Chapter 16

More Accidents involving Fluoridation Chemicals

It can be proved in the examples below that, Harrold Hodge, who orchestrated the water fluoridation programme, was wrong when, in 1956, he claimed that it was 'impossible' for an accident with fluoridation equipment to cause acute fluoride poisoning. He reassured people by saying that even if the whole day's sodium fluoride supply was dumped into the water in one hour for 10 years, people would still not suffer 'serious toxic consequences'. He repeatedly said that,

"It is clearly impossible to produce acute fluoride poisoning by water fluoridation." (1)

Amongst other things, Hodge had ignored the report from Arthur Rabinowich, published in 1945, detailing the toxic nature of both the liquid fluoridation chemical (hydrofluorosilicic acid, H_2SiF_6), and the solid sodium fluoride (NaF). See Appendix 11, for Rabinowich's report but briefly, Rabinowich stated;

" *Fluorine containing compounds.....aside from death due to the corrosive action of the poison, death may result very rapidly from the reduction of the calcium content of blood."*
"..Most of the deaths, accidental and suicidal, have been due to sodium fluoride and other soluble fluoride salts".

Sodium fluoride, is the fluoride favoured by toothpaste manufacturers which, as Rabinowich clearly states, is a poison, as only,

"4 gms. of sodium fluoride has been known to cause death in an adult".

The toxic liquid fluoridation chemical, hydrofluorosilicic acid, favoured by water companies for water fluoridation, can eat through tar, concrete, steel and the human body. Storage tanks and tanker trucks, must be suitably and perfectly lined (with a rubber mix, plastic mix or Teflon) to avoid corrosion and leaks. The fumes released from the liquid are equally toxic.

Fluorides, therefore, are hazardous to handle and must be handled with the greatest care and with maximum safety regulations. Employees adding sodium fluoride into fluoride pumps at water works must wear suitable protective clothing, hazmat suits.

In spite of all the regulations and care, accidents happen. The Fluoride Action Network (FAN) has a list of over 50 accidents recorded between 1972 and 2019 and more have been reported since then. (2)

At FAN's website it says,

"The accidents, spills, and overfeeds, reported on the FAN website, are only what was reported publicly and found online. There is little doubt that the actual number of incidents is likely many times higher, particularly overfeeds and spills."

Transporting the liquid fluoridation chemical is particularly hazardous.
Below are four accidents involving tanker trucks that were carrying the fluoridation chemical, three of these accidents were in the USA and one was in Canada where
one driver died.

1) **2000** in the US town of Charleston, South Carolina, a tanker truck driver unloaded the fluoridation chemical from his tanker into the wrong stage tank causing a reaction that melted the tank, causing 20,000 gallons of the caustic mix to spill out into the ecosystem. Damage to the treatment plant cost $200,000 to repair.
2) **2001** in another US town, Camdenton, Missouri, a tanker truck carrying the fluoridation chemical spilled six barrels of it on the highway, closing the road until the hazardous waste could be contained and cleaned. (There would have been a lot of damage to the surface of the road and the surrounding air would have been toxic.) Author's comment in parentheses.
3) **2011** in Rock Island, Illinois, the fluoridation liquid spilled from an overflow while a tanker truck delivered it to a water treatment plant. The spill ate through tar and concrete outside of the plant.

4) **2017** in Ontario Canada, a tanker truck carrying the fluoridation chemical crashed during a blizzard, causing a multi-vehicle accident, spilling 15 barrels of the liquid(8.000 litres), on the driver and surrounding terrain. The driver was killed and others were sent to hospital. It harmed the ecosystem along the roadside.

There were many accidents at Water Treatment Plants (WTP), involving the fluoridation chemical.
Because of fluoride's corrosive nature to pipes and to any metal equipment most water companies add phosphate to the water supply in an attempt to address this problem (the phosphate is expected to line the pipes so as to prevent corrosion) but accidents still occur.
Out of the 50 accidents recorded by FAN between 1972 and 2019, 39 were at WTP.
These accidents happened because of four reasons;
1) mechanical malfunction,
2) corrosion of equipment or pipes,
3) electrical failure,
4) human error.

These 39 accidents were either a) leakages or b) overfeeds:-

a) There were 8 Leakages or spills recorded.
The fluoridation chemical at the WTW, sometimes spilled into the surrounding ecosystem. Those spills that went beyond the WTW into the surrounding environment have been mentioned in Chapter 12, 'Environmental Impacts of WF and Other Fluoride Sources.

b) There were 31 Overfeeds recorded, higher than the normal delivery of fluoride to the community water supply.

With an overfeed accident people would report a variety of symptoms, abdominal cramping, nausea, headaches, diarrhoea, vomiting, diaphoresis (profuse sweating), fever, breathing difficulties and low blood pressure. Others experienced rashes and irritation from bathing or washing dishes.

