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Sodium Fluoride - A Pollutant or Panacea?

by [OP](#) Saturday, 19 November 2016, 4:19 AM

Sodium Fluoride

Sodium Fluoride, or the molecular formula name NaF, or FNa[1] is a water-soluble, odorless, non-combustible chemical that typically appears as a dried powder or large crystals[2]. It goes by over 800 other names, including the more common fluorine, hydrogen fluoride, or fluosilicic acid,[3] and is sold in many various industries[4].

Benefits to the Community

From utilization as "Roach Salt"[5] to abrasives, solvents, or corrosion inhibitors – it is sold as a resolution for a number of "first world problems"[6]. Additionally, it is added to toothpaste and water supplies across the US, as The American Dental Association and Center for Disease Control (CDC) advise regular topical exposure may help prevent the risk of dental cavities[7].

Although there are many uses, the majority of this risk analysis will be focused on sodium fluoride applied as a water additive.

Over 66% of the US population, nearly 75% of people on Community Water Systems (CWS)[8] receives fluoridated water, whether hydrofluoric acid, Fluorosilicic acid (FSA) or sodium fluoride.[9] According to the CDC, about 95% of FSAs added to the water is derived from phosphorite rock, which is mainly used in producing phosphate fertilizer.(id.)

Potential risks to public health or the environment

The addition of fluoride into a public water system as a dental benefit was first initiated in Grand Rapids, MI in 1945.[10] This practice is controversial as



fluoride may be beneficial in low doses, however it can have toxic effects at higher levels.^[11] Adverse effects range from fluorosis^[12] to decreased birth rates^[13], lower IQ in children^[14], and in some extreme cases, death^[15].

Unlike sodium chloride or sodium, it is the only chemical added to the water to treat the consumer, not the water.^[16] The U.S. Public Health Service advises sodium fluoride to be added in a range of 0.7-1.2ppm^[17], although over 6,000 of the 18,000 CWS are at or above optimal levels^[18].

Regulation

For consumption, the EPA is responsible for regulating sodium fluoride in drinking water^[19], whereas the Food and Drug administration is responsible for regulation of cosmetics ie. toothpaste^[20]. When used in a solvent or cleaner, sodium fluoride is regulated by the National Institute of Occupational Safety and Health (NIOSH).^[21]

The Safe Drinking Water Act (SDWA) 42 U.S.C. §300 (G)(1) requires the EPA to establish and promulgate MCLs and MCLGs for contaminants that may possibly have an adverse effect on public health.^[22] The Environmental Protection Agency (EPA) issued a drinking water regulation in 1986, including the enforceable standard for sodium fluoride at a maximum contaminant level (MCL)—and an MCL goal (MCLG) of 4 mg/L to in effort to prevent adverse effects on bone structure (skeletal fluorosis)^[23].

Due to inconsistencies in fluoride toxicity data and gaps in knowledge, it was recommended by the National Research Council (NRC) to review the EPA's fluoride standard and revised when newer research became available.^[24]

In response to concerns that the standard set by the EPA did not effectively protect infants and children against fluorosis, the EPA released an advisory standard of 2mg/L. (*id.*) During review in 2006 by the National Research Council (NRC), their study determined the EPA's 4mg/L MCL goal should be lowered. (*id.*)

Fluoride naturally occurs in drinking water and soil, from 0.1 mg/L to over 100 mg/L in parts of the world such as Africa and China^[25], therefore humans may be exposed to comparable levels in products produced in these areas, (ie. tea and coffee). (*id.*)

The Toxic Substance Control Act (TSCA) established the Chemical Dating Reporting (CDR), which requires importers and manufacturers to provide the Environmental Protection Agency (EPA) chemical information in the products utilized in the United States. This data is used to determine the potential health risks, and provide the (non-confidential) information to the public.^[26]

Is the Level of Regulation Appropriate?

