**Section 808.410 Physical and Chemical Analysis**

Physical and chemical analyses of wastes for purposes of this Subpart shall be conducted as follows:

a) Samples must be representative of the wastestream and shall:

1) Include all waste phases.

2) Be taken from areas distributed spatially within the waste bulk; and

3) Be taken at suitable time intervals and over a sufficient period of time to account for variation in the wastestream through work shifts, seasons, etc.

b) The following properties shall be determined and reported:

1) The physical description of the wastestream, including, but not limited to, its temperature, color, phase and flow rate;

2) The pH of aqueous phases of the waste, or the pH of a 1:1 volume dilution of solid phases of the waste with distilled and buffered water;

3) Flashpoint of liquid phases by the Pennsky-Martens Closed Cup test method, specified in ASTM Standard D-93-79 or D-93-80, incorporated by reference at Section 808.111, or by a Setaflash Closed Cup tester, using the test method specified in ASTM standard D-3828-78, incorporated by reference at Section 808.111;

4) Results of an EP toxicity test, as specified in 35 Ill. Adm. Code 721.124; and

5) Density.

c) The waste shall be analyzed for its constituents as follows;

1) The analysis must include all materials introduced into a process generating the wastestream, and all materials which come into contact with products and materials produced by the process or in storage, including end products and impurities;

2) The analysis must include all constituents which will react with each other under the process conditions;

3) If available, the analysis must use the Chemical Abstracts Service (CAS) name and number for each constituent, or a name from the list of common names pursuant to Section 808.412. Otherwise, if the CAS name and number and such a common name is not available for the constituent, the person requesting classification may provide a name and complete description of the constituent;

4) The analysis shall include a list of major constituents and concentrations which accounts for at least 99 percent of the mass of the waste. The list may include an entry for "other" or "unknown" if significant trace constituents have been identified as provided in subsection (c)(5). The analysis shall list major constituents of the waste rounded to the nearest tenth of a percent, and shall be supported by a mass balance;

5) Significant trace constituents. The generator shall include a list and the concentration of all significant trace constituents, as defined in Section 808.411; and

6) The analysis shall identify all such major constituents and significant trace constituents listed in 35 Ill. Adm. Code 721.Appendix H.

d) The analysis must report the average concentration or mass percentage and the expected range of each major constituent and significant trace constituent. The expected range is the 95 percent confidence intervals for each set of analyses for the constituent. The error analysis must take into account the following:

1) Temporal variation in the wastestream properties;

2) Uncertainties arising from sampling the waste; and

3) Uncertainties arising from the method of analysis.