Prof Paul Connett has said,

"It is hard to control the dose of fluoride via the water supply in different local areas and it is not always possible to ensure that 1 part per million of this chemical stays the same for all houses. Tests by government labs. showed that fluoride can accumulate in sediment in water pipe bends & valves at up to 6,000 parts per million."
(This, nearly lethal dose, can suddenly be dislodged and released into the water supply at any time.) Authors comment in parentheses.

For this reason accidents can happen at individual locations and not effect a whole community. This has happened at schools, restaurants, and hospitals. Below are four such 'overfeed' examples:-

1) **1993** at a restaurant in Poplarville, Mississippi, US, when 34 people were poisoned. It was reported that there had been an accident with the town fluoridation equipment.
2) **1991** in Portage, Michigan, USA, at a school where 40 children suffered when it was reported that the city's fluoride injector pump failed.
3) **1965** in Szolnok, Hungary, about 80 individuals, at a restaurant, and at a school, became seriously ill within minutes after drinking soda water or orangeade. The contaminated soda water contained 300 to 900 ppm fluoride, which had apparently collected in a temporary unused supply pipe in the bottling plant.
(Ref: page 93, 'Fluoridation and the Great Dilemma', Waldbott)
4) **1974** on 16th April, in Stanley County, North Carolina, USA, fluoridation equipment at a rural school pumped excess fluoride into the water. 213 individuals, 12 of whom were adults, experienced nausea and vomiting after drinking orange juice made from an uncontaminated concentrate diluted with the tap water. An analysis indicated that the reconstituted drink contained 270 ppm fluoride. This incident was recorded by the National Centre for Disease Control (CDC). (3)

Due to an 'overfeed' of fluoride, hospital dialysis patients have died;

1) **1963** one person died from the use of normal fluoridated municipal water in long-term haemodialysis, a procedure designed to purify the blood. On her fourteenth dialysis session she died a traumatic death. At the autopsy following her death, it was discovered that she had an unusually high concentration of fluoride in her bones (5500 ppm F) as well as changes typical of chronic fluoride poisoning. (4)

2) 1**979 o**ne person died in Annapolis, Maryland, Nov 29, due to an overfeed.
Reporter for the Evening Capital newspaper for Annapolis, Mary Ann Kryzankicz, wrote that State authorities said that the accidental spill of 1,000 gallons of fluoride into the city's drinking water supply probably would have gone undetected if the kidney patients (at the hospital where a dialysis centre is located) had not become ill. The spill occurred Nov. 11 when a worker at the city's water filtration plant inadvertently left a central valve open for 11 hours, allowing 10 times the normal amount of fluoride to escape into the water supply. The accident was discovered on Nov. 12th but state authorities were not notified.

3) **1993** three dialysis patients died in a hospital in Chicago, Illinois and five additional patients suffered an allergic reaction. One person suffered a heart attack, another brain damage that remained long term, while others experienced the toxic signs of poisoning. The cause, a malfunction in the fluoride filtration system.

In **1992** the largest accident to date, reported by FAN, was in Hooper Bay, Alaska, USA, when one man died, another is airlifted to hospital in a critical condition and over 260 people are poisoned. The cause was high levels of fluoride in one of the two public watering points – nearly 40 times the level considered safe. It has been suggested that this happened because of a string of serious blunders - from malfunctioning pumps to a barely functioning local government.

Not reported in the FAN list of accidents is an 'overfeed' event that happened in the UK in Bedfordshire, at the Newspring Water Works. The report by the Chief Inspector of Drinking Water Eastern region of England, July 2010, recorded that in August 2009, a malfunction of the fluoride dosing equipment caused high fluoride levels at the Newspring Water Works. This malfunction went undetected for two weeks and the water company's staff missed numerous warnings which should have enabled them to identify this event.
The signs missed were:-
1) elevated fluoride sample results;
2) the automatic shutdown of the plant on two occasions and
3) numerous alarms received at the control centre.

Since 2019 there have been more accidents reported by FAN in the US:-

2020 – Dubuque, Iowa
Fluoridation overfeed occurs at treatment plant causing fluoride levels of over 3.0 ppm in drinking water. No explanation given. Officials failed to notify the public of potential harm to infants and pregnant women.
2020 – Tracy City, Tennessee
A 52-year old water treatment vendor for Tracy City Public Utilities was killed in a fluoridation-related accident when employees accidentally added bleach to the fluoridation additive, hydrofluorosilicic acid, creating a deadly gas. The vendor was only exposed briefly. A plant employee was also seriously injured and required hospitalization.
2021 – Baltimore, Maryland
A train carrying toxic chemicals, including the fluoridation chemical, fluorosilicic acid, derailed in a tunnel in downtown Baltimore starting a fire and causing officials to close roads, cancel a Major League Baseball game, and ask city residents to remain indoors.
2021 - Alabaster, Alabama. An overfeed.
2022 – Mitchell County, North Carolina
A tanker truck carrying fluoridation chemicals, hydrofluorosilicic acid, had a tyre blow, which caused a valve to break. This spilled acid into the roadway and surrounding ecosystem, causing roads to be closed and environmental damage.
2022 – Lancaster, Pennsylvania
A fluoridation chemical overfeed occurred for a week during Christmas, causing water fluoride levels to remain 300% higher than normal. Officials waited a month to tell residents and provided incomplete and inadequate information on safety risks posed by the overfeed.
2022 – Sunset, Utah
A malfunction at the water treatment plant caused a fluoridation chemical overfeed into the public water supply.
2023 – Sun Prairie, Wisconsin
A pump valve failure caused a fluoridation chemical overfeed for an unknown period of time, increasing drinking water fluoride levels to a shocking 13ppm, nearly 20-times higher than normal. Residents weren't notified until two months later.
2023 – Shadyside, Ohio