There have been many lawsuits against municipalities that mandate fluoridation. Complaints range from whether or not fluoride is considered a poison^[27], to if it should require a prescription as it is a drug, as seen in Beck v. City Council of Beverly Hills.^[28]

Due to the sensitivity of toxicity levels and that the public has the ability to obtain sodium fluoride via toothpaste if desired, I do not agree that the level of regulation outweighs the negative effects. Mass administration without informed consent violates basic human rights.^[29]

Economic Considerations

Despite the controversy and dangers of numerous health ailments in exchange for healthy teeth, the CDC assures the risks are worth it, as they claim \$1 spent in preventative measures equates to about \$38 cost savings for dental treatments. [30]

[1] PubChem, Open Chemistry Database, Compound Summary for CID 5235 – Sodium Fluoride (2016)

[2] PubChem, Open Chemistry Database, Sodium Fluoride - Experimental Properties (2016)

[3] US Department of Health and Human Services: Toxicological Profile for Fluorides, Hydrogen Fluoride, and Fluorine - Chemical Identity pp.187 (2003)

[4] PubChem, Open Chemistry Database, Sodium Fluoride - Depositor-Supplied Synonyms (2016)

[5] PubChem, Open Chemistry Database, Roach Salt (2016)

[6] EPA, TSCA: Sodium Fluoride – Industry Uses (2016)

[7] CDC.gov, Community Water Fluoridation (2016)

[8] CDC.gov, Fluoridation Statistics (2014)

[9] CDC.gov, Water Fluoridation additives Fact Sheet – Sources of Fluoride Additives (2014)

[10] Ripa, Louis DDS, MS, Department of Children's Dentistry, SUNY Stony Brook: History of Community Water Fluoridation (1993)

[11] Tiemann, M. Congressional Research Service: Fluoride in Drinking Water: A Review of Fluoridation and Regulation Issues (2013)

[12] National Environmental Engineering Research Institute (NEERI), CSIR, Nagpur, India: Noncoding RNAs: Possible Players in the Development of Fluorosis (2015)

[13] Freni, S. Journal of Toxicology and Environmental Health (1994)

[14] Harvard School of Public Health - Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis (2012)

[15] US Department of Health and Human Services: Toxicological Profile for Fluorides, Hydrogen Fluoride, and Fluorine - Death pp.74 (2003)

[16] City of Rochester - Water Quality Report (2015)

[17] ADA Statement Commemorating the 60th Anniversary of Community Water Fluoridation (2005)

[18] CDC.gov, National Water Fluoridation Statistics (2016)

[19] Safe Water Drinking Act (SDWA) 42 U.S.C. §300 (G)(1)

[20] C.F.R, 21 sec 355.10 (a)(1) (1995)

[21] CDC.gov, NOISH – Sodium Fluoride (2003)

[22] Percival, Environmental Regulation: Law, Science and Policy, Principal Provisions of the Safe Drinking Water Act pp. 281 (2013)

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[23] Tiemann, M. Congressional Research Service: Fluoride in Drinking Water: A Review of Fluoridation and Regulation Issues - Summary (2013)

[24] Tiemann, M. Congressional Research Service: Fluoride in Drinking Water: A Review of Fluoridation and Regulation Issues pp.13 (2013)

[25] National Research Council, Health Effects of Ingested Fluoride, pp. 3 (1993)

[26] EPA.gov, Chemical Data Reporting under the Toxic Substances Control Act (2016)

[27] U.S. Department of Health and Human Services: Toxicology and Carcinogenesis Studies of Sodium Fluoride (1990)

[28] Beck v. City Council of Beverly Hills (1973)

[29] Cross, Douglas A conflict of interests - Human Rights, Civil Liberties and Water Fluoridation (2011)

[30] CDC.gov, Cost Savings of Community Water Fluoridation (2013)

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Re: Sodium Fluoride - A Pollutant or Panacea?

by [Student 1](#) - Saturday, 19 November 2016, 5:53 PM

Good Evening [OP](#)

Many thanks for your "Sodium Fluoride – A Pollutant or Panacea?" post, as the hint of chemicals in our toothpaste reminded me of a recent incident at the dentist. I tend to follow a strict holistic healthcare path even when it comes to my teeth and overall oral cavity. However, the mainstream dentists, and doctors for that matter, inevitably think that alternative non-toxic means do not support proper personal interests or care. As a result, you are left feeling guilty as they push "standard of care" [1] on your health choices.

