the AWWA *Opflow* article recommended that the utilities should test the water for Arsenic at the tap because even trace amounts found in water treatment chemicals can add up and contribute up to ten percent of the MCL of Arsenic, and that this is "hardly a minimal amount." This estimate does not account for Arsenic found at

How Safe is Chlorinated Water?

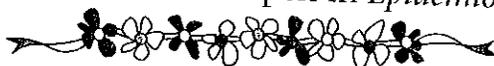
An estimated 75% of drinking water in the U.S. is chlorinated. While chlorination has helped to reduce the incidence of infectious diseases, known carcinogens such as chloroform and other trihalomethanes are formed when chlorine reacts with organic compounds in the water. These chlorines accumulate in fatty tissue such as breast tissues and can be found in body fat, blood, mothers' milk and even semen. Studies have implicated chlorinated drinking water with colorectal and bladder cancers. Highly chlorinated water resulted in a noticeable shift in the transformation of cholesterol from beneficial HDL to harmful LDL.

Recently, the American Journal of Public Health published the results of a study of cancer risk over an 8 year period in 28,237 postmenopausal women. Those who drank water from municipal surface water sources consumed higher levels of chloroform than those who drank municipal ground water sources. The higher intake of chloroform was associated with an increased risk of colon cancer, and of all cancers combined.

Even chlorination does not provide full protection against the deadliest organisms in public water supplies. *Cryptosporidium*, a toxic parasitic protozoan, is chlorine resistant and is inadequately removed by sand filters.

"The worldwide pollution of lakes, streams, rivers and oceans and the chlorination of swimming pool water has led to an increase in deadly melanoma cancer."

— Reports Franz Rampen in *Epidemiology*



The power of pure water is the vital chemistry of life!

One solution to America's soaring health costs is pure distilled water.

Pure Water, the natural solvent of the body, regulates all body functions, including the eliminations of toxins and body waste.

Dehydration causes stress, and stress will cause further dehydration.

— F. Batmanghelidj, M.D. Author of
Your Body's Many Cries for Water; You Are Not Sick, You Are Thirsty!

Authors: Paul Connett PhD
James Beck PhD
H. S. Mackler
DPAI

Book: The Case Against Fluoride

Environmental Science & Health: Toxicology & Health Effects of Fluoride

access to a "low-cost" source of fluoride. Indeed, the alternative of using pharmaceutical-grade fluoride compounds in community fluoridation programs would be cost prohibitive. One of the reasons that is the case is because, as pointed out in chapter 2, over 99.5 percent of the fluoridating chemical goes nowhere near the teeth but gets used for washing, cleaning the car, and flushing the toilet.

Spinning the Fluoridating Chemicals

Because proponents of fluoridation are worried about the public's perception of adding a hazardous industrial waste to the public water supply, some of them have gone to tortuous lengths in an attempt to persuade citizens that the fluoridating chemicals are not captured hazardous waste products. Here is an example of some extraordinary spin from a Q&A pamphlet distributed by the Department of Human Services in Victoria, Australia, in 2009:

Does fluoride come from the fertiliser industry?

Scrubbers can also be used to reduce atmospheric pollution by gases, leading some people to conclude that because a scrubber is used to extract fluoride from rocks, fluoride must be a pollutant, but this is not the case.

Fluoride is not a waste product of the fertiliser manufacturing process, but rather, a co-product. If fluoride is not actively collected during the refining process for water fluoridation purposes, it remains in the phosphate fertiliser. However, due to the widespread practice of water fluoridation in Australia, fluoride is commonly extracted during the refining process.⁴ [numbered references removed from excerpt]

Maybe this "health" agency is happier using the word "co-product" rather than "hazardous by-product," but the simple truth, as indicated previously, is that the captured gases (hydrogen fluoride and silicon fluoride) did enormous damage to crops and cattle surrounding phosphate fertilizer plants for about a hundred years before the industry was forced to put on wet scrubbers to capture those "co-products." Substances that cause damage to plants, animals, or humans are called pollutants. It is also not true, as this fluoridation-promoting health agency claims, that the captured gases would magically return to the phosphate fertilizer if they were not scrubbed from the air emissions. These claims are nonsense.

Other Contaminants in the Hexafluorosilicic Acid Solution

There is no question that the fluoridating agents are contaminated with other toxic pollutants. However, proponents claim that by the time a 23 percent solution of hexafluorosilicic acid is diluted by about 180,000 to 1 (to reach a fluoride concentration of 1 ppm), the contaminant levels will be below regulatory concern. However, this may not be true of arsenic.

Testing by the National Sanitation Foundation (NSF) International suggests that the levels of arsenic in these chemicals, after dilution into public water, can be as high as 1.66 ppb (parts per billion) and are of potential concern.^{5,6} The current safe drinking water standard (alias the maximum contaminant level, or MCL) for arsenic is 10 ppb, and the American Water Works Association (AWWA) does not permit chemicals in the water to reach one-tenth of that standard. Clearly, fluoride is an exception to the rule, since AWWA allows and supports the addition of fluoride at 1 ppm, even though the MCL for fluoride is 4 ppm.

Moreover, as far as regulatory standards are concerned, it should be remembered that a number of water standards for contaminants are set at compromise levels. To determine the federally enforceable standard (i.e., the MCL), considerations of the cost of removal are set against an ideal safety goal (the MCLG, or maximum contaminant level goal). The MCLG for arsenic is set at zero, while the MCL is 10 ppb. Although it can be appreciated that a compromise has to be reached when considering how much money it costs to remove a naturally occurring contaminant like arsenic, it is more difficult to justify the deliberate addition of any level of arsenic to the drinking water, as occurs when industrial-grade fluoridating agents are used, thereby exceeding arsenic's MCLG of zero.