A fluoridation chemical overfeed at the water treatment plant led to “way too much fluoride” in drinking water and government warnings “not to drink tap water,” as well as cancellation of school for a day.

An accident in Florida, USA, on 7th September 1994, is described in detail below, by journalists on, 7th and 9th September, in ‘The Orlander Sentinel’.

A tanker truck cracked open on the highway, between Deltona and Orange City, shortly before 10 a.m. on Tuesday and released 4,500 gallons of fluorosilicic acid, which is a highly corrosive acid, in one big whoosh. Observers described it as about 6” of thick liquid, looking like wet cement or a dirty mushy, snowline liquid. The truck driver, James Parish, 68, said he was eastbound, just west of the Howland Boulevard overpass, when the rear trailer wheels came out from under the truck. The back of the tanker slammed onto the road and spilled the chemical, which is used for water fluoridation, over an area 600 feet long and 60 feet wide, said, Volusia County Assistant Fire Chief Ron Bateman A stretch of two miles of the highway was closed. Police, firefighters and hazardous waste experts dumped bags of lime and potash over the contaminated area to neutralize the acid and vacuumed the residue with special machines but were frustrated in their efforts.

Medical experts said, that upon contact with skin, the chemical creates a burning and tingling sensation and symptoms can take up to 24 hours to appear. The chemical evaporates quickly and is carried by the wind and if the fumes are inhaled, it can cause respiratory difficulty, burning eyes and numbness around the lips. Fearing a health hazard, police began evacuating homes within a mile area, including about 1,750 people in Orange City and 500 people In Deltona. Students and teachers at Deltona High School went home early. The spill sent more than 50 people to hospitals with complaints of skin and respiratory irritations, including some hours after the spill. At the hospital Dr Duva said that, “We scrubbed them and washed them down. One man riding in a truck with his arm hanging out the window, experienced burning on his forearm.” Those with symptoms were mostly emergency personnel, and most including the driver of the truck, were treated and released.

Two police officers were admitted overnight to Central Florida Regional Hospital in Sanford after complaining of headaches and burning in their throats

Fumes continued to be detected late Tuesday in the neighbourhood of Deltona Woods, causing emergency workers to conduct a midnight door-to-door evacuation. About 2,300 people remained in shelters, evacuated from their homes.

There were many who drove through the chemical, about 150 cars got through before the highway closed. The chemical left a white film underneath the cars that must be professionally decontaminated.

George Gilhooley, district maintenance engineer for the Florida Department of Transportation, said, “it’s a significant health hazard as far as ground water, and needs to be worked on continuously.”

Michael Taylor, the on-scene coordinator for the Environmental Protection Agency (EPA), said the agency wants the clean-up to continue non-stop until the contaminated soil has been removed and on Thursday ordered clean-up efforts to continue around the clock.

Experts do not know whether the ground water has been contaminated. “At any site you go to, it’s always a danger,” Taylor said, “especially with bad weather.” It rained most of Thursday.

The Public Health Department has advised owners of private wells in the area to have their water tested for traces of the chemical before drinking it.

Robert Pierce, vice president of Florida Spill Response, said he has a geologist testing the area to determine whether acid has seeped into the water table or the aquifer.

Officials of Florida Spill Response, a Cocoa-based company, say they expect to have the spill cleaned up by Saturday. The eastbound outside lane will remain closed indefinitely, state DOT spokesman, Steve Hamon said. (5)

Chapter 16 References

(1) (SOURCE: Hodge HC. (1956). Fluoride metabolism: Its significance in water fluoridation. *Journal of the American Dental Association* 52:307-314.) and (FAN’s website: www.fluoridealert.org.)

(2) (Source: https://fluoridealert.org/content/recent-fluoridation-related-accidents/).

(3) (Source: Page 93 of ‘Fluoridation the Great Dilemma’, by G. Waldbott.)

(4) (Source: ‘Fluoridation the Great Dilemma’, by G. Waldbott).

(5) Source: www.fluoridealert.org - Elaine Bennett Corvette Bryant, Lynne Super-dooper, Derek Caton and Mary Murphy of the Sentinel staff contributed to this report).