Therefore, I wholeheartedly agree with your comment, "...administration without informed consent violates basic human rights." Why is it that toxic substances that should be an individual's choice, since one is indeed the paying consumer, are being forced upon us by our government? In this case, I cannot even identify the economic driver, as surely the American Dental Association is not paying and dental insurance coverage is almost invisible. In relation, the article, *Bankrupt Detroit Still Paying for Fluoride – Even During Water Shut Down* [2], may be of interest to further explore the "toxin of your choice."

In the state of New Jersey, per N.J.S.A. 26:1A-37 the State Department of Health has the responsibility of formulating "comprehensive policies for the promotion of public health and the prevention of disease within the State." [3] In some cases the state regulation overrides the local ordinances despite that the majority of citizens may not want fluoride added to their water source as noted in the *Young v. Board of Health, Borough of Somerville* (1972) [4]. Unfortunate that we have alternatives to obtain fluoride if we so choose, but if we do not, our only option is to purchase water from another source, which is most likely packaged in plastic that contains

Bisphenol A (BPA) [5].

Has it come to a flip of a coin for which toxic substance is the lesser of two evils?

Best~

Student 1

[1] MedicineNet, Definition of Standard of Care, 13 May 2016, <http://www.medicinenet.com/script/main/art.asp?articlekey=33263> (last visited on 19 November 2016)

[2] Jeffery Jaxen, Bankrupt Detroit Still Paying For Fluoride – Even During Water Shut Down, Natural Society, 14 March 2015, <http://naturalsociety.com/bankrupt-detroit-still-paying-for-fluoride-during-water-shutoff/> (last visited on 19 November 2016)

[3] N.J. Stat. § 26:1A-37 (LexisNexis, Lexis Advance through New Jersey 217th First Annual Session, L. 2016, c. 53, and J.R. 6)

[4] Young v. Bd. of Health, 61 N.J. 76, 293 A.2d 164 (1972)

[5] What is BPA, and what are the concerns about BPA?, Nutrition and healthy eating, Mayo Clinic, 2016, <http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/expert-answers/bpa/faq-20058331> (last visited on 19 November 2016)

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Re: Sodium Fluoride - A Pollutant or Panacea?

by [OP](#) - Monday, 21 November 2016, 11:52 AM

Hi [Student 1](#)

Thank you for your response - you definitely hit the nail on the head regarding dentist visits.

I couldn't agree more – dentist visits have become increasingly uncomfortable, not just from the physical scraping, poking, x-rays, and other not-so-pleasant endeavors, but because of the pushing of fluoride treatments and the response when you decline. I've always been asked if I use fluoridated toothpaste, and since answering "no" to my dentist about 5 years ago, I've been labeled as "high risk" for dental damage and pushed a fluoride treatment more than usual.

One weird experience was when I was told one of my top-left molars needed a fill, despite no pain or sensitivity issues, and suggested a "preventative measure" by digging in to the tooth and filling it with amalgam (which is an entire discussion on its own- it is "safe, affordable, and durable" and "has not been found to be associated with adverse health effects" according to the ADA,^[1] however this material consists of 50% inorganic mercury combined with silver, tin and copper^[2]). The hygienist pressed the procedure and scheduled the appointment despite my polite (yet definitive) decline. She said if I really didn't want to, to think about it and cancel the procedure if need be.

I canceled the appointment, and next time when I went in for another check-up, they said nothing about that top-left molar. Actually, now there was something wrong with one of my bottom right-molars, despite still no reported issues. Frustrated and a bit puzzled, I stopped going in for a

while after that. I went a few weeks ago, first time in two years (this time to a different dentist), and I had a "clean bill of dental health", however they still pushed the fluoride and scheduled for a 6-month check-up.