The EPA sets the MCLG for arsenic at zero because arsenic is known to be a human carcinogen, and for the EPA there is no safe consumption level for a cancer-causing chemical. By allowing the use of arsenic-contaminated fluoridating chemicals, we are sanctioning an increased cancer risk for the whole population in an effort to reduce tooth decay by a small amount. Most people are unaware that that is the trade-off that has been made.

The lack of oversight of the fluoridation program by the FDA partially explains why the chemicals used have not been tested in their pure, let alone their contaminated, form. The chemical usually tested in animal studies is pharmaceutical-grade sodium fluoride, not industrial-grade hexafluorosilicic acid. When the switch was made from sodium fluoride to the silicon fluorides (either hexafluorosilicic acid or its sodium salt), the crude assumption was

The Chemicals Used

It comes as a surprise to many people that the chemicals used to fluoridate drinking water in the United States are not pharmaceutical grade, meaning that they are not of the same purity used in dental products. Instead, the bulk of the chemicals used come from the wet-scrubbing systems of the phosphate fertilizer industry.

The Phosphate Fertilizer Industry

Wet scrubbers were introduced into the phosphate manufacturing process to remove two highly toxic gases: hydrogen fluoride (HF) and silicon tetrafluoride (SiF₄). For many years these gases had damaged vegetation in the vicinity of phosphate plants, as well as crippling cattle on local farms. Fortunately, a spray of water is able to capture the gases and convert them to a solution of hexafluorosilicic acid (H₂SiF₆). When this resulting solution has reached a concentration of about 23 percent, it is shipped untreated in large tanker trucks to chemical companies that then send it around the country to be used as a fluoridating agent in over 90 percent of the water supplies fluoridated in the United States. Sodium fluoride is used as a fluoridating agent in less than 10 percent of the water fluoridated.

This is how a research report from the Florida Institute of Phosphate described the history of the situation:

In the late 1960s the state of Florida passed laws restricting air emissions in part because *fluorine [actually silicon tetrafluoride and hydrogen fluoride]* from the phosphate industry had begun to harm citrus trees and there were cases of *fluorosis* in cattle. Since that time phosphate companies have improved the techniques they use to remove contaminants before they are released into the air—such as scrubbing the stacks that processing plants use to release steam. Today *fluoride emissions are not considered to be a problem. It is scrubbed from the stack and is either recovered to make fluorosilicic acid, which can be sold for uses such as water fluoridation, or is sent to the cooling ponds where losses to the air are within regulatory limits.*¹ [emphasis added]

In 1975, there came perhaps one of the biggest regulatory changes for the phosphate industry: The U.S. Environmental Protection Agency required *mandatory reclamation* of the industry's waste products. For example, Florida's typical phosphate rock, which is mined to produce the phosphate used in the fertilizer industry, contains naturally occurring uranium-238 and radium-226, the latter of which gives birth to radon—an odorless, colorless gas that is known to cause lung cancer. Indeed, the same rock that is mined for phosphate is also mined for uranium.

Just how much of this radioactive material ends up in the bulk liquids used in fluoridation is not known. Nor is it known, outside the industry, whether any measures are taken to remove it prior to shipment. It would appear that the promoters of this practice rely on the dilution of approximately 180,000 to 1 at the waterworks to bring all the contaminants in the wet-scrubbing liquor (including arsenic and lead, for example) below regulatory levels (see "Other Contaminants in the Hexafluorosilic Acid Solution" below).

"An Ideal Solution"

For some regulatory officials, the use of the scrubbing liquor from phosphate plants for water fluoridation is considered a positive development. In 1983, Rebecca Hanmer, the deputy assistant administrator for water at the EPA, described the practice as "an ideal solution to a long standing problem. By recovering by-product fluosilicic acid from fertilizer manufacturing, water and air pollution are minimized, and water authorities have a low-cost source of fluoride available to them."²

However, William Hirzy, PhD, an EPA scientist, argues that the public water supply should not be used as a means of getting rid of hazardous waste, and in testimony before the U.S. Senate in 2000 he described Hanmer's views as "linguistic de-toxification."³

Clearly, being able to convert a hazardous waste material into a saleable product is very attractive for the phosphate industry. It would be extremely expensive to send this material to hazardous waste treatment facilities, but once this contaminated hexafluorosilicic acid waste product is purchased by someone, it becomes a "product" and no longer has to meet the stringent EPA legal requirements for handling hazardous waste. In this case, the purchasers are the public water utilities. Ironically, these hazardous waste products cannot be dumped into the sea by international law, nor can they be dumped locally, because they are too concentrated.

As Rebecca Hanmer pointed out, this practice does allow local communities

present). Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites and some bacteria. These organisms can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Viruses (enteric)	zero	TT ²	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste
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Disinfection Byproducts

Contaminant	MCLG ¹ (mg/L) ²	MCL or TT ¹ (mg/L) ²	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water
<u>Bromate</u>	zero	0.010	Increased risk of cancer	Byproduct of drinking water disinfection
<u>Chlorite</u>	0.8	1.0	Anemia; infants & young children: nervous system effects	Byproduct of drinking water disinfection
<u>Haloacetic acids (HAA5)</u>	n/a ⁶	0.060	Increased risk of cancer	Byproduct of drinking water disinfection
<u>Total Trihalomethanes (TTHMs)</u>	none ⁷	0.10	Liver, kidney or central nervous system problems; increased risk of cancer	Byproduct of drinking water disinfection
	n/a ⁶	0.080		

