

Body Odor and Clothing - Is Your Product Ready for the Fight?



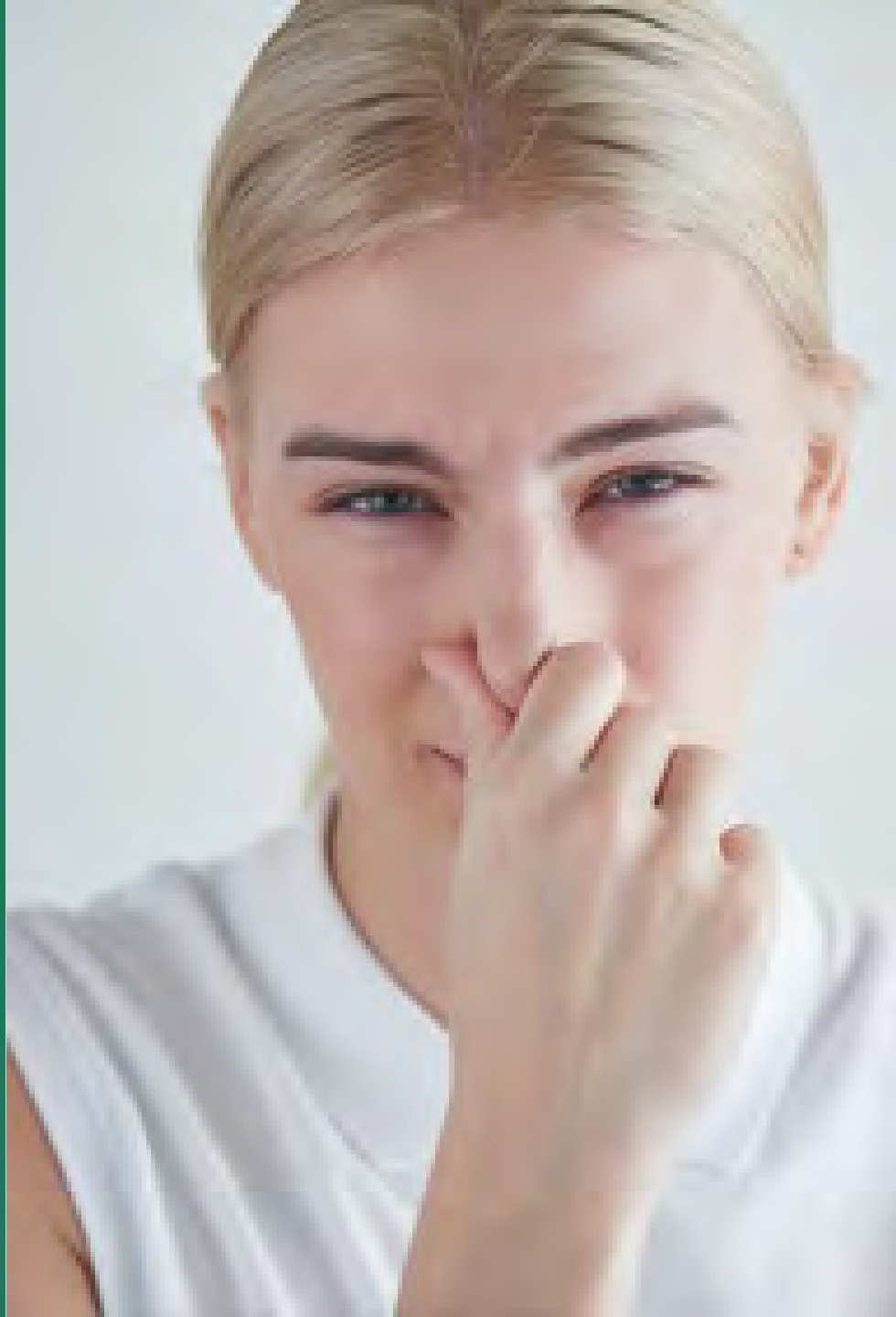


Hohenstein

Sweat Odor Management in Textiles | 12.10.2018 | SEPAWA BERLIN

Introduction & Background

Odor producing products



Formation of sweat odor



Sweat odor composition

<i>Sweat odor lead substances</i>	<i>Odor threshold</i>
Butyric acid	240 ppb
Iso-butyric acid	8,100 ppb
Isovaleric acid	120 - 700 ppb
Valeric acid	300 ppb
Propionic acid	20,000 ppb
Steroids	60 ppm