Fluoride is classified as a drug by the Department of Health and Human Services (DHHS), when "used in the diagnosis, cure, mitigation, treatment, or prevention of disease."^[3] This would normally make it subject to Food and Drug Administration (FDA) regulation (*id.*), however sodium fluoride in drinking water is it not regulated by the Food and Drug Administration (FDA), it is regulated by the EPA under the Safe Drinking Water Act.^[4] The FDA claims fluoridation is "voluntary" and not mandated by any federal entity, however it is decided upon by either state or local municipalities.*(id.)*

Although we do have the option to buy bottled water, as you mentioned, this can be quite expensive and still difficult to avoid fluoride, as many well-known bottled water brands have fluoridation^[5].

When it comes to the possibility of unhealthy teeth, or the definite exposure to what is essentially a neurotoxin^[6], I prefer to take my chances and look after my teeth on my own accord!

Cheers,

OP

^[1] American Dental Association, Oral Health topics, Algamam (2015)

^[2] FDA.gov, Medical Devices -> About Dental Amalgam Fillings (2015)

^[3] Plaisier, M. FDA, Associate Commissioner for Legislation, Response to Fluoride in Drinking Water and Drug Products Inquiry (2000)

^[4] FDA.gov, Does the FDA regulate the use of fluoride in drinking water? (2016)

^[5] International Bottled Water Association, Brands Containing Fluoride (2016)

^[6]Valdez-Jiminez, L. Fregozo S., Spanish Society of Neurology - Effects of fluoride on the central nervous system (2011)

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Re: Sodium Fluoride - A Pollutant or Panacea?

by **Professor** Saturday, 19 November 2016, 6:20 PM

Hi OP

You have raised a very important issue - and I am particularly taken by your discussion of the controversy (and litigation) involving the addition of fluoride to municipal drinking water. In addition, you do an excellent job of summarizing the multiple regulatory approaches for dealing with the various forms of fluoride, depending on their source.

Do you think that having a single "umbrella statute" that regulated all sources/forms of fluoride - instead of having different statutes deal with different types of fluoride exposure (TSCA, SDWA, etc) would improve the effectiveness of the regulation of this substance?

Also, regarding the addition of fluoride to drinking water and the CDC recommendations for fluoride (which you discuss) – proponents of adding fluoride can (and do) argue that many children (especially in lower income families) do not go to the dentist regularly and/or are otherwise unlikely to receive fluoride supplements. Therefore, without fluoride in the water supply, they will not get this relatively simple source of dental health protection. How do we (or should we) add this factor into the overall cost-benefit analysis of the potential harm of fluoride with the health benefits?

thanks,

Professor

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Re: Sodium Fluoride - A Pollutant or Panacea?

by [OP](#) Monday, 21 November 2016, 1:25 PM

Hi [Professor](#)

A single statute regulating all sources of fluoride may not be advantageous, as the type of exposure alters how it will affect the human body (ie. skin contact vs. ingesting^[1]). Exposure should be regulated by the appropriate agencies – for example the Occupational Safety and Health Administration (OSHA) via the Occupational Safety and Health Act of 1970 for workplace exposure^[2], and Food and Drug Administration (FDA) when applied as an (OTC) ingested drug^[3].

The explanation provided by the CDC for fluoridation is to help prevent dental issues^[4], especially for lower income areas who may not have adequate access to proper dental care.^[5] My concern is when we have over 40 million in food-insecure homes^[6], why we decide that their oral health is more of a pressing issue than overall health and well-being. Surely focusing on the mitigation of sugary, processed foods^[7] and an increase of nutrient-rich foods would dramatically improve teeth and overall health.^[8]

The CDC claims dental caries have declined^[9], however they fail to mention that they have been declining in all Western countries, including those that do not fluoridate.^[10]