Disinfectants

Contaminant	MRDLG ¹ (mg/L) ²	MRDL ¹ (mg/L) ²	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water
<u>Chloramines (as Cl₂)</u>	MRDLG=4 ¹	MRDL=4.0 ¹	Eye/nose irritation; stomach discomfort, anemia	Water additive used to control microbes
<u>Chlorine (as Cl₂)</u>	MRDLG=4 ¹	MRDL=4.0 ¹	Eye/nose irritation; stomach discomfort	Water additive used to control microbes
<u>Chlorine dioxide (as ClO₂)</u>	MRDLG=0.8 ¹	MRDL=0.8 ¹	Anemia; infants & young children: nervous system effects	Water additive used to control microbes

Inorganic Chemicals

Contaminant	MCLG ¹ (mg/L) ²	MCL or TT ¹ (mg/L) ²	Potential Health Effects from Ingestion of Water	Sources of Contaminant in Drinking Water
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<u>Antimony</u>	0.008	0.008	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
<u>Arsenic</u>	0.2	0.010 as of 01/23/06	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes
<u>Asbestos (fiber >10 micrometers)</u>	7 million fibers per liter	7 MFL	Increased risk of developing benign intestinal polyps	Decay of asbestos cement in water mains; erosion of natural deposits
<u>Barium</u>	2	2	Increase in blood pressure	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
<u>Beryllium</u>	0.004	0.004	Intestinal lesions	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
<u>Cadmium</u>	0.005	0.005	Kidney damage	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
<u>Chromium (total)</u>	0.1	0.1	Allergic dermatitis	Discharge from steel and pulp mills; erosion of natural deposits
<u>Copper</u>	1.3	TT ² ; Action Level=1.3	Short term exposure: Gastrointestinal distress Long term exposure: Liver or kidney damage People with Wilson's Disease should consult their personal doctor if the amount of copper in their water exceeds the action level	Corrosion of household plumbing systems; erosion of natural deposits
<u>Cyanide (as free cyanide)</u>	0.2	0.2	Nerve damage or thyroid problems	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
<u>Fluoride</u>	4.0	4.0	Bone disease (pain and tenderness of the bones); Children may get mottled teeth	Water additive which promotes strong teeth; erosion of natural deposits; discharge

Treated sewage still contaminated

Threat to human, environmental health called questionable

By Douglas Fischer

STAFF WRITER

ALAMEDA — Chemicals suspected of interfering with hormone systems in humans and wildlife are leaching out of consumer products and into wastewater, where they end up in the Bay and beyond, according to a report released Wednesday.

The bulk of the pollution appears to be trapped by sewage treatment plants, designed to strip bacteria, sediments and metals from wastewater but not these so-called endocrine-disrupting compounds.

What does escape is both well-studied and inconsequential, countered industry representatives on Wednesday. The compounds are rapidly broken down in waterways and pose no threat to humans or wildlife, they said.

"What you've got is a triumph of analytical chemistry, that we can measure things this low," said Marian Stanley, senior director of the American Chemistry Council, which represents chemical manufacturers.

Contamination found in treated effluent, she added, "doesn't meet any environmental criteria" for harm. "This is a non-event."

The report was compiled by the Environmental Working Group with assistance from the East Bay Municipal Utility District. It tested raw sewage and treated effluent for the presence of three common chemicals thought to meddle with hormonal systems: Phthalates, bisphenol-a, and triclosan.

Phthalates and bisphenol-a are common plastic additives; the former are often used to soften plastics or bind fragrances, the latter to make plastic shatterproof and extend the shelf life of canned food. Triclosan is the active ingredient of many anti-bacterial soaps, toothpastes, dish detergents, even anti-mildew bath mats and odor-eating shoe insoles.

Sewage samples came from 16 different pipes, including two



LAURA A. ODA — Staff
FRANCOIS RODIGARI, Laboratory Supervisor at EBMUD, shows how the liquid extractor works that tests the water.

homes, a coin-operated laundry, a diaper service, a hospital, and various manufacturers. Analysts found at least one of the three compounds in 15 of the samples.

The study also examined three samples of treated effluent destined for the San Francisco Bay from EBMUD's Oakland water treatment plant. All three contained the compounds but at considerably lower levels.

"We know it's going in, we know at least some of it is going out, and we know that's not good," said Bill Walker, Environmental Working Group's West Coast president.

But Steve Hentges, director of the American Plastic Council's polycarbonate business unit, countered that effects at concentrations found in the treated effluent — in many cases, below 1 part per billion — are well known and "far below" the level that can cause harm to aquatic species.

The state, meanwhile, doesn't know what to make of the data. More than 22 million Californians drink water from the Sacramento and Colorado rivers, "receiving bodies," in water speak, for treated sewage from Sacramento, Las Vegas and numerous other communities. Yet water districts in California are not required to monitor for any endocrine-disrupting compound except perchlorate, an ingredient in rocket fuel.

"It is difficult to test for endocrine (disrupting compounds)," said California Department of Public Health spokeswoman Lea Brooks. "We have insufficient information regarding how much — if any — of these chemicals make it through the wastewater treatment process, natural degradation, and drinking water treatment."

The results come as new science buttresses the notion that these chemicals, in minute amounts and particularly when mixed together, pose a threat to our health.

The bottom line, say those involved in the study, is the need for a comprehensive chemical policy that keeps potentially harmful compounds out of products and encourages less-toxic alternatives.

"Treatment plants, frankly, for not being designed to remove these types of compounds, do a pretty good job," said Ben Horenstein, EBMUD's environmental services director.

"That said, the Bay is impaired. From a national policy perspective, from a state policy perspective, let's really think about what we're doing to our environment and putting down the drain.

"It doesn't take a lot to potentially interfere and cause endocrine-disrupting events in an aquatic environment."

Contact Douglas Fischer at dfischer@angnewspapers.com or at (510) 208-6425.

The chemicals

PHthalATES: A family of chemicals used to make plastic and vinyl soft and flexible and to bind synthetic fragrances, inks and colors to other compounds, such as cosmetics. Phthalates are ubiquitous in environment yet break down readily. Exposure is linked to male reproductive system problems.

