

State and National Standards for Alkaline Hydrolysis Systems

Manufacturers

There is a growing list of new and existing companies manufacturing and marketing alkaline hydrolysis systems for the disposition of human remains. However, not all systems utilize the same equipment design or operational processes. Many of these alkaline hydrolysis systems do not utilize the same heat intensity levels, pressure levels or safety features. In fact, some of these system designs show little respect or dignity for the deceased which is evident in photo documentation from their marketing and operational manuals.

State and National Standards

Many states are developing legislation for regulating alkaline hydrolysis systems. In California, legislation has been filed that would define the type of alkaline hydrolysis system that would be authorized by state law.

The California Department of Health Codes (Section 118215-118245) regulates the destruction and sterilization of human anatomical material. This section requires the destruction of pathogenic micro-organisms using steam sterilization or high heat. The code requires recording or indicating thermometers to be checked during each complete cycle to ensure the attainment of 121 Centigrade (250 Fahrenheit) for at least one-half hour, depending on the quantity and density of the load, to achieve sterilization of the entire load.

The United States Center for Disease Control (CDC) has similar standards for biosafety (See Section VIII-H: Prion Diseases on page 287). When using the alkaline hydrolysis process, using a pressurized vessel that exposes the tissues to 1 N NaOH or KOH heated to 150°C, can be used as an alternative to incineration for the disposal of tissue (Tables 5 and 10). The process has been shown to completely inactivate TSEs (301v agent used) when used for the recommended period.

In addition, the handling and processing of tissues from patients with suspected prion disease requires particular attention to the facilities, equipment, policies, procedures and the related risk management for this work.

Both of these regulatory standards call for the destruction of human pathogens:

- Viruses
- Prions-Creutzfeldt-Jakob (CJD), bird flu and anthrax
- Bacteria
- Fungus

Proposed definition for “Alkaline Hydrolysis Systems”

Allowable hydrolysis vessels for the disposition of human remains shall require a pressurized vessel heated to 150 C for a minimum period of 30 minutes thereby meeting or exceeding the California Department of Health Safety Codes Section 118215-118245 and the United States Center for Disease Control requirements for complete destruction of human pathogens.

Local Waste Water Treatment Facility Permits

It is absolutely essential that the alkaline hydrolysis liquid released to the recycling facility is sterile using CDC guidelines and/or California Department of Health guidelines. This will prevent any human pathogens from entering the waste water system. The proposed definition of “Alkaline Hydrolysis Systems” will accomplish this important permit stipulation.

BIO Cremation™ using Alkaline Hydrolysis

Matthews International Corporation has the exclusive right to market the Resomation™ process (under the name of BIO Cremation™) in the USA and other countries. The BIO Cremation™ process meets or exceeds both the California Department of Health Safety Codes and the CDC Biosafety Standards for alkaline hydrolysis of human remains.

“Matthews Cremation Division has been a leader in the development of cremation systems and environmental technology since 1946. This dedication and commitment to research and development has resulted in newer energy efficient and environmentally responsible technology. Today, our dedication is stronger than ever and BIO Cremation™ is yet another “game-changing” advancement for the entire cremation industry”--*Paul Rahill, President, Matthews Cremation Division*