

Crematory Mercury Emission & The Unfortunate Decision of the EPA Not to Regulate

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INTRODUCTION

For too long, in the United States, mercury emissions caused by crematories have gone unregulated. This failure to regulate occurs against a backdrop of substantially increased reliance on cremation. Most of the impetus is financial and specially pronounced at the lower end of the income scale. Families of deceased persons have encountered the substantially high cost of burials, which average \$7,300, and these costs are rapidly rising, including a 17.5 percent increase since 2012.¹ Thus, selecting cremation avoids a financial burden.² More and more Americans are choosing cremation as a form of final disposition and,³ are now finding cremation attractive because its cost, which averages \$1,650 nationally,⁴ is less than twenty-five percent of the cost of traditional burial. Although cremation is an increasingly popular form of disposition, there is a major environmental concern arising from cremation: crematory emissions of mercury (Cremercury).⁵ Cremercury emissions can be traced to incineration of dental amalgam⁶ fillings, which are still largely used in dental practices across the nation and have yet to be outlawed in the United States. [⁷][⁸] Approximately thirty tons of mercury was sold in

¹ See generally NATIONAL FUNERAL DIRECTORS ASSOCIATION, <http://nfda.org/about-funeral-service-trends-and-statistics.html#fcosts> (last visited May 30, 2015) [hereinafter NFDA].

² *Id.*

³ Philip Donald Batchelder, *Dust in the Wind? The Bell Tolls for Crematory Mercury*, 2 GOLDEN GATE U. ENVTL. L.J. 119, 119 (2008).

⁴ *History of Cremation*, CANA, <http://www.cremationassociation.org/?HistoryOfCremation> (last visited May 30, 2015).

⁵ The cremation industry coined the term “cremains” from “cremated ashes.” JESSICA MITFORD, *THE AMERICAN WAY OF DEATH REVISITED* 17 (2000). This Comment follows suit with “cremercury.”

⁶ “Amalgam” means a mixture of mercury and other metals used for filling holes in teeth. *Amalgam*, MERRIAM-WEBSTER ONLINE DICTIONARY, <http://www.merriam-webster.com/dictionary/amalgam> (last visited May 30, 2015).

⁷ Williams D.M.D., *infra* note 107.

⁸ The total amount of mercury sold in fabricated and formulated products in the U.S. was approximately 131 tons in 2001 and 117 tons in 2004. NE. WASTE MGMT. OFFICIALS’ ASSOC., *TRENDS IN MERCURY USE IN PRODUCTS: SUMMARY OF THE INTERSTATE MERCURY EDUCATION & REDUCTION CLEARINGHOUSE*

dental amalgam in 2001 and 2004, with no substantial change in the two reporting years.⁹ Switches, relays, and dental amalgam capsules accounted for approximately seventy percent of the total mercury use in 2001 and 2004 for the United States.¹⁰

As of today, the emission levels have measured too low to necessitate regulation in the United States, ranging from 0.008 to 2.30 mg/cremation during the 1999 Woodlawn study.¹¹ Contrary to the Federal Government disinterest, some states have taken steps to mitigate emissions since the popularity of cremation is established and growing, and the attendant environmental concern raised by the release of mercury has grown.¹²

Two suggestions for mitigating and diminishing mercury emissions have been widely acknowledged and proposed through legislation in many states, by those concerned with the mercury emissions impairment of fetal neurological functioning and development, children's ability to process information when born, and exposures to mercury that affect the survival of wild life. The first suggestion is installing filtrations systems to capture the mercury emitted and the second is legislation requiring all

(IMERC) MERCURY-ADDED PRODUCTS DATABASE 2 (2008), *available at* <http://www.newmoa.org/prevention/mercury/imerc/factsheets/mercuryinproducts.pdf>.

⁹ *Id.*

¹⁰ *Id.*

¹¹ EPA, EMISSION TEST EVALUATION OF A CREMATORY AT WOODLAWN CEMETERY IN THE BRONX, NY 33 (1999), *available at* [http://www.researchgate.net/profile/Montse_Mari/publication/26888045_Toxic_emissions_from_crematori es_a_review/links/54353dc70cf2dc341dafb6d6.pdf](http://nepis.epa.gov/Exe/ZyNET.exe/P100FVCP.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1995+Thru+1999&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C95thru99%5CTxt%5C00000033%5CP100FVCP.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C- &MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p%7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL [hereinafter ETEWC]; Montse Mari & Jose Domingo, <i>Toxic emissions from crematories: A review</i>, 36 ENV'T INT'L 131, 132 (2010) <i>available at</i> <a href=).

