

Sensory Kits: Advantages and Disadvantages to Each and Some Instructions for Use

We receive many calls from folks interested in Sensory training and the kinds of approaches and kits that are available for such valuable training of staff and sometimes consumers. Presented here then are some useful notes on what is available (mainly, in this article for beer but some components of the two main kits will work well for distilled spirits and wine work) and how best to get started using them.

Sigma Aldrich Flavors and Fragrances

Contact: US - 800-244-1173

E-mail: safcglobal@sial.com

Web: www.safcspecialties.com

Not much information supplied about the kit on line or in the catalog but the catalog is worth getting for the wealth of chemical information supplied under separate chemical component headings and back page notes (see below on kit use).

Kit Cat No. W60001-6 Flavors and Fragrances Kit #3 Beverage Study (24 samples)

This kit will serve the needs of those folks wanting to obtain reasonably priced (smaller quantity) stocks of generally regarded as safe (GRAS) - if used properly - components for spiking into beer or other liquids for training purposes.

Mode of Use: The kit supplies 2 mL volumes each of 24 "pure" chemicals. [Not all chemicals come at 100% strength nor at 100% purity - in fact no component regardless of manufacture or synthesis is ever 100% pure but the threshold intensity of the main component and any impurities must be accounted for in exacting sensory work.] Stocks are used to make sub-stocks and these are then pipetted into beer or water.

Chemicals supplied/available: 3-Ethyl pyridine, Ethyl acetate, Isoamyl acetate, Diacetyl, trans-2-Nonenal, 2,3-pentanedione, Hexanoic acid, Acetic acid, Eugenol, Phenol, Isovaleric acid, Lactic acid, Octanoic acid, Heptyl acetate, Isoamyl hexanoate, m-Cresol, Furfuryl mercaptan, 4-Ethylguaiaicol, Methyl cyclopentenolone, 2,6-Dimethoxyphenol, Acetoin, Benzaldehyde, Butyric acid and Ethyl hexanoate.

Advantages: 2 mL of each stock, with dilutions can cover many tests and trials. Makes the \$200.00 kit quite cost effective from this aspect (though see below). Stocks (and sub-stocks) can be stored if refrigerated for many months.

Disadvantages: No instructions are supplied for use based on potential litigation. The kit is described as an aroma kit which implies it should not be used to spike and taste - though that defeats the purpose and Sigma's chemicals are used in food applications. Need expensive volumetric glassware and micropipettors and dilution chemicals (ethanol). **Acetaldehyde (too volatile) & DMS are missing from the kit.** Instructions needed to best use are not included - requires extensive sub stock calculations, preparations and dosing calculations. For help on this see the text block to the right. Kit box emits a powerful mixture of odors and needs to be kept in a closed area (refrigerated). Sub-stocks need to be made in a ventilated spot.

FlavorActiV

Contact: UK - +44 (0) 1844 354154

E-mail: via their web form

Web: www.flavoractiv.com

The sensory chemicals here are encapsulated in an inert matrix and are fully approved for spiking into beverages. The main information here can be obtained at the website including the 7 flavors for Spirits testing work. Use of capsules fully covered.

Kit Cat No. Several kits are available as well as flexible options to obtain replacement capsules.

There are minimum capsule purchase requirements and this can make this approach quite costly (see below). The website provides key information and the data sheets on each flavor note provide some useful background information even if you choose to use stock chemicals instead.

Mode of Use: Individual capsules of matrix-embedded pure spike chemicals are decanted into various volumes of beer (or water) to attain certain defined threshold concentrations.

Chemicals supplied/available: Acetaldehyde, acetic, alkaline, almond, bromophenol, butyric, caprylic, catty, chlorophenol, diacetyl, DMS, earthy, ethyl butyrate, ethyl hexanoate, freshly cut grass, geraniol, grainy, H₂S, hop oil, indole, isoamyl acetate, isovaleric acid, kettle hop, leathery, lightstruck, mercaptan, metallic, musty, onion, papery, phenolic, plastics, salty, smoky, sour, spicy, sulphitic, and vanilla. New flavors being added as demand dictates.

Some flavors here can be matched with chemicals - let us guide you if needed here.

Advantages: Chemicals are safer to use and to dose without expensive equipment needed. No sub-stocks to prepare and, therefore, no calculations needed.

Disadvantages: Capsules can only be used as opened and so there are a limited number of times to use a bottle of capsules which are quite expensive. Though shelf-life is good.

- The Sigma Aldrich folks consulted with us, Christopher Bird
- and Gary Spedding, in putting together their kit - though we
- have some issues with the components supplied. Both of us
- can help with any advice on using these kits and components
- and supply information on the dilutions, thresholds and
- calculations needed to prepare and use the stock chemicals.
- Contact Gary at: gspedding@alcbvtesting.com and see www.alcbvtesting.com.
- Detailed notes are available upon request
- to aid in the use of the Sigma-Aldrich kit chemicals.