**Table 3: Comparison of different odor capture systems suitable for both canine olfaction and GC-MS analysis**

| **Sampling device** | **Sampling source** | **Dog compatibility** | **score** | **Pollution emitted by the device** | **score** | **Composition** | **score** | **GC-MS injection** | **score** | **Device storage/VOC preservation** | **score** | **Sum/10** | **Reference** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Getxent® tubes** | sweat | yes | 2 | ready-to-use | 2 | Patented polymer, adsorption of VOC | 2 | extraction step required\*\* (possible loss of VOC) | 1 | stored up to 6 months at -20°C [supplier sources] | 2 | **9** | [1], [2] |
| **Sorbstar®** | sweat | yes | 2 | ready-to-use | 2 | Patented polymer, adsorption of VOC | 2 | direct TD injection | 2 | stored at 4°C, storage time is unknown | 0 | **8** | [3]–[5] |
| **PDMS-based patch** (Sorptive tape extraction) | sweat | yes (presented to dogs in cleaned\* metal cans [21]-[23]) | 2 | need to be conditioned | 1 | PDMS, adsorption of VOC | 2 | direct TD injection | 2 | stored at 4 °C for no more than 24h [108], no more than 72h [107] | 1 | **8** | [6]–[9] |
| **Twister** (SBSE) | sweat | conceivable (similar size as the Sorbstar® tube) | 1 | need to be conditioned (can be reused) | 1 | PDMS, adsorption of VOC | 2 | direct TD injection | 2 | stored at 4°C, no longer than 14 days [supplier sources] | 1 | **7** | sweat sampling [10] |
| **PDMS tube** (wristband) | sweat | conceivable (easy to handle, size similar to Getxent**®** tubes) | 1 | need to be conditioned | 1 | PDMS, adsorption of VOC | 2 | direct TD injection | 2 | stored in aluminum foil at 4 °C for no more than 48 h before analysis [106] | 1 | **7** | [11] |
| **Gauzes** (in direct contact with the skin or sampled with STU-100 tool used in forensic) | sweat | yes | 2 | need to be conditioned | 1 | cellulose fibers (cotton), absorption of VOC | 1 | extraction step required\*\* (possible loss of VOC) | 1 | gauzes stored at -20°C up to 6 months [46], gauzes stored in resealable polyethylene bags for two weeks [54] | 2 | **7** | [12]–[14], related to STU100 [15]–[17] |
| **Chirurgical face masks** | Breath, Exhaled Breath Condensate | yes | 2 | need to be conditioned | 1 | cellulose fibers (cotton), absorption of VOC | 1 | extraction step required\*\* (possible loss of VOC) | 1 | face masks stored at 4°C no longer than a week [45] | 1 | **6** | [18], [19] |
| **Clothes (T-shirt or socks)** | sweat | yes | 2 | need to be washed with a neutral soak | 1 | cellulose fibers (cotton), absorption of VOC | 2 | extraction step required\*\* (possible loss of VOC) | 1 | stored at -12°C, storage time is unknown [115] | 0 | **6** | T-shirt [20], [21], socks [22] |

\* Cleaned with pentane and subsequently baked at 150◦C for 2h.

\*\* Extraction can be carried out by solvent, static HS, DHS or SPME

The rating criteria are the following:

1. **Dog compatibility**. If the device is already used in forensic or in another context as an aid for detection dogs training, the score is 2/2. If the device has not been tested with dogs yet, it provides a score of 1/2.
2. **Pollution/VOC emitted by the device itself**. To eliminate VOC released by the device itself, materials must be conditioned before use. If the device is already clean and ready-to-use, the score obtained is 2/2. If it needs to be conditioned before use, 1/2 is attributed.
3. **Composition.** If the device consists of anabsorbent support (like a cotton gauze or a T-shirt), the score of 1/2 is given. If the material is made of a particular polymer commonly used in analytical chemistry and which allows the adsorption/desorption of VOC, a score of 2/2 is attributed.
4. **GC-MS injection**. If the thermal desorption (TD injection) is possible, the score of 2/2 is attributed. If an extraction step is necessary, the score of 1/2 is given.
5. **Device storage/VOC preservation**. The score of 2/2 is attributed for “long time” storage (>14 days). For a shorter storage time (<14 days), the score of 1/2 is given. No recommendations found in the literature gives 0/2.

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