¹² Batchelder, *supra* note 2, at 124. *See infra* pp. 18-27.

amalgam tooth fillings be extracted prior to cremating any remains.¹³ Although possible, there are valid apprehensions regarding the practicability of those proposals, such as the financial burden imposed on crematories, difficulty of pulling silver filled teeth, preserving the dignity of the remains, and disposing of the amalgam once the teeth are removed. Regardless of concerns with the practicability of these two commonly discussed options for eliminating mercury emissions, the health and safety concerns of the public should outweigh any burden on the industry. To moderate the impact the industry might experience, the federal government should provide grants to state entities to conduct further research, encourage voluntary amalgam filled teeth removal, and provide tax incentives for the cremation industry¹⁴ professionals' legitimate efforts to reduce mercury's harmful effects.

The government should regulate at the federal level and not rely solely on the states. In support of that thesis, Part I will address how cremations are on an up rise. Driven by comparative cost advantage, cremation also is becoming more widely accepted as many Americans deviate from their cultural and religious traditions. By 2016, fifty percent of an expected total of dispositions per year in the US are expected to be cremations.¹⁵ Part II addresses how the effects of mercury are pernicious in nature and widespread throughout the nation. Studies show that mercury affects biological functions in humans and is responsible for mortality and reduction of fertility in wildlife.¹⁶ Part II

¹³ *Id.* at 124.

¹⁴ "Cremation industry," as used in this Comment, refers to businesses involved in, but not necessarily limited to, cremation. Crematory operators may also be in the mortuary services industry and/or the cemetery services industry. *See* Batchelder, *supra* note 2, at 119.

¹⁵ SINGHAL LLC, ANNUAL CANA STATISTICS REPORT 2011: INCLUDING PROJECTIONS TO 2016 2 (2012), available at http://blcremationsystems.com/CANA_2011_Annual_Statistics_Report.pdf.

¹⁶ Richard Edlich et al., *Banning Mercury Amalgam* 3-8, FDA (2012), http://www.fda.gov/downloads/advisorycommittees/committeesmeetingmaterials/Medical_devices/medicaldevicesadvisorycommittee/dentalproductspanel/ucm236379.pdf.

also quantifies the extent of cremercury emissions that can be expected. This section examines just how widely amalgam silver fillings are still used as a result of the absence of federal regulation prohibiting its use by dentists, particularly the use of amalgam as a preferred selection for filling the teeth of indigent and low income patients, thereby establishing cremation as a significant factor in US mercury emissions.¹⁷ Part III reviews the Environmental Protection Agency (EPA) research on the subject¹⁸ and discusses the nature of the regulatory environment by articulating the Federal Government's reasons and decisions to not regulate and their contrast to the views prevailing on those states that have already made efforts to lessen the impact of mercury from cremations.

Part IV explores widely recognized options for eliminating mercury emissions by passing legislation that requires crematoriums to install mercury filtration systems and pulling of teeth with amalgam silver fillings before cremating any remains.¹⁹ Part V will declare why the author believes the Federal Government should regulate mercury from crematoriums. The Cremation Association of North America (CANA), whose data the EPA relies on heavily,²⁰ is unreliable because it excludes groups that generally do not perform nor believe in cremation and it also excludes members of society who chose silver fillings because of their poor economic situations. This article concludes by referencing three alternatives the government should consider, absent the passing of legislation: allocate more grants money to states and neutral industry consulting representatives to conduct more research, encouraging voluntary amalgam tooth removal

¹⁷ Telephone Interview with Damion Williams, D.M.D., Rinehart Dental (Dec. 14, 2013) [hereinafter Williams D.M.D.].

¹⁸ Mari & Domingo, *supra* note 10.

¹⁹ Batchelder, *supra* note 2, at 144, 149.

²⁰ *Id.*

and offering legislative incentives for the industry to create and implement legitimate efforts to reduce mercury's harmful effects.