# **AIR TESTING INSTRUCTIONS**



**AIR TUBES** 

The following provides a quick visual reference on how to set up and conduct air sampling using collection tubes as the collection media.

Plastic tube protector (tube is inside)



FIGURE 1: General Setup

Carefully snap off tapered ends of glass tube using Tube Breaker



FIGURE 2: Breaking the ends of tubes using tube breaker



FIGURE 3: Tube ends are broken off, ready for sampling

The general setup for air sampling involving the use of collection tubes as the collection media and personal pumps is illustrated in Figure 1. Alternatively, if it is not suitable to affix the pump to a worker (e.g. if workers at a facility tend to move around to the extent that they will not capture a representative air sample of a specific work station), you may choose to lay the tube/ pump assembly on a table or chair within the area to be monitored. Care should be taken to select a location that is both representative of the air space, away from drafts or ventilation units and off the ground as these locations may bias the collection process.

Testmark Laboratories will provide you with a collection tube specific to the type of contaminants you are testing. They are usually glass or metal and contain packed adsorbent material to capture specific contaminants. Collection tubes are provided in sealed protective bags separate from the pump/protective holder/collar clip and should be attached to the protective plastic holder by the client immediately prior to collecting the sample. They should not be attached ahead of time and left open as they may become contaminated.

When ready to begin sampling, take the collection tube from the bag. For glass collection tubes, break off the ends of the glass using the Tube Breaker (provided) by placing the tapered ends of the collection tube into the small hole in the Tube Breaker and gently snapping it back (Figure 2). Do this to both ends (Figure 3). After, be sure to rotate the black rubber stopper on the end of the Tube Breaker to seal the hole and prevent broken glass from falling out.

Tube is orienented according to direction of air flow



FIGURE 4: Tube attached to black inlet tubing

Unscrew the protective plastic tube holder from the pump tubing and carefully attach the collection tube to the black rubber inlet tube, ensuring it is well connected. Ensure the collection tube is oriented properly – the direction arrow on the collection tube should point towards the direction of air flow (i.e. should point towards the pump intake tube). Replace the protective plastic tube holder to cover the collection tube and screw on tightly to affix (Figures 4 and 5).



FIGURE 5: Insert tube in plastic protective tube holder and tighten

Position the tube assembly either on the worker, or on a stationary platform that is off the ground. The collar attachment allows the user to clip the tube apparatus close to their personal breathing space, while the pump can be clipped on to a belt or waistband.

When ready to start sampling, start the pump by pressing the on/off button (Figure 6) once (a green indicator light will turn on) and record the date and start time of sampling on the Chain of Custody. The pump has been pre-calibrated by Testmark for a flow rate suitable for your test method. Leave the pump running for the required amount of time (Testmark will provide you with guidance on the required sampling time depending on what tests you are having done). When finished, press the on/off button to turn the pump off (green indicator light will turn off). Immediately record the end time for that sample on your Chain of Custody.

Carefully remove the collection tube from the plastic protective tube holder. *Cap each end of the collection tube with the plastic caps* provided in your sampling kit and place the collection tube in a clean sample bag (provided). Be sure to label the outside of the bag with a unique Sample Description. Place samples and collar/pump assembly carefully in a cooler provided and return all to a Testmark Laboratories near you, making sure to include your completed Chain of Custody.



On/Off button

FIGURE 6: On/Off button with protective plastic cover

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### **ANY QUESTIONS?**