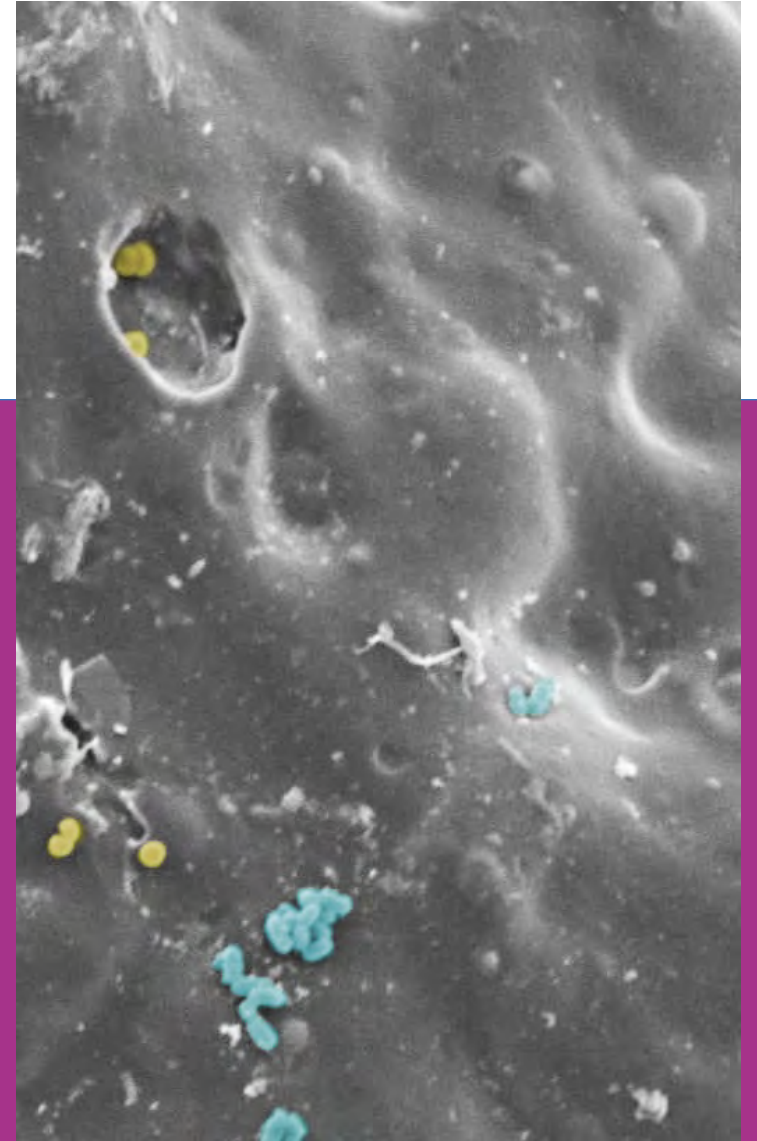
Odor forming bacteria

Odor causing bacteria:

