

Stabilization of Contaminated Oil

Thomas Klasson (klassonkt@ornl.gov)

First Article Tests of a stabilization method for greater than 260 mg mercury/kg oil were performed under a treatability study. This alternative treatment technology to incineration that will address treatment of U.S. Department of Energy organics (mainly used pump oil) contaminated with mercury and other heavy metals. Some of the oil is also co-contaminated with tritium, other radionuclides, and hazardous materials.

The technology is based on blending a heavy metals sorbent powder (Self-Assembled Mercaptan on Mesoporous Support, SAMMS), with an oil stabilization agent (Nochar N990 Petrobond) to create a shredded-Styrofoam-like material that soaks up oil and stabilize the oil and heavy metals compounds dissolved in the oil. The stabilized oil pass waste acceptance criteria for at some of the waste disposal sites available to the Department of Energy for radioactive waste.