Dr. Mazyk TCLP Test Summary

A. TCLP Testing Shows That The Rx Destroyer Products Are Not Likely to Harm The Environment.

The Toxicity Characteristic Leaching Procedure (TCLP) is designed to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphase wastes. Unlike the drug disposal industry, the EPA does set forth a standard procedure. The method distinguishes between liquid wastes and wastes containing > 0.5% solids. For liquid wastes (i.e., those containing less than 0.5% dry solid material), the waste, after filtration through a 0.6 to 0.8 μm glass fiber filter, is defined as the TCLP extract. For wastes containing greater than or equal to 0.5% solids, the liquid, if any, is separated from the solid phase and stored for later analysis. The solid phase is extracted with an amount of extraction fluid equal to 20 times the weight of the solid phase. Following extraction, the liquid extract is separated from the solid phase by filtration through a 0.6 to 0.8 μm glass fiber filter. For the purpose of this work, the solutions were analyzed **filtered and not filtered**. In the case of the Rx Destroyer the sample has large contents of solids.

For the purpose of the drug experiments, extraction fluid #1 was prepared. 5.7 mL of glacial acetic acid (CH_3CH_2OOH) was added to 500 mL of reagent water. 64.3 mL of 1N NaOH was added to solution and diluted to a volume of 1 liter. When prepared, the pH of this fluid was 4.93 ± 0.05 based on 5 grams of sample stirred for 5 minutes in 96.5 mL of DI water. Subsequently, a liquid-to-solid ratio of 20:1 was used to dilute the Rx Destroyer 16-ounce sample that had been started more than 100 days ago. The sample was 100% solids and was not filtered prior to dilution (this was specifically done as very little liquid fluid was extractable since the product (mixed with 300 pills had very dense past like properties). Extraction fluid with aliquots of Rx Destroyer samples were rotated for 18 hours at 30 RPM. The final solution was filtered with a 0.7 μm glass filter. Filtrate was analyzed with UV-Vis in methanol in the HACH as per previous analysis.

99% of the sample was NOT leachable, demonstrating that the product is safe for disposal and will not negatively impact the environment. The drug deactivation industry lacks standard procedures for analysis of drug deactivation products. The TCLP could be the most appropriate since drug disposal systems use different mechanisms to render the drug non-retrievable. My testing and that of Mr. Fowler routinely observed a thick paste when testing the Rx Destroyer. This TCLP procedure demonstrates that the ibuprofen in this paste is <u>not</u> retrievable. Furthermore, this TCLP test confirms the aforementioned results when testing 300 pills (200 mg of drug) that deactivation is 99%.