

The odor score – a new method for classifying hedonic odor quality using polarity profiles

K. Sucker & the Working Group on VDI 3940-4 “Determination of the hedonic odour tone – Polarity profiles”

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Abstract

The method of polarity profiles is used to determine the (un)pleasantness of odors. Previously, correlation coefficients and a graphical representation of the profiles were used as assessment methods. The new method of odor scores allows a detailed analysis of the individual ratings, making it clear whether an odor is perceived as pleasant or unpleasant by all subjects, or whether it is perceived as pleasant by some subjects and unpleasant by others.

The new method is illustrated using the odors from the Sniffin' Stick Identification Test. Of the 16 odors, only turpentine and fish were consistently rated as unpleasant by all 10 subjects (4 males, 6 females; age: 26 to 48 years), while peppermint, green apple and pineapple were consistently rated as pleasant. However, the hedonic ratings for the rose odor, anis or liquorice, on the other hand, varied greatly. Two subgroups could be identified for the banana odor: One group found this odor rather pleasant, the other group found it very pleasant.

The new method of odor scores will be included in the currently revised guideline VDI 3940 Part 4.