Combustion Research Center
417-1 South Street
Marlborough, MA 01752
Tel (508) 429-3190 Fax (508) 485-3115
www.combustionresearchcenter.com
Email: info.crc.us@hoerbiger.com

Combustion Research Center
HOERBIGER Safety Solutions

Sample Selection, Preparation, Packaging and Shipping

The **Combustion Research Center** (CRC) will conduct tests on materials supplied by you to determine certain combustion hazard properties related to ignition and flame propagation characteristics. The goal of the CRC is to provide accurate and conservative safety data in a prompt and professional manner. Our experience indicates that adherence to the following guidelines will improve the value of data you receive, reduce delays in material handling and preparation, improve process cycle time, minimize the likelihood of material spillage and contamination, assure accuracy in complete identification, and reduce risks of container breakage or leakage in shipping.

Dust Sample Selection. Dust samples provided in the quantity recommended in the test service proposal and in a form ready-to-test, meaning a dry "fine" dust (smaller than 74 μm, i.e., passing through a 200 mesh screen), are scheduled and evaluated promptly. Factors contributing to increased test cost and to delays in service are:

Dust Sample Preparation. It is the fine dust that offers the greatest explosion and fire hazard. Even if a process unit (e.g. dust collector) has coarse dust in the hopper, there is fine dust airborne during active processing. It is the fine dust that offers the greatest explosion risk.

Dust Sample Quality. *Moisture*. Test standards required that dust be dry, i.e. less than 5% moisture. ***Fineness.*** Test standards require the use of fine dust. The figure below (left) shows an example of a fine dust, d < 74 μm. that is ready-to-test. The sample on the right is an example of a particulate material that contains very little dust and will require extensive preparation – sieve classification or milling (when possible) to make ready-to-test.

Recommendations:

1. Make every effort to obtain the finest dust possible from your process.
2. Consider pre-screening dusts that contain coarse particles. For example, use a household flour sifter to separate obviously coarse materials from finer materials.
3. If a sample needs preparation, such as milling and grinding to make ready-to-test, additional charges will apply.

Left. Fine dust. d < 74 μm. Ready for testing.

Right. This sample contains very little dust. Not testable for dust combustion hazard properties without extensive processing.

Sample Quantity. Make every effort to supply the requested quantity of dust. If dust can not be supplied as a fine dust then additional amounts may be required. Consult the CRC Project Engineer when fine dust is not available.

Caution: Supply of insufficient sample quantity can significantly delay a test program.

Packaging – Dusts or Liquids. Dusts or liquid samples should be packaged in secure sealable containers. For liquids, be sure the container material and cap liner are chemically compatible with the fluid. Shown below are examples of plastic containers with a screw cap that are available in several sizes (16, 32, 64 and 128 oz). See the web site below. This is a suggestion only; other styles of container are equally suitable as long as they can be securely closed. http://www.usplastic.com/catalog/product.asp?catalog%5Fname=USPlastic&category%5Fname=3&product%5Fid=11189

Sample Labeling. Label each sample container accurately and completely. Each sample label should contain the following details:

- Company name.
- Contact name and phone number.
  - This is important when questions arise about the sample.
- Sample name.
  - Be specific as the sample name on the label will be used on your test report.
  - For example - "Polyamide #A17 from collector #4" instead of "Collector Dust".
- Sample date.
  - This should be the date the sample was taken.
- CRC proposal number – "TS-xxxx"

Label form.

1. Preferred is a pre-printed, adhesive backed label.
2. Alternatively, you may use a black permanent marker (e.g. Sharpie) to mark the sample container.

Example of completed sample label

Acme, Inc.
Contact: John Smith
Tel. (987) 465-1234
Material: Polyamide #A17 from collector #4
Date: July 7, 2009
CRC# TS-xxxx

Shipping Label. Prepare shipping label as follows:

IEP Technologies
Attn: **Combustion Research Center, TS-xxxx** (where TS-xxxx is the proposal number)
417-1 South Street
Marlborough, MA 01752

Be sure to enclose a copy of the MSDS along with your sample shipment.