- *Staphylococcus spp.*
- *Corynebacterium spp.*

DIN EN ISO 20743

➔ Prevention



Interaction of odor and textile

- **Elimination**
- **Masking**



Odor-Binding

Odor-Release

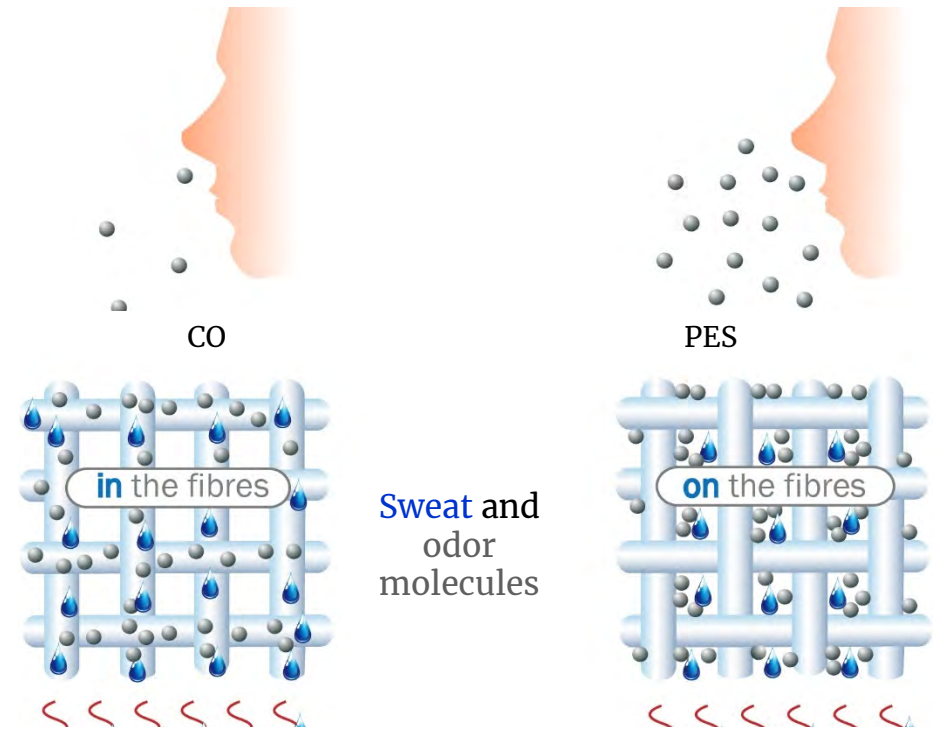
***Hohenstein research
and testing***

Hohenstein research on sweat odor binding

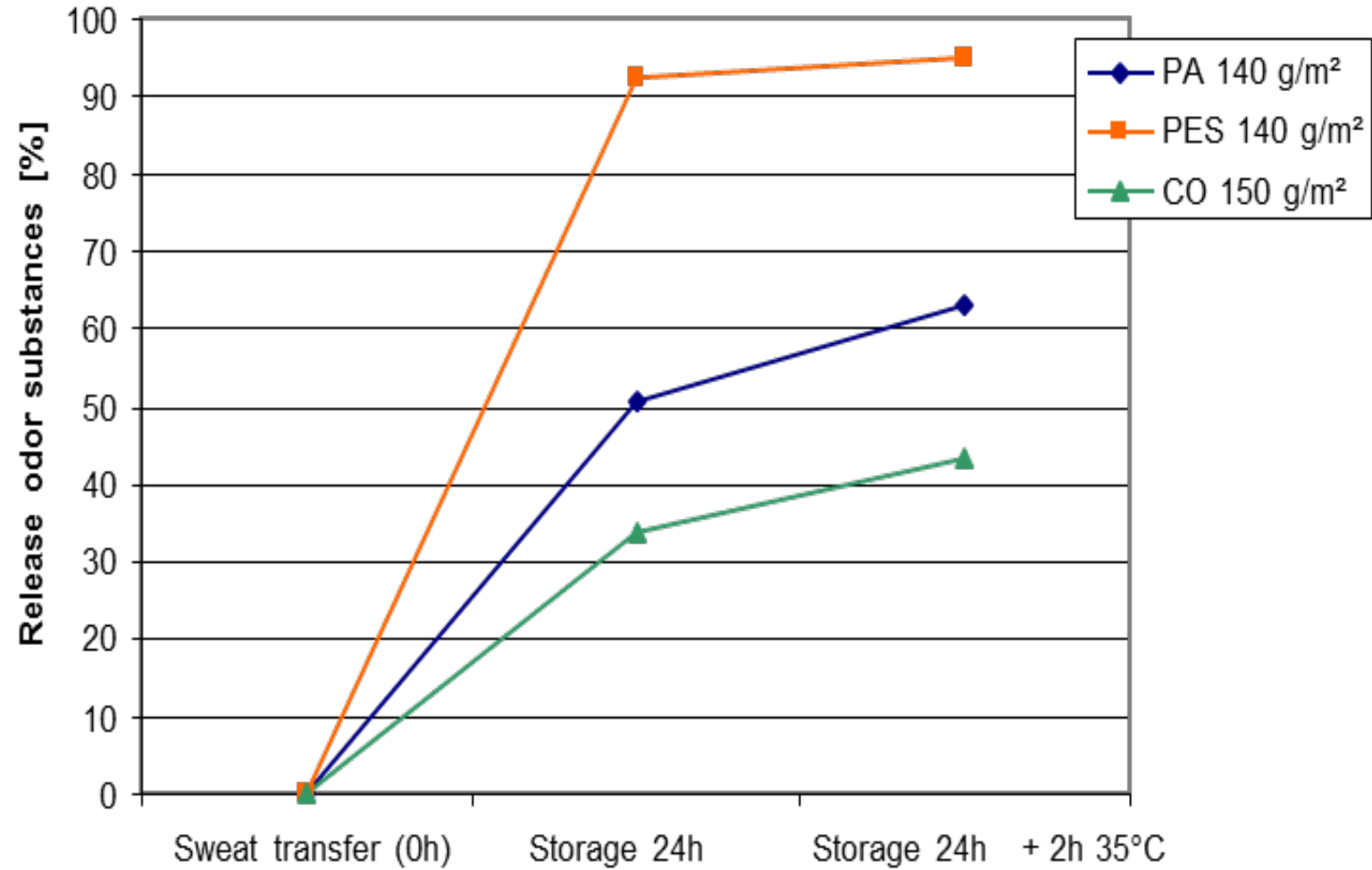
Hammer *et al.* 2012

Quantitative and sensory evaluation of malodour retention of fibre types by use of artificial skin, sweat and radiolabeled isovaleric acid

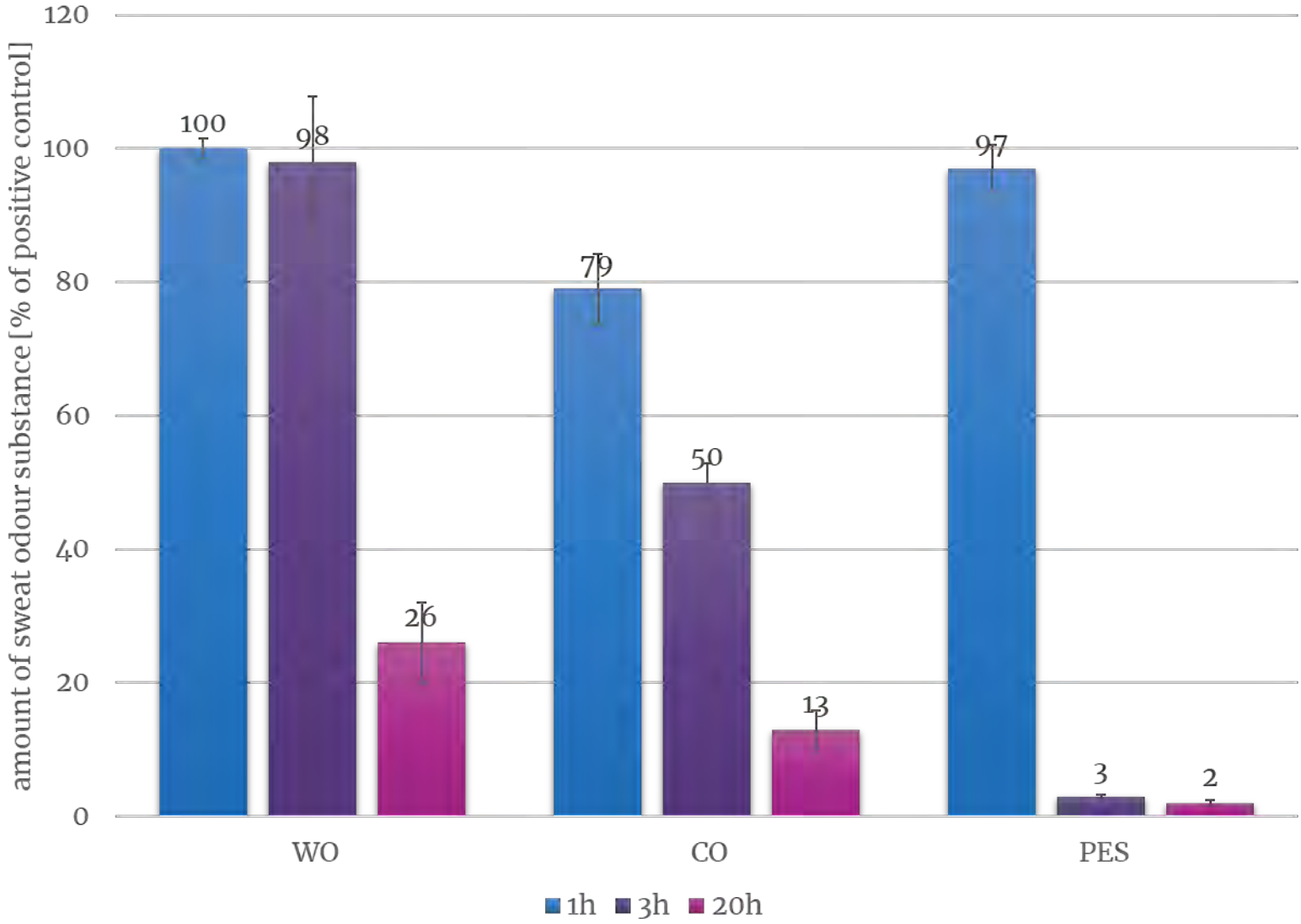
Flavour and Fragrance Journal



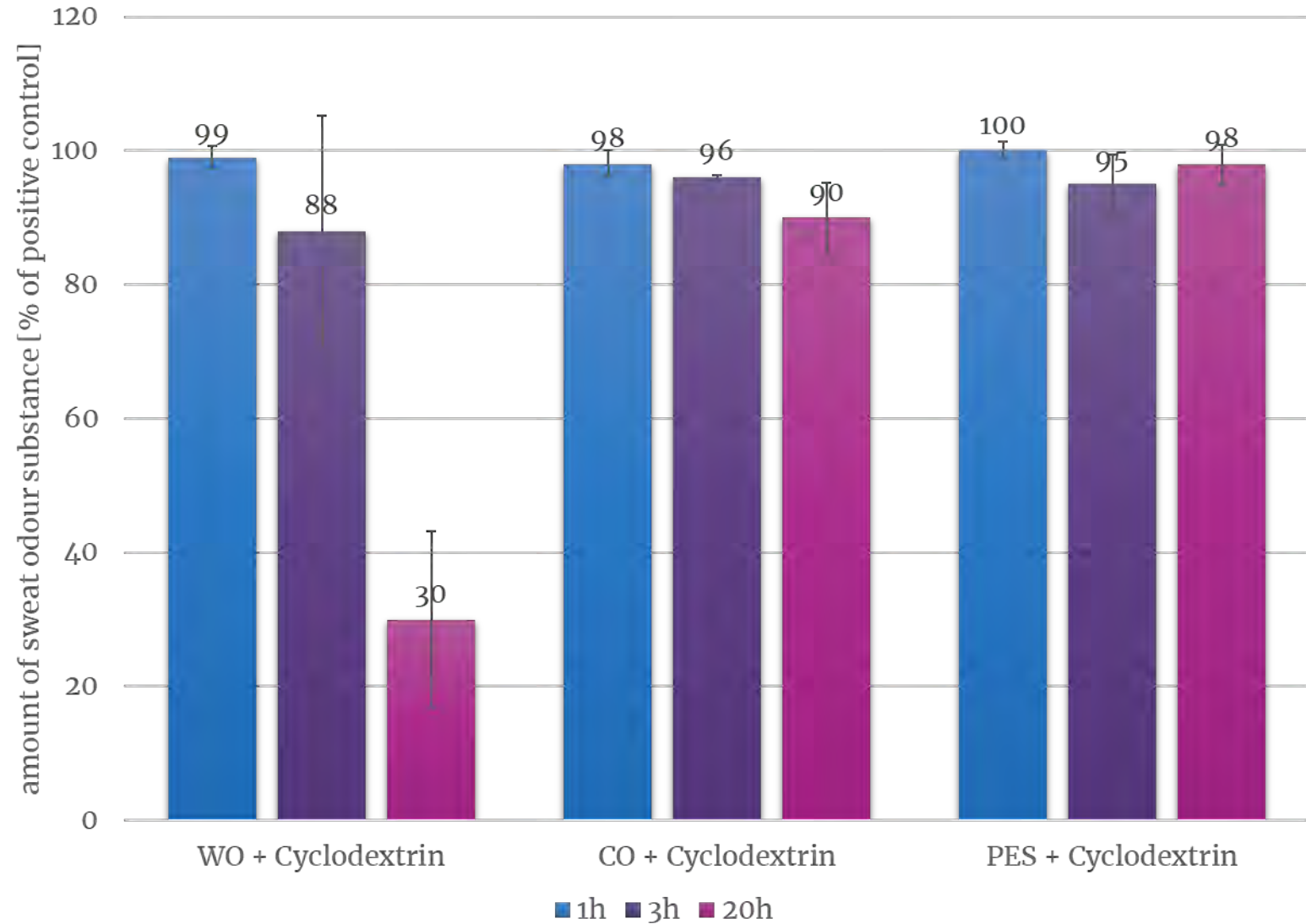
Release of odor substances