BISPHENOL-A: An additive originally developed as a synthetic version of estrogen, used to make plastic shatterproof and to extend the shelf life of canned food. Many studies find a wide array of adverse health effects at low levels, particularly to exposure in the womb.

TRICLOSAN: The active ingredient in most anti-bacterial soaps and detergents, anti-gingivitis toothpastes, and odor-eating shoe insoles. Classified as a "possible" carcinogen by the International Agency for Research on Cancer. Found to cause thyroid disruption in frogs at low levels.

The products

PHthalATES: Found in perfumes, cosmetics, lotions and other personal care products containing the word "fragrance" in the ingredient list; nail polish; flexible polyvinyl chloride (PVC) plastics, including some toys, IV tubing and building products; adhesives, inks, pill coatings and some detergents.

BISPHENOL-A: Used to make polycarbonate, or "shatterproof," plastic, including hard plastic water and baby bottles; plastic silverware; Lexan products; "No. 7" plastic, plastic linings in food and beverage cans; some dental sealants.

TRICLOSAN: Added to most anti-bacterial products, including hand soap, detergents, "anti-gingivitis" toothpaste, cleaning products, shoe insoles, plastic cutting boards, bath mats. Most products containing Triclosan list it under the product's active ingredients.

Dangerous Chlorogen.



**executive
summary**

Issam Najm and
R. Rhodes Trussell

NDMA formation in water and wastewater

JOURNAL AWWA
February 2001
Vol. 93, No. 2
pp. 92-99

N-nitrosodimethylamine (NDMA), a probable human carcinogen, is known to be present in various foods and industrial products and has been found in the effluents of water and wastewater plants. This study was undertaken to evaluate NDMA formation during various water and wastewater treatment processes including chlorination and chloramination, ozonation, and ion exchange.

Results indicated that NDMA is a likely by-product of chloramination of drinking water and wastewater and that NDMA formation increases with increasing chloramine dose. In addition, the study showed that several ion exchange resins can leach NDMA into drinking water.

Given that NDMA is classified as a probable human carcinogen by the US Environmental Protection Agency and will likely be assigned a maximum contaminant level in the near future, water suppliers may want to rethink treatment processes that encourage NDMA formation. Utilities considering converting to chloramine as a disinfectant should seriously evaluate NDMA formation in their water under specific conditions. In addition, those water providers using strong-base anion exchange resins for inorganics removal may need to investigate whether they are releasing NDMA into their treated water. **d**

Issam Najm, president, Water Quality and Treatment Solutions Inc., Chatsworth, Calif. R. Rhodes Trussell, senior vice-president and director of corporate development, Montgomery Watson, Pasadena, Calif.

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MATERIAL SAFETY DATA SHEET
North American Version

FLUOROSILICIC ACID 23-25%

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Identification of the substance/preparation

Product Name : Fluorosilicic Acid, 23-25%
Chemical Name : Silicate (2-) Hexafluoro-dihydrogen
Synonyms : Hydrofluorosilicic acid, fluosilicic acid, HFS, FSA
Chemical Formula : H_2SiF_6
Molecular Weight : 144
CAS Number : 16961-83-4
Grades/Trade Names : None

1.2. Use of the Substance/Preparation

Recommended use : Chemical intermediates, Water fluoridation

1.3. Company/Undertaking Identification

Address : Solvay Fluorides, LLC
PO BOX 27328 Houston, TX 77227-7328
3333 Richmond Ave. Houston, Texas 77098

1.4. Emergency telephone numbers

General: 1-877-765-8292 (Solvay Chemicals, Inc.,)
All Emergencies (USA): 1-800-424-9300 (CHEMTREC®)
Transportation Emergencies (INTERNATIONAL/MARITIME): 1-703-527-3887 (CHEMTREC®)
Transportation Emergencies (CANADA): 1-613-996-6666 (CANUTEC)
Transportation Emergencies (MEXICO-SETIQ): 01-800-00-214-00 (MEX. REPUBLIC)
525-559-1588 (Mexico City and metro area)

2. HAZARDS IDENTIFICATION

2.1. Emergency Overview:

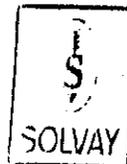
General Information

Appearance : liquid
Color : colorless
Odor : pungent

Main effects

- Corrosive product, very hazardous to human health and the environment.
- Presents hazards from its ionizing fluorine.
- In case of decomposition, releases hydrogen fluoride.
- Toxic by inhalation, in contact with skin and if swallowed.
- Risk of cardiac and nervous disorders.
- Causes burns.
- Chronic exposure (to the product) at high concentrations can cause bone fluorosis.

Solvay
Fluorides



A Subsidiary of Solvay Chemicals, Inc.

