PHARMACEUTICAL WASTE: BEST MANAGEMENT PROGRAM

Pao-Chiang Yuan and Doris McPherson

Hazardous Materials Management Program, Department of Technology, Jackson State University, 1400 Lynch Street, Jackson, Mississippi 39217, USA

Abstract: Open your medical cabinet at your home, there are drugs that you purchased over-the-counter, prescription drugs prescribed by your doctors and you may have control substances. If you have been a diabetic patient for many years, you may accumulate different medicines, due to a change of the prescription. A lot of drugs are out of date or no longer needed. What do you do with them? They are liquid, solid, even aerosol. Most people leave old drugs in the cabinet, drawers, and sometimes flush it into the drain or put it into the trash. Several reports have identified some drugs contaminate surface water and groundwater. According to the drug store, one store provides at least 2000 to 4000 prescription drugs on the market. The pharmaceutical waste is not only from your home, it also can come from hospices, nursing homes and more. Up to now, there is only a few pieces of legislation or laws regulating the drug waste and not many States have specified how to properly handle this type of waste. In 1970, the Resource Conservation and Recovery Act (RCRA) were established. The law mainly focused on industrial plants. The 40 CFR part D under the Environmental Protection Agency, regulate hazardous waste. Nowadays, this is the most important laws adopted to dispose of drugs either under the listed wastes in the code, especially P and U lists or based on their characteristics. Another group list provided by the National Institutes of Occupational Safety and Health (NIOSH) is based on drugs that may exhibit one or more forms of carcinogenicity, teratogenicity, reproductive toxicity or organ toxicity at low doses. This study will research different states’ requirements, drugs waste management program and develop a best management program (BMP) to manage pharmaceutical waste.

Keywords: Pharmaceutical Waste, RCRA, NIOSH, Hazardous Waste