
ABSTRACT

Nanotechnology has proven that is not just a “buzz” phrase as it grows at an unparalleled rate and continues to emerge in a myriad of sectors within the marketplace. Throughout this paper, nanotechnology’s environmental and hazardous waste sectors’ applications and implications were targeted and reviewed most prominently within the United States; although, international reference (including Western Europe, Australia, Japan, and a few others) has also been made. As such, the framework and purpose of this Thesis is to:

1. Provide a conceptual background and empirical overview of the technology’s development, sources, materials, characteristics, quantities, and funding
2. Explore existing public information from an unbiased perspective on how the technology impacts the environment – i.e. its treating hazardous wastes and its being treated as a hazardous waste
3. Propose an overall management system for current (active) oversight of the technology and recommend that a strategy be developed for future (latent) provisions

Conclusively, while the prodigious whirlwind’s positive applications and potentially negative implications on the environment are generally acknowledged, thorough and universally confirmed research, evaluation, statistics, and assessments are still found wanting. An overall management system (including data aggregation, nano-particle/material targeting, development of a universal Material Safety Data Sheet (MSDS), incentives plans, and, if necessary, a flexible and updateable regulatory process) has been proposed to account for the current (active) nano-products being exposed in the environment. Without this or an alternative organization method, a more in-depth review of the industry will not be possible and the recommendation to research a system or process to account for the future (latent) exposure of the technology cannot be achieved.