MSDS HFS21-0007
LOS P12500

DATE TIME

9-8-60

CIRCLE AM/PM



DANGER

PESTICIDA

PELIGRO

VENENO

FUMIGATION

SULFURYL FLUORIDE

CHLOROPICRIN

AREA UNDER FUMIGATION,
DO NOT ENTER / NO ENTRE

IT IS UNLAWFUL TO
REMOVE THIS SIGN

ALL PERSONS ARE WARNED TO KEEP AWAY
PROHIBIDO EL PASO SIN DISTINCION DE PERSONA

Item No.	Vendor	Chemical	Period	Est. Qty	Unit Price	Previous Unit Price
1	Hill Brothers Chemical Co.	Aqua Ammonia (113 bulk tons, 19% NH ₃)	6 mo	21 dry tons	\$1,457.93 per dry ton	\$1,090.23 per dry ton
2	Solvay Fluorides	Hydrofluorsilicic Acid (255 bulk tons, 23% H ₂ -SiF ₆)	12 mo	X 59 dry tons	X \$2,800.00 per dry ton	\$2,630.43 per dry ton
3	Univar USA Inc.	Calcium Hypochlorite (tablets)	12 mo	2,000 pounds	\$2.89 per pound	\$2.73 per pound
4	Linde Inc.	Carbon Dioxide	12 mo	383 tons	\$198.00 per ton	\$187.00 per ton
5	Brenntag Pacific Inc.	Liquid Caustic Soda (70 bulk tons, 25% NaOH)	12 mo	17 dry tons	\$845.00 per dry ton	\$729.77 per dry ton
6	Brenntag Pacific Inc.	Citric Acid (5-275 gal. totes)	12 mo	1,400 gal	\$6.15 per gal	\$5.68 per gal
7	Kemira Water Solutions Inc.	Ferric Chloride (681 bulk tons)	6 mo	293 dry tons	\$705.00 per dry ton	\$585.00 per dry ton
8	King Lee	Anti-Scalant (Pretreat Plus Y2K)	12 mo	19,287 pounds	\$1.08 per pound	\$1.57 per pound

The total composite cost of the ten chemicals listed in the two tables above for the six-month period between January 1 and June 30, 2009, is \$408,179 based on the estimated usage rate. The forecasted remaining funding in the current budget for these water treatment chemicals is \$423,100. Therefore, there is adequate funding in the budget to cover the costs of water treatment chemicals for the balance of current fiscal year.

RECOMMENDATION: By motion, authorize the purchase orders to furnish and deliver the various treatment chemicals as described above.

5.2 AUTHORIZATION OF PURCHASE ORDERS FOR NEGOTIATED AND BID WATER TREATMENT CHEMICAL PROPOSALS

BACKGROUND: In June 2008, the Board authorized purchase orders to furnish and deliver twelve water treatment chemicals. Two of the chemical supply agreements (for caustic soda at 50% NaOH and sodium hypochlorite), have 18-month contract periods extending to December 2009 and were not included in this round of new bid and negotiated priced proposals. The other ten chemical supply agreements were evaluated to determine whether or not they should be renewed and are the subject of this staff report.

DISCUSSION: Staff determined that the most cost effective approach was to renegotiate two of the ten chemical supply contracts and bid the remaining eight. Renegotiation was determined to be most cost effective for the cationic polymer (Item A below) because the proposed price increase was reasonable (i.e., 4.5%), and would save significant amounts of staff time necessary to test and evaluate the performance of a different cationic polymer on the treatment process at Water Treatment Plant No 2. The contract for the nonionic polymer (Item B below) was renegotiated primarily because only small amounts of this chemical are used annually and the overall cost (i.e., \$1,530) is relatively low. Additionally, the chemical suppliers of these two chemicals, SNF Polydyne and Ashland, have consistently provided a high level of service and have been compliant with the contract documents. The two chemical suppliers were requested to submit formal pricing for six-month and twelve-month contract periods. SNF Polydyne furnished pricing for only a six-month period and Ashland, submitted the same unit pricing for both six and twelve-month contract periods as shown in the table below.

Item	Vendor	Chemical	Per-iod	Est. Qty	Unit Price	Previous Unit Price
A	SNF Polydyne	Cationic Polymer	6 mo	26 wet tons	\$1,400.00 per wet ton	\$1,340.00 per wet ton
B	Ashland Inc.	Nonionic Polymer (4-55 gal drums)	12 mo	4 drums	\$382.50 per drum	\$315.00 per drum

For the eight water treatment chemicals that were bid, the District received and opened eleven bids on November 19, 2008. A summary of the bids is attached. All bids were checked arithmetically and for compliance with the bidding requirements. There were multiple irregularities in several of the proposals and all of these irregularities were subsequently corrected following the bid opening. These irregularities are described below and are considered minor and may be waived.

Two bidders, Brenntag and Linde, failed to submit material safety data sheets (MSDS) with their proposals. The three bidders for anti-scalant, King Lee, Avista and Nalco, failed to submit a letter of material compatibility for the RO membranes installed at the Newark Desalination Facility. Additionally, King Lee and Avista failed to submit the required anti-scalant dosage rates with their proposals. One bidder, Linde, included exceptions to the terms and conditions in its proposal for carbon dioxide. The exceptions were specifically associated with the insurance and liability terms. Staff worked with legal counsel and Linde to reach a tentative agreement on all of the areas of concern. The agreement with Linde will be finalized prior to the issuance of a purchase order.

Bidders for the eight chemical contracts were requested to submit prices for six-month and twelve-month periods. For each chemical, the lowest unit price was selected whether it corresponded to a six-month or a twelve-month contract period. The lowest bids for each chemical are shown in the table below.

Why Dental Insurance?

Good oral hygiene is important, not only for looks, but for general health as well. A routine dental examination can detect symptoms of more than 125 diseases, including heart disease, diabetes, anemia, stomach ulcers, osteoporosis and kidney disease. Regular check ups and cleanings can save you the pain and expense of future problems. Dental insurance will keep these visits affordable and is a cost-effective way to minimize health care costs for you and your family. The American Dental Hygienists' Association estimates that for every \$1 spent on prevention or oral health care, as much as \$8 to \$50 is saved on future emergency and restorative procedures. Using your dental insurance for regular dental check ups can improve your health by helping you:

- 1) Prevent Oral Cancer:** According to The Oral Cancer Foundation, someone dies from oral cancer every hour of every day in the United States alone. When you have your dental cleaning, your dentist is also screening you for oral cancer, which is highly curable if diagnosed early.
- 2) Prevent Gum Disease:** Gum disease is an infection in the gum tissues and bone that keep your teeth in place and is one of the leading causes of adult tooth loss. If diagnosed early, it can be treated and reversed. If treatment is not received, a more serious and advanced stage of gum disease may follow. Regular dental cleanings and check ups, flossing daily and brushing twice a day are key factors in preventing gum disease.
- 3) Help Maintain Good Physical Health:** Recent studies have linked heart attacks and strokes to gum disease, resulting from poor oral hygiene. A dental cleaning every six months helps to keep your teeth and gums healthy and could possibly reduce your risk of heart disease and strokes, as well as many other serious conditions.
- 4) Keep Your Teeth:** Since gum disease is one of the leading causes of tooth loss in adults, regular dental check ups and cleanings, brushing and flossing are vital to keeping as many teeth as you can. Keeping your teeth means better chewing function and ultimately, better health.
- 5) Prevent the Need for Advanced Treatment:** Your dentist and hygienist will be able to detect any early signs of problems with your teeth or gums that can be easily treatable. If these problems go untreated, root canals, gum surgery and removal of teeth could become the only treatment options available.
- 6) Have a Bright and White Smile:** Your dental hygienist can remove most tobacco, coffee and tea stains. During your cleaning, your hygienist will also polish your teeth to a beautiful shine.
- 7) Protect your children's health:** Tooth decay is the most common chronic childhood disease, five times more common than asthma and results in a loss of 51 million school hours each year. Regular check ups can help prevent tooth decay in your children.

Sources: www.about.com, American Academy of Pediatrics

water were within the "safety guidelines" established by the EPA. No other causes for this damage were found.

Individuals who counter these results say there was up to 4.5 ppm of fluoride in the water, and guidelines call for only 1 ppm. I object to their finger-pointing and say it doesn't take a brain surgeon to see that this does not leave much of a margin of safety, especially when the EPA usually uses a 100-times margin of safety for such toxins.

And we have seen that fluoride accumulates in the brain, reaching levels equal to these studies. Yet most important is the fact that even their estimates found that the average person is taking in 3 ppm per day through foods, drinks and pesticide exposure. More accurate estimates found an average daily consumption of fluoride of 4 to 8 ppm.

Here's a great example of how fluoride can sneak up on you. In the South, most people drink iced tea with their meals. All teas contain very high levels of fluoride as well as aluminum. Because the summers are so hot, a large number of people are drinking large volumes of this fluoride-laden tea.

Many foods and drinks also are high in fluoride, such as de-boned meats, gelatin and American wines, especially California wines.

Pesticides, too, are a problem, because they contain cryolite, a compound containing aluminum and fluoride in high concentrations. Interestingly, workers in cryolite industrial plants have been found to have a high incidence of thinking disorders as well as genetic damage.

Fluoride and Cancer

In 1975, Dr. Dean Burk, the former chief chemist of the National Cancer Institute, and Dr. John Yiamouylannis conducted a study comparing cancer death rates in the 10 largest fluoridated cities matched with the 10 largest non-fluoridated cities. These cities were matched for equal cancer death rates before the fluoridation experiment was begun.

They found that once cities began including fluoride in their drinking water, cancer death rates began to climb. After 13 to 17 years of fluoridation of their drinking water, these cities experienced a 10

percent increase in cancer death rates compared with the non-fluoridated cities.

The incidence of cancer would be even higher than the cancer death rates, since many people with cancer will not die of the disease during the years studied.

The Centers for Disease Control and Prevention (CDC) repeated the study using a larger number of cities and found similar results. Interestingly, both scientists proved their case in court against representatives from the National Cancer Institute.

Several other doctors found even more frightening associations between fluoridation of drinking water and cancer incidences. Dr. Donald Austin of the California Tumor Registry discovered the cancer death rates in California were 40 percent higher in fluoridated communities and Dr. Victor Cellioni showed the cancer death rates in Canadian cities were 15 percent to 25 percent higher in fluoridated Canadian cities compared with non-fluoridated cities.

Although a heavy proponent of fluoridation, the U.S. Public Health Service discovered similar results as Drs. Austin and Cellioni after following up its initial fluoridation program.

In the first of the fluoridated cities in the U.S. — Grand Rapids, Michigan — the Public Health Service found a 22 percent increase in cancer death rates compared with the non-fluoridated control city of Muskegon, Michigan.

We can now show a strong connection between fluoridated drinking water and cancer death rates. And the evidence gets even stronger. As a result of these studies and the fact that the U.S. Public Health Service could not defend fluoride safety, Congress ordered a study of the problem to be conducted by the Battelle Memorial Institute in Columbus, Ohio.

The Battelle Institute announced its findings and released proof of the connection between fluoride and cancer of the mouth in February of 1989.

The study showed:

► At 45 ppm, there was a 12 percent increased incidence of oral cancers, such as cancers of the tongue and gums. Subsequent studies did indeed

show that the incidence of oral cancers in fluoridated vs non-fluoridated cities was 33 percent to 50 percent greater.

- Toothpaste can contain between 1,000 and 1,500 ppm fluoride.
- Fluoride gels used in dental offices contain up to 15,000 ppm.
- New fluoride varnishes release a high concentration of fluoride continuously in the mouth.

Fluoride, Bone Cancer and Young Men

The bones accumulate more fluoride than any other tissue with the exception of the pineal gland. The Battelle study found that the longer one lives in a fluoridated community, the higher one's bone fluoride levels are.

In fact, animals exposed to 45 ppm of fluoridated drinking water showed an increase in a rare form of bone cancer called osteosarcoma -- in human studies the fluoride concentrations in bones found levels greater than 2,000 ppm.

Osteosarcoma is a tumor most commonly seen in young men in their late teens and twenties. If the Battelle study was accurate, one would expect to see a rise in osteosarcoma in young men in fluoridated communities.

All one has to do is look to the reports by the National Cancer Institute and a 1992 study by the New Jersey Department of Health that show heavy increases, some as high as 50 percent, of the occurrence in osteosarcoma in young men. A New Jersey study found a 3 to 7X higher incidence of this cancer in young men in fluoridated communities vs. non-fluoridated.

