



Secular Maryland

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**SB 1028 - FAV**

Human Remains - Alkaline Hydrolysis and Natural Organic Reduction (Green Death Care Options Act)

Dear Chair Brian J. Feldman, Vice-Chair Cheryl C. Kagan, and Members of the Education, Energy, and the Environment Committee,

According to Business Regulation §5-101(e) cremation is defined as “the process of reducing human remains to bone fragments through intense heat and evaporation, including any mechanical or thermal process.” The phrases “intense heat and evaporation” and “any mechanical” are not well defined and as a result it remains unclear which options other than burial and flame cremation, if any, are allowed for disposing of corpses. Cremation usually occurs within the range of 1400 to 1800 degrees Fahrenheit. Two other reduction methods, resomation and natural organic reduction (a.k.a composting), occur at lower temperatures. The former relies on a chemical process and the latter on a biological process. Both methods should be clearly and explicitly authorized. Secular Maryland is very pleased that this bill proposes to do just that.

Resomation, also known as alkaline hydrolysis, uses a solution of water and potassium hydroxide (caustic potash) instead of high heat flame. The solution is heated to 350 degrees Fahrenheit at a pressure of 10 bar in a steel chamber which dissolves the body. A sterile liquid and bone fragments remain, along with any inorganic materials like tooth fillings and breast implants which could be recycled. The liquid, about 100 gallons total, containing amino acids, peptides, sugars and salts, is treated to lower the PH (by adding acid), and is then disposed (via the sewer system). The process takes no more than 3 hours, breaks down toxic chemicals (including embalming chemicals), kills pathogens, uses a fraction of the energy of traditional cremation, and avoids the emission of mercury vapors.

Natural organic reduction uses no hazardous chemicals. In 2019, Washington became

the first state to legalize natural organic reduction as a post-life option. The remains are placed on carbon-rich materials, like sawdust and straw, together with a nitrogen rich material, such as alfalfa, moisture, and circulating air. Bacteria and the enzymes they release break down the tissue for at least one month (4-7 weeks). Metal fillings, pacemakers, and artificial limbs are removed. A cubic yard of soil plus bones remains (1.5 to 2 cubic yards total). The resulting soil meets safety standards set by the U.S. Environmental Protection Agency for such contaminants as heavy metals. Commercial processes would likely also process the bones. Composting temperature reach 120-160 degrees Fahrenheit which is sufficient to kill off dangerous pathogens. Someone who dies from a prion or contagious disease would not be a candidate for recomposition.

Traditional cemetery burial is associated with the toxicity of embalming chemicals and consumes wood, metal, and concrete as well as land and water to properly maintain burial grounds. Over 500 pounds of carbon dioxide are released into the atmosphere by each cremation despite efforts to minimize emissions. Demand for cremation, which tends to be less expensive than burial, now exceeds traditional burial, surpassing 50% in 1996. Yet cremation releases mercury vapors from dental amalgams, dioxins, and particulate matter.

Respectfully,  
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