

Review: Gary O. Pittman, *Toxic Torts: Phosphate Fluorides*, Robinson, Lulu.com, 2011

Pages: 144

Fluoride Poisoning Straight Down the Line

A down-to-earth but surprisingly technical and informative case study on phosphate industry corruption, with direct relation to deadly water fluoridation. The author embodies the adage that, “a man with an argument is at the mercy of a man with experience”, as he lays out how things worked:

-Safety inspections were a farce as the company would be warned well in advance and perform a number of tricks to ensure environmental compliance.

-Any worker who raised concerns was ostracised or fired.

-Legal avenues are stonewalled by never-ending corporate legal resources and delays, especially given plaintiffs are already dying.

Gary Pittman tried his best in a ‘David versus Goliath’ situation but could only do so much. His book which could warn others of the health risks of fluoride especially may be his true victory.

Introduction (pp. 3-12)

Pittman litigated against Occidental Chemical Company in the 1990s; he and coworkers were seriously injured from phosphoric acid processing.

Corporations often spend more money on legal fees defending cases than if they would have settled under non-disclosure agreements.

Fluoride P rock contains UO_2 .

“When you’re poisoned and debilitated, you can never get enough money to buy back your health and sense of wellbeing.” [p7]

Pittman fought for seven years.

Rock phosphate has no definite chemical composition, and may contain high amounts of naturally occurring radioactive materials (NORM): U [20-300ppm]; Rd; Th. Also As, Cd, Cr, P, Hg, Se, Al, Ag, and a lot of F.

80% of the ^{226}Rd is concentrated in phosphogypsum, which is mostly calcium sulfate dihydrate with some SiO_2 .

I) (pp. 13-17)

II) (pp. 18-23)

Gary started with Occidental in 1971 as a sample man in the analytics laboratory.

P-mining was Florida’s ‘black gold’ in the 19thC. Today, it still produces 25% of world supply.

At times, workers were up to their waists in wastewater. Animals would drink out of evaporation ponds and quickly die.

III) (pp. 24-30)

Phosphate acid (PA) is made via wet/acidulation process; raw P rock slurry stock added to H_2SO_4 and evaporated in pond water inside a reactor. Reactions are strongly exothermic and release toxic fumes; HF; SiF_4 ; Rd; Po; Rn.

Researchers found NaF inferior to Na fluorosilicate in poisoning farm animals.

Post-filtered PA is 28% PA.

Hot PA was always dripping and heavy leather boots would be quickly destroyed.

40% PA went to make granulated fertiliser, and defluorinated 50% to polyphosphoric animal feed.

Solid raw S would be railed in tank cars, then heated under low pressure steam (335F) creating H_2SO_4 .

Poly-PA is made by mixing PA with P rock with NaOH, then cooked to drive off F products.

F regulation in animal feedstock is more stringent than FDA human consumption!

IV) (pp. 31-36)

Gypsum ($CaSO_4 \cdot 2H_2O$) is a main byproduct of PA waste steam. Mountains of it comes out of the plant stacks containing F, and farmers use the gypsum as to fortify topsoil. U and Rd in waste gypsum is 10X and 60X background respectively.

“We had no respirators, and had to breathe that stale, moist acidic air all shift ... workers would fall ill with flu-like symptoms, the older workers called it ‘chemical pneumonia’ ... when we had to clean the pollution scrubbers, most of us went home with acid burns and coughing up blood.”. [p33]

F in the plant’s aquifer was 15-17ppm; they installed a reverse osmosis system which clogged and rendered it ineffective.

Most companies do urine testing for chemical exposure to avoid potential litigation.

Occidental Chemical won a contract to produce SuperPhosphate Acid (SPA) for Russia in exchange for urea.

SPA is thick like honey and would crystallise. The main challenge was removing Mg from SPA, via pumping Dinonylnaphthalene Sulfonic acid (DNSA) into cells with kerosene; making reaction solvents of benzene, hexane, and heptanes.

DNSA would chelate the Mg, Al, and Fe.

Synspar is synthetic fluorspar.

V) (pp. 37-40)

“We worked in caustic fumes pouring off the hot acids, and so many of us developed respiratory infections, we thought it was caused by a virus in the air.” [p37]

“Management told me ... we did not need scrubber A ... I knew this was wrong but reporting ... would have meant the loss of my job.” [p38]

“OSHA and FDEP ... inspections ... were a joke ... FDEP always gave Oxy at least a few weeks notice before they came to do inspections ... We had to beat the pipes with nine-pound sledgehammers to break the solids loose ... pull the scrubber pads onto the street and drive trucks over them to break the solidified fluorosilicates loose.” [p38-9]

“Management had us open a blind on the fume duct to allow more fresh air into the fume stream ... [to] dilute the emissions and pass the stack test.” [p39]

“One day when they blew the stacks, there was so much SO₂ and H₂S that a flock of birds flying over just fell out of the sky like rocks – dead,” [p40]

VI) (pp. 41-43)

In 1992, Oxy lost the OA urea contract.