Even more shocking is the fact that the Proctor & Gamble Company's own scientists found a link between fluoride ingestion and bone cancer risk before they began adding fluoride to Crest toothpaste. This information was not released voluntarily but required a Freedom of Information lawsuit to pry it loose.

Another P&G study shows that scientists also found genetic damage to cells exposed to just 1 ppm of fluoride, the same dose added to drinking water. This relation to genetic damage has been confirmed

by several independent researchers.

Other types of cancers associated with fluoride exposure include:

- Industrial exposure to airborne fluoride shows a 35 percent increase in lung cancer.
- There is also a 129 percent higher incidence in laryngeal cancer.
- Significant data show an 84 percent increase in bladder cancer.

In fact, in the Battelle study fluoride caused a rare liver tumor that can be produced in experimental animals by only one other toxin -- uranium.

Does Fluoride Cause Crippling?

Skeletal fluorosis is a rarely used term in the United States but often discussed in medical journals overseas. Not that it doesn't occur in the U.S., it's just shrouded in secrecy. Few American doctors have even the slightest understanding of the condition.

As you have learned, the bones accumulate fluoride in very high concentrations and continue to do so the longer you drink fluoridated water. Dr. Hardy Limeback, a professor of dentistry at the University of Toronto who also conducted studies on fluoride levels in the bones of people living in fluoridated communities versus non-fluoridated communities, found that the former had fluoride bone levels two times higher than the latter.

In 1993 the National Academy of Sciences admitted that when bone fluoride levels reached 7,500 to 8,000 ppm, stage 2 and 3 skeletal fluorosis was likely to occur.

So, what is skeletal fluorosis? When fluoride accumulates in bones it stimulates the bone-generating cells, known as osteoblasts, to over-produce bone calcium in what are commonly known as bony overgrowths or bone spurs. These can appear over the joints, within ligaments and especially within the spinal bones. With extensive overgrowth (stage 2 and 3) a person becomes crippled.

Of particular concern is the bone overgrowth on the spinal bones, because they can compress spinal nerves and even the spinal cord. We call this condition spinal stenosis.

as an additive or naturally occurring.

The aluminum binds with the glutamate, forming an aluminum-L-glutamate complex that is highly absorbed by both the GI tract and the brain. Interestingly, a new study found that magnesium aspartate decreased the aluminum concentration in the brain cortex of rats.⁹

In another study, researchers fed rats either aluminum glutamate complex, aluminum chloride, or glutamate alone and found that the aluminum-glutamate complex significantly increased brain aluminum levels over just feeding aluminum chloride alone and that it reached high levels in important areas of the brain:

- The hippocampus
- Occipito-parietal cortex
- Cerebellum¹⁰

The aluminum-glutamate complex appeared to make the blood-brain barrier more permeable to aluminum.

From these studies it appears that aluminum, either as a salt or combined with glutamate or citrate, triggers brain inflammation and excitotoxicity (immunoexcitotoxicity) and this leads to a slow degeneration of specific areas of the brain and spinal cord that may take decades to fully manifest.

Vaccines and Aluminum

During the debates over the cause of autism, much of the early attention focused on the mercury additive thimerosal. Mercury is a powerful neurotoxin, as has been well demonstrated in scientific literature.

Yet somehow the medical establishment ignored 100 years of studies clearly demonstrating the toxicity of mercury. Then sympathetic scientists flooded the medical literature with "studies" that found no harm at all from mercury/thimerosal. Then — amazingly — these same "scientists" actually wrote articles that implied mercury improved IQ.

Of course, everyone who knew better preferred to hide in the shadows rather than point out the glaring flaws in these studies. Vaccination had joined the ranks of political correctness.

What remained in the shadows during all this fuss over vaccination was the obvious toxicity of aluminum.

Compelling research had previously demonstrated that aluminum was an accumulative neurotoxin, even in small concentrations. It had also been demonstrated that aluminum had a tendency to concentrate in the hippocampus, an area of the brain vital to critical functions including:

- Learning
- Memory
- Emotions

There were two other areas of the nervous system that were known to be very sensitive to aluminum toxicity and to concentrate aluminum — the midbrain and the motor neurons of the motor cortex and spinal cord.

Brain Development Implications

It was, of course, no coincidence that aluminum was concentrating in areas of the brain associated with early childhood neurodevelopment, as well as in areas associated with three major neurodegenerative diseases — Alzheimer's, Parkinson's, and ALS. As we shall see, it also concentrates in the myelin covering of neural pathways, linking it to another degenerative disease — multiple sclerosis.

Aluminum has been added to vaccines for almost 90 years; its purpose is to stimulate the immune system to react against the organism in the vaccine. When injected into the muscles, the aluminum forms a complex with invading organisms (such as the influenza virus).

This complex then attracts the body's immune cells, which react to the aluminum-influenza complex by generating antibodies. At the same time, the body makes a genetic record of the invading organism for future reference.

Or at least that is how it is supposed to work.

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Vaccinations Weaken the Immune System

In fact, the operation of the immune system is still largely a mystery. Yet, there is growing evidence that our current vaccination policy is, ironically, weakening our immune systems. In fact, recurring natural exposure to childhood viruses not only keeps our immune systems resistant to infections, it also provides resistance to cancer.

Two friends of mine have written a paper on the neurotoxic effects of aluminum adjuvants in vaccines. In this eye-opening study, they analyze data on the prevalence of autism spectrum disorders recorded from 1991 to 2008, and correlate it with the total aluminum dose from all vaccines mandated by the CDC for children up to age 6. They did the same for the United Kingdom, Australia, Canada, Sweden, Finland, and Iceland.

It is known that injected aluminum adjuvants remain at the site of the injection for years, and that aluminum is slowly released into the bloodstream and enters other organs, including the brain. Hundreds of cases of a new disorder called macrophagic myofasciitis, which affects specialized immune cells (macrophages), have been linked to the aluminum in the muscle tissue. It has also been associated with progressive brain degeneration in children vaccinated with the tetanus and hepatitis B vaccines.

The FDA has set the safe dosage limit for aluminum at 5 mcg/kg body weight per day. Below are the aluminum contents of commonly administered vaccines:

- DTaP (diphtheria, tetanus, and pertussis) — 625 mcg
- Hepatitis B — 375 mcg
- Hepatitis A — 250 mcg
- Hib (haemophilus influenza type B) — 225 mcg
- PVC (pneumococcal conjugate vaccine) — 125 mcg

The paper's authors found that the highest aluminum burden was given to two-month-old babies: 270 mcg/kg per day. That's almost 50 times higher than the official FDA safety limit.

If we gave adults an equal dose of aluminum, based on body weight, they would have to get 15 to 38 vaccines in one day.

Children from the United States, the U.K., and Canada received significantly higher aluminum

How Widespread Is Aluminum Exposure?

Thousands of products are made from aluminum, from the engine in your car to packaging for foods. If you check the ingredients on medications, you will see that most contain an aluminum additive.

Until recently, the main food source containing aluminum was baking powder. Biscuits, pancakes, and most baked goods have added aluminum. You can buy aluminum-free baking powder, but that version is rarely used by food processors. Salt used to contain added aluminum to prevent caking, but it has been removed from most brands. Sea salt, however, still contains aluminum.

Some natural products, such as black tea, also have very high aluminum levels. The tea plant selectively extracts the aluminum from the soil and concentrates it in the leaves. (Green tea has far less aluminum, and white tea has very little.)

The No. 1 food source for aluminum is soy products. Soybeans naturally have very high aluminum levels along with high glutamate levels. Americans have been convinced by a clever marketing campaign to consume massive amounts of soy, including the most commonly used formula for babies.

If this is not bad enough, soy also has very high manganese levels and fluoride levels, both known neurotoxins. So soy foods and drinks have quite a neurotoxic mixture: aluminum, glutamate, fluoride and manganese.

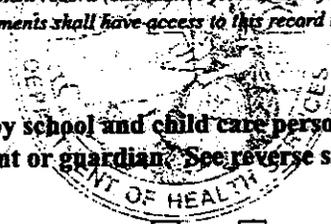
Even the American Academy of Pediatrics expressed concern about the neurotoxic level of some of the metals in soy baby formulae. Studies that looked at aluminum absorption in babies exposed to aluminum found that infants absorb a considerable amount of aluminum from ingested products.

A great number of processed foods, medications, and drinks are loaded with aluminum. And because aluminum is added to drinking water, our plant foods are accumulating (bioaccumulating) the aluminum, so that over time the levels will continue to rise, just as we have seen in fluoride.

For more information, visit www.willingsreport.com and www.willingsreport.com.

CALIFORNIA SCHOOL IMMUNIZATION RECORD

This record is part of the student's permanent record (cumulative folder) as defined in Section 49068 of the Education Code and shall transfer with that record. Local health departments shall have access to this record in schools, child care facilities, and family day care homes.



This record must be completed by school and child care personnel from an immunization record provided by parent or guardian. See reverse side for instructions.

Student Name _____ Sex: M F Birthdate _____ Place of Birth _____

Name of Parent or Guardian _____ Race/Ethnicity: _____ Address _____

Telephone _____ Daytime _____ Nighttime _____ City _____ ZIP _____

- Race/Ethnicity:
- White, not Hispanic
 - Hispanic
 - Black
 - Other: _____

VACCINE	DATE EACH DOSE WAS GIVEN					
	1st	2nd	3rd	4th	5th	Booster
POLIO (OPV or IPV)	/ /	/ /	/ /	/ /	/ /	
DTP/DTaP/DT/Td (Diphtheria, tetanus and [acellular] pertussis OR tetanus and diphtheria only)	/ /	/ /	/ /	/ /	/ /	/ /
MMR (Measles, mumps, and rubella)	/ /	/ /				
HIB (Required only for child care and preschool)	/ /	/ /	/ /	/ /		
HEPATITIS B	/ /	/ /	/ /			
VARICELLA (Chickenpox)	/ /	/ /				
HEPATITIS A (Not required)	/ /	/ /				

I. DOCUMENTATION

I certify that I reviewed a record of this child's immunizations and transcribed it accurately:
 Date _____ / _____ / _____
 Staff Signature _____

- Record Presented was:
- Yellow California Immunization Record
 - Out-of-state school record
 - Other immunization record
- Specify: _____

II. STATUS OF REQUIREMENTS

- A. All Requirements are met.
Date _____ / _____ / _____
- B. Currently up-to-date, but more doses are due later. Needs follow-up.
Exemption was granted for:
 - C. Medical Reasons—Permanent
 - D. Medical Reasons—Temporary
 - E. Personal Beliefs

III. 7th GRADE ENTRY

- A. All Requirements are met.
Name _____ Date _____
- B. Currently up-to-date, but more doses are due later. Needs follow-up.
Name _____ Date _____

TB SKIN TESTS	Type*	Date given	Date read	mm indur	Impression	CHEST X-RAY (Necessary if skin test positive)
	<input type="checkbox"/> PPD-Mantoux <input type="checkbox"/> Other	/ /	/ /	/ /		
<input type="checkbox"/> PPD-Mantoux <input type="checkbox"/> Other	/ /	/ /	/ /		<input type="checkbox"/> Pos <input type="checkbox"/> Neg	

*If required for school entry, must be Mantoux unless exception granted by local health department.