

## **A SIMPLE METHOD FOR DIRECT MERCURY ANALYSIS IN DRIED BLOOD SPOTS (DBS) SAMPLES FOR HUMAN BIOMONITORING STUDIES.**

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### **Standard operating procedure for sampling dried blood spot samples in humans**

#### **1. Sampling material**

Alcohol and cotton

Lancet needles

Calibrated microcapillaries (50  $\mu$ L)

Microcapillary teat

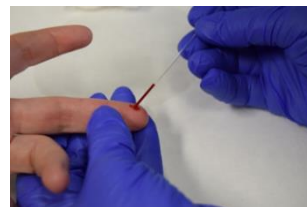
Whatman 903 protein saver cellulose cards

Ziplock plastic bags

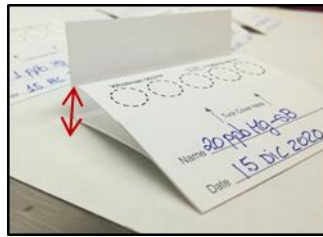
Silica gel

#### **2. Sampling procedure**

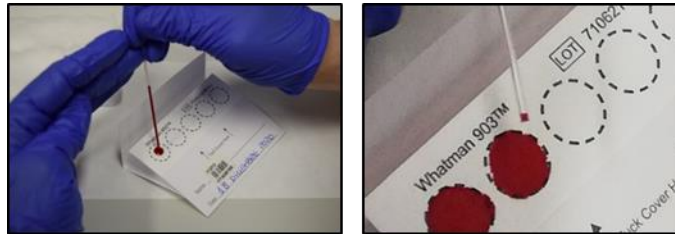
- a. Select the middle or ring finger of the non-dominant hand and disinfect the puncture area with a piece of cotton moisture in alcohol. Dry the area before taking the sample. Massage the selected finger with movements from the base to the tip to increase the blood flow. Take the lancet needle, make an incision on the fingertip and press until the drop of blood appears. The first drop should be removed with a piece of cotton to avoid possible contamination. Press again and collect the sample with the microcapillary slightly inclined until the blood reaches the mark indicating the volume (50  $\mu$ L).



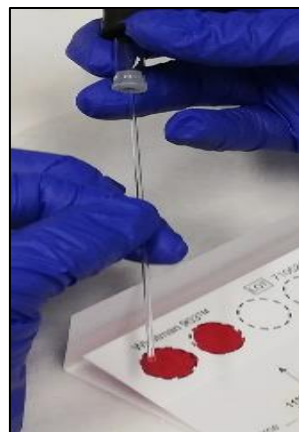
- b. Take a Whatman cellulose card and write the identification code of the sample and sampling date. Separate the flap of the Whatman cellulose card from the sampling sheet to avoid diffusion of the sample to the back of the card.



- c. Let the blood in the microcapillary diffuse inside the area delimited by the dotted circle in the card.



- d. Gently move the microcapillary until it is completely empty and if necessary, use the teat to empty the microcapillary completely. The blood should not diffuse out of the dotted area.



- e. Collect four samples and leave the fifth circle empty.
- f. Clean the finger with a piece of cotton moistened in alcohol and cover with a band aid/plaster.
- g. Let the drops dry until the samples turn to brown colour (minimum 1 hour).
- h. Once dry, the Whatman cellulose card should be put into a ziplock plastic bag. Sample can be conserved at room temperature. Silica gel should be included to control humidity.