On 5/21/1993, Gary had to leave Oxy due to disability after 21 years. He had a muscle destructive process and polymiocytes with CPK results [a test to measure protein] of over 5,000.

VII) (pp. 44-47)

The doctor prescribed methaprednisolone and hydrocortisone for pain: “You will be black balled from industry.”

Big companies like Oxy only get executives involved in community affairs as part of public relations strategy.

VIII) (pp. 48-50)

Gary became a liability, for if Oxy allowed him to claim workers' compensation their premiums would rise and reduce shareholder profits.

IX) (pp. 51-55)

Dr Rea found n-hexane, benzene, and 11 trichloroethane in Gary's blood, and high Ca, Zn, Fe, Mn, V, and Se in his hair. SPECT brain results showed patterns consistent with neurotoxic chemical exposure. A six-week program of strict diet, exercise sauna, and chelation was prescribed.

While Gary's lawyer filed a discovery with Oxy, they only turned over useless documents; their lawyers also knew they could drag the case on for years.

X) (pp. 56-60)

Oxy fire Jesse since he brought up chemical exposure in a meeting once.

“Areas were so ... contaminated with H_2O_4 ... all the waters in those ditches eventually flow into the Suwannee River.”

XI) (pp. 61-70)

Gypsum dust is high in Si and gives off Rn gas which causes lung cancer and kills 22K p.a.

P-rock is fluoroapatite, which generates SiF_4 when reacting with H_2SO_4 in making H_3PO_4 .

“One Florida phosphoric acid producer supplied ... fluorosilicic acid [FA] from their pollution scrubbers ... dirt cheap ... because selling it helps to recover the cost of running ... pollution scrubbers. The EPA ... in 1983, Deputy Administrator Rebecca Hanmer: “ In regard to the use of FA as a source of F for fluoridation, this agency regards such use as an ideal environmental solution to a long-standing problem. By recovering the byproduct FA from fertiliser manufacturing, water and air pollution are

minimised, and water utilities have a low-cost source of F available to them.” [p63]

Hazardous Air Pollutants [HAPs] in processing P-rocks include: hexane, methyl alcohol; formaldehyde; methyl ethyl ketone; benzene; toluene; Pb’ Hg; and styrene.

Inhaled F salts react with H₂O (in the lung) and become HF, burning holes in the tissue. A small amount of HF will burn right to the bone! It is neutralised by CaCl₂. For limb burns amputation may be the only option.

SiF₄ inhibits cholinesterase metabolism, which is vital for the CNS.

AlF₃ causes presenile dementia and kidney problems.

Excerpts From Articles (pp. 71-78)

“In Florida’s Polk and Hillsborough Counties, fumes from seventeen plants destroyed 25,000 acres of citrus trees, and damaged vegetation for fifty miles in all directions, Cattle ... suffered ... fluorosis and died.” [p71 Ned Groth, *Air is Fluoridated*, Peninsula Observer, Jan.27-Feb. 3, 1969]

“Leaves on citrus trees turned brown and brittle” [Cinnamon Bair, *Cattle Suffered Due to Fluoride*, The Ledger – June 21, 2004]

By the 18thC, Britain’s Asian rivals Portugal and Holland had been superseded by France.

XII) (pp 79-83)

The judge ordered mediation-driven settlement and Oxy offered Gary \$5,000.

After publishing an article, Gary began getting nasty phone calls in the middle of the night. [p83]

XIII) (pp 84-90)

Hooker Chemical disposed of ~200KT of chemical waste at its site. In 1979, HC and Occidental Petroleum had to pay \$118M in clean up costs.

SO₂ in contact with air becomes H₂SO₄.

XIV) (pp 91-95)

An electromyogram measures electrical impulses of muscle at rest.

XV) (pp 96-108)

“If you’re involved in a big lawsuit, you have to get into the public relations game ... the last thing you want to do is go to trial because the outcome is a toss of the coin.”

Gary Own Pitman et al plaintiffs vs. Occidental Chemical Corporation et al. Terms were the law firm would receive 33.3% of any monies recovered, plus expenses.

XVI) (pp 109-111)

XVII) (pp 112-115)

Conclusion (p 116)

The statute of limitations is usually two years from exposure realisation.

Appendices (pp 117-)

Florida’s primary exports are orange juice, H₃PO₄, and superphosphate fertiliser.

K-rocks contain U-238; 75% of the UO₂ to make nukes came from this.

O has an affinity for F; at least microcuries of Po-210 is carcinogenic.

Pb isotopes are like Ca in the body, stored in bones for years before becoming Po-210.

H_3PO_4 acid reaction vessels are made of Hastelloy G-30 alloy which only last three years due to corrosion.

NaFSiF_6 (SFA: sodium fluorosilicate) and H_2SiF_6 (FSA: fluorosilicic acid) are used in water supplies.

“Billy’s doctor prescribed B and folic acid for a year.”