



## Test Kit Technologies, Inc.

### The VERI-FRY® Diagnostic Tests Eliminate the Need for and Costs of Waste Chemical Disposal

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**Problem:** The quality control manager for an industrial frying operation is extremely concerned about the costs involved in disposing of chemical waste from the laboratories. He does not want to "cut corners" in their monitoring programs, but needs to find ways to reduce the volume and costs for disposal of chemical waste.

**Background:** One of the major costs for many laboratories in this day and age is compliance with local, state, and/or federal environmental regulations. These regulations deal with disposal of toxic waste, emissions, and many other issues. At this time, each state has their own regulations, and some states, such as New Jersey, New York, and California, have very strict requirements. In some areas, it costs as much or more to dispose of waste chemicals or solvents than it costs to purchase fresh reagent grade compounds. On top of the costs involved in simply disposing of these materials, many states require that laboratories producing toxic wastes maintain strict records on the compounds in question. Failure to properly maintain such records can result in heavy fines. Also, fire marshals need to be aware of the placement and fate of flammable solvents.

In most industrial frying operations, the quality staff monitors several different parameters of oil degradation. These include free fatty acid level (or acid value), peroxide value, and color. More sophisticated operations check total polar materials, soaps, and other values. With the exception of color, each of these tests requires glassware, solvents, and other reagents, plus a competent scientist or technician. The used chemicals must be properly stored and disposed of and glassware must be cleaned and replaced as needed.

#### How the VERI-FRY® Industrial Frying Diagnostic Tests Can Reduce Chemical Waste Problems and Save

Time & Money: The quality control manager has the option of eliminating many of the tests described above and replacing them with the VERI-FRY® diagnostics. VERI-FRY® solventless chemistry gel tests, pre-dispensed in their own disposable plastic vial, are available for measuring FFA (free fatty acids), WET (soaps), and TPM (total polar materials). These tests would eliminate much of his chemical waste headache. The VERI-FRY® FFA test can be completed within a minutes and requires only a small amount of hot oil to conduct. A single titration to measure FFA requires 50-100 mL of reagent alcohol and 5-10 mL of sodium hydroxide solution. To measure Total Polar Materials (TPM) following the official method the analyst requires over 300 mL of petroleum ether: ether (87:13) compared to no more than 2 grams of fat for the VERI-FRY® TPM test. To test for "soaps" in oil, the analyst needs 100 mL of acetone plus 0.1 N hydrochloric acid solution. Project the waste chemicals over a full year and there is both a savings in the cost to buy, and dispose of the reagents. The quality control manager also eliminates the paperwork required to track his waste.

**Benefits:** Beyond the costs involved in purchasing and disposing of chemicals, the elimination of these tests creates a safer workplace and allows staff more time to pursue other projects. Your company can also make its contribution to reducing waste and protecting the environment, a philosophy that can only enhance your public image and also has the potential to increase market share.