VOLATILE ANALYSIS

Off-Odor On-Demand Project

Project Parameters Q&A

The Off-Odor project is specific to an off-odor, off-flavor problem. Choose this option when you have a material implicated by an off odor complaint (internal or external).

The procedure to be utilized is our standard "GC-MS/O". Please review papers in our store or go to our GC-MS/O section found under "services" for more details on this technique.

Two materials (described below) should be provided to Volatile Analysis. Please send enough of each material for several analytical procedures. Typically this is approximately 20-100mL or grams but the amount needed for analysis may vary depending on the nature of the odor and material.

Material 1 –This is the off odor material. Please label as "Material 1" as outlined in the "shipping instructions" discussed in the next section of this document.

Material 2- This is the same material as Material 1, or as similar as possible, but does not exhibit the off odor. Best to have a material lot that is relatively near the off odor lot in production timeframe. It is also best if it is from the same production facility and production line. Label this "Material 2" in the manner outlined in the shipping instructions section of this document.

Parameters:

The analytical process utilized will be VAC standard analysis. The standard analysis includes dynamic headspace extraction utilizing an absorbent such as TenaxTA, Activated Carbon with various pore sizes, stir bar sorptive extraction (Twister), or SPME, or other. VAC will choose the appropriate technique/ sorbent based on the nature of the odors and material. VAC will also choose the appropriate GC column with suitable stationary phase. It is understood that our standard analysis proves successful for most odor problems. It is the first course of action recommended to capture differences in the odor/aroma profile between good and bad samples. This permits VAC to focus on odors that relate to complaint descriptor(s).

Aromas/odors related to the complaint that exhibit moderate (3 out of 4), or strong (4 out of 4) odor intensities using a 1-4 scale will be labeled. Chemical peaks will be labeled that are readily identifiable through standard mass spectra data base matches, and VAC experience with odorous chemicals and retention index values.

If the aroma peak(s) of interest is not readily identified, the retention times of the peaks as well as any information related to identification that is observable will be provided.

An aromagram (inverted overlay of total ion chromatogram and plot of aroma time vs. intensity with odor desriptors) will be provided for each analysis.

For standard off odor projects, two GC-MS/O analyses will be conducted per each material.

SHIPPING INSTRUCTIONS

1.0 Items Needed

1.1. Printed or clear & legibly written material labels

1.2. Non-spill container(s) (glass jars when applicable)

1.3. Clean, heavy duty aluminum foil

1.4. Bubble wrap

1.5. Sealable plastic bags (i.e. Ziploc storage or freezer bags)

1.6. Packing slip

2.0. **Procedure**:

2.1. Place a printed or clear and legibly written label on outside of each container. It is important to be aware of the odors associated with packaging and shipping supplies and minimize or avoid them if possible. Examples include odorous markers, glues, previously used corrugated packaging.

2.2. Fill container with designated material to levels specified in material shipping instructions. Send sufficient material to conduct analyses (typically between 20-100mL or grams). Please contact VAC with questions.

2.3. If using glass jars (preferably mason jars), fill with material, place foil under jar lid between sample and lid, cover with and secure lid. Please ensure lid is tightly sealed to prevent spillage.

2.4. Wrap each labeled container in aluminum foil and mark with material name on outside of foil. This can be hand written, as long as it is legible, with a permanent marker or a printed label securely attached. Note if materials are sealed inside glass it is okay to print on the outside of glass with permanent marker.

2.5. Wrap each container in bubble wrap. For glass containers, ensure containers are wrapped appropriately to prevent breakage during shipping.

2.6. If concerned about the possibility of spillage, container can be place in a Ziploc bag after steps 3.1 – 3.5 are completed.

2.7. A packing slip must be placed in the box with the containers. If more than one box is used, ensure packing slip includes list of contents of each box.

3.0. Shipping Address

3.1. 29750 US Highway 431, Grant, AL 35747