For example, Denmark's average for Decayed, Missing, or Filled Teeth (DMFT) for 12-year-olds was 6.4 in 1978, down to 0.4 in 2014;^[11] Finland with a DMFT of 6.9 in 1975 down to 0.7 in 2009 (*id.*), and Sweden, down to 0.8 DMFT in 2011 from 6.3 in 1977(*id.*). The United States, with fluoridation, has made slight progress from 2.6 DMFT in 1980 to 1.2 in 2004.^[12]

Personally I think we should stop fluoridating water all together; instead use the resources to improve the distribution of adequate food (which in turn would tackle prevalent food-waste issues), and focus on dental education and awareness. Then, if people choose to do so, they can decide on fluoride treatments for their health via topical products. This would permit consumers to have a conscious choice in the health-affecting decision of fluoridation.

- [1] ESPI Metals, Material Safety Data Sheet - Sodium Fluoride - Acute and Chronic Effects (1997)
- [2] Percival, *Environmental Regulation: Law, Science and Policy*, pp.219 (2013)
- [3] U.F.C. 21 §201.64 (a) (updated 2016)
- [4] CDC.gov, Community Water Fluoridation (2016)
- [5] CDC.gov, Oral Health Disparities (2016)
- [6] USDA, Economic Research Service, Food Security in the U.S. (2016)
- [7] Oral Health Foundation, Sundry -> Diet (2016)
- [8] ADA, Mouth Healthy – Good Foods for Dental Health (2016)
- [9] CDC.gov, Achievements in Public Health, 1900-1999: Fluoridation of Drinking Water to Prevent Dental Caries (1999)
- [10] Pizzo, G. Community Water Fluoridation and Caries Prevention: A Critical Review (2007)
- [11] Malmo University, Country Oral Health Profiles, EURO (2016)
- [12] Malmo University, Country Oral Health Profiles, AMRO (2016)

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Re: Sodium Fluoride - A Pollutant or Panacea?

by [Student 2](#) Sunday, 20 November 2016, 8:10 PM

Hi [OP](#)

I thoroughly enjoyed your post about sodium fluoride, especially since the majority of people brush daily with this chemical as well as consume it in their water supply. I question whether sodium fluoride is actually beneficial even though The American Dental Association and Center for Disease Control (CDC) advises that it could prevent risks of dental cavities. The largest dental survey ever conducted in the US (by the National Institute of Dental Research [NIDR] and involving more than 39,000 children) found virtually no difference in the incidence of tooth decay between children living in fluoridated and non-fluoridated areas.^[1] I also do not agree that the level of regulation outweighs the negative effects. Studies show that the frequency of fluorosis is increasing in the US. A major study compared data from two national surveys, 1985-87 and 1999-2004, found that rates of dental fluorosis were 23% and 41%, respectively, among adolescents aged 12 to 15.^[2] Studies also show that the highest incidence of fluorosis is in areas where the water is naturally fluoridated, followed by areas where the water supply is deliberately

dosed with fluoride. The lowest incidence of fluorosis is where the water is not fluoridated.^[3] There has been numerous class action lawsuits against companies who use sodium fluoride in their products. A lawsuit was filed against two companies offering water products with fluoride marketed toward children, and they're being sued for damage caused by the fluoride.^[4] The Plaintiff, a 13-year old girl, has severe dental fluorosis, and the cost to cover her white spotted teeth with veneers, over her lifetime, may be more than \$100,000.^[5] It seems to me that sodium fluoride has more risks associated with it than actual proven benefits.

[1] What's so bad about fluoride?, NYR Natural News,
<http://www.nyrnaturalnews.com/article/qa-whats-so-bad-about-fluoride/>,
(2012)

[2] Id

[3] Id

[4] Evans, Fluoride lawsuits start and may grow massively,
http://www.naturalnews.com/033965_fluoride_lawsuits.html, (2011)

[5] Id

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Re: Sodium Fluoride - A Pollutant or Panacea?

by OP

Monday, 21 November 2016, 1:51 PM

Hi Student 2

Thank you for your expansion on sodium fluoride research - it is quite an extensive topic to which more should be aware, especially those of us living in fluoridated areas. Fluorosis caused by natural fluoridation was one of the main reasons researched began on fluoride^[1] due to the "Colorado Brown Stain" observed by Frederick McKay, a young dental school graduate who went to Colorado Springs to open a dental office(*id.*).

It is bizarre to realize that excess of a contamination causing tooth problems has morphed into a solution for current day tooth health. The history of fluoride is quite an interesting read: <http://www.nidcr.nih.gov/oralhealth/Topics/Fluoride/TheStoryofFluoridation.htm>

A while back I remember seeing Poland Springs marketing fluoridated water to children, and I thought it to be quite questionable considering the revelations of widespread fluorosis. This WSJ article states that children weren't getting enough fluoride^[2], however on WebMD one of the main causes of fluorosis in children is overexposure^[3]. So, which is it? Are we getting too much fluoride or not enough? Or, as you noted, is it actually beneficial?

[1] National Institute of Dental and Craniofacial Research - The Story of Fluoridation (2014)

[2] McKay, B. WSJ - Bottled Water and Tooth Decay: Kids May Not Be Getting Enough Fluoride (2006)

[3] WebMD, Children's Health – Fluorosis Overview: Causes of Fluorosis (2005-2016)

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Re: Sodium Fluoride - A Pollutant or Panacea?

by **Student 3** Sunday, 20 November 2016, 9:48 PM

What a fascinating topic, I enjoyed reading your assessment of fluoride. This is one of those substances that is so prevalent in our society that even if the toxicity is relatively low, the fact that we are all exposed to it equates to higher risk, and presumably tighter regulations. [1] But what makes it remarkable is that we have a chemical substance regulated by a number of entities, that is intentionally administered to us in our drinking water. Your essay made me question if a person could drink enough water to ingest toxic or even deadly levels of fluoride. Or how about a small person, like a child? How do we ensure that people are not reaching "risky" levels of fluoride if we don't have recommended limits on drinking water? It seems like a trivial question, but when I researched this, I think I found an answer that was more startling. We are being poisoned, most likely, at sub-lethal levels, but symptoms would be hard to correlate with fluoride; however, there have been instances of acute fluoride poisoning outbreaks that were traced to water supply. [2] I completely agree with your statement about this being a violation of basic human rights. There have been movements and lawsuits around the country that challenge this principle, including Beck v. City Council of Beverly Hills, where a California appeals court ruled that fluoride is a poison, and therefore could not be placed in the water supply without a prescription. [3]

[1] Jones, R., *Risk analysis helps determine the relative costs and benefits of environmental decisions*, Draft document, 2.

[2] Gessner, Bradford D., et al., *Acute fluoride poisoning from a public water system*, *New England Journal of Medicine*, 1994; 330:2, 95-99.

[3] Beck v. City Council of Beverly Hills, 30 Cal. App. 3d 112 (1973).

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Re: Sodium Fluoride - A Pollutant or Panacea?

by OP - Monday, 21 November 2016, 2:44 PM

Hi Student 3

Great response - I certainly agree with your concern regarding dosage in drinking water. Whether you are a 5-year old child or 90-year old woman, you are receiving the same exposure level. Toothpaste is also a great concern, as children may not have the ability or knowledge to adequately spit it out. [1] Lethal exposure levels of fluoride are as little as 16mg/kg in children, [2] or 16 ppm. Fluoride in a tube of toothpaste can range from 1000ppm to 1500ppm [3] - well over the limit to poison someone.

Sodium fluoride is used as pesticide used for rodents, insects, or mites, and registered by the EPA for unrestricted use. [4] I do agree with your statement that it is possible we are being poisoned at sub-lethal levels under the concern for dental health. To me, the true reason for fluoridation is uncertain, and hopefully no more sinister than typical human oversight as with other previously accepted-now-banned chemicals. In this day and age you'd think us humans would be able to develop a more beneficial oral hygiene practice than a balancing act with a very toxic substance (especially in our drinking water!).

Cheers,

OP

[1] Kerr, D. MD, Today's Dentistry: Kid's Toothpaste Question (2010-2016)

[2] Shin, R. MD; Tarabar, A. MD, Medscape, Fluoride Toxicity - Prognosis (2016)

[3] CDC.gov, Other Fluoridation Products (2013)

[4] Scorecard- Pollution Information Site – Sodium Fluoride EPA Registration Number: 01101206312 (2011)

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Re: Sodium Fluoride - A Pollutant or Panacea?

by Student 4 - Monday, 21 November 2016, 3:04 AM

Hey OP

Thank you for your post! I was previously unaware of the regulation of sodium fluoride. You state that under the Safe Drinking Water Act that the EPA has mandated safe levels of sodium fluoride for the public water supply and that it has included regulations for the enforcement of these levels (1). Do you happen to know what actions the EPA can take to enforce these regulations and how they manage to correct any major

mistakes ?

In Oregon, there are many cities that do not fluoridate their municipal water supply due to, "the potentially harmful effects of accumulated fluoride exposure, untreatable dental and skeletal fluorosis, decreased thyroid activity, and increased sensitivity in infants and young children" (2). Although the CDC does claim that this potential poisoning risk is worth tooth decay prevention, it has been noted, "...that tooth decay decline in Europe has mirrored that of the U.S., despite that as of 2011, some 97 percent of Europeans were drinking non-fluoridated water." (2). That being said, perhaps Oregon could be used as an experimental ground to prove that the municipal water system need not be fluoridated for the protection of the public against potential poisoning.

(1) Percival, Environmental Regulation: Law, Science and Policy, Principal Provisions of the Safe Drinking Water Act pp. 281 (2013).

(2) Deadmond, Shelley. *Fluoridation Fight Returns*. <http://www.eugeneweekly.com/article/fluoridation-fight-returns>. (2012).

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Re: Sodium Fluoride - A Pollutant or Panacea?

by OP

Monday, 21 November 2016, 7:21 PM

Hi Student 4

I surely hope Oregon can set an example for the rest of the US – here in Monroe County, NY nearly every water system is fluoridated, down to specific streets. [1]

Although the EPA has authority over safe drinking water, and provide Maximum Contamination Limits (MCL), according to the CDC they do not specifically regulate levels of direct additives. [2] The EPA did, however, establish Safe Drinking Water Act (SDWA) Compliance Monitoring [3] where the EPA works with states, tribes, public water systems and their operators, and certified laboratories to analyze water samples and monitor compliance (*id.*).

According to information found by the Water Quality Association, the EPA recommends standards to water systems but does not require systems to comply. [4] It is the responsibility of states to choose to adopt the EPA suggestions as enforceable standards (*id.*).

Here in NY, fluoridation it isn't mandated [5] but can be carried out by cities, towns, or villages that own their public water system and water supply [6].

I'm unable to locate the actual methods used by the EPA nor NYS to enforce safe levels and how they mitigate any major errors, on a federal, state, or local level. I've sent an email to the EPA Region 2 Director of the Clean Water Division, Javier Laureano, and am hoping to get clear answers on what precautions are being taken to ensure safe levels of

sodium fluoride. I will report back to you when I hear back!

Cheers,

OP

[1] [CDC.gov, Find Water System Information - New York: Monroe County \(2016\)](#)

[2] [CDC.gov, Water Fluoridation Additives Fact Sheet \(2014\)](#)

[3] [EPA.gov, Safe Drinking Water Act \(SDWA\) Compliance Monitoring \(last updated 2016\)](#)

[4] [Water Quality Association, Fluoride Fact Sheet \(2013\)](#)

[5] [Water Research Foundation, State of the Science: Community Water Fluoridation - Appendix A: State Mandated Fluoridation pp. 39 \(2015\)](#)

[6] [New York Public Health Law § 1100-a. Fluoridation \(2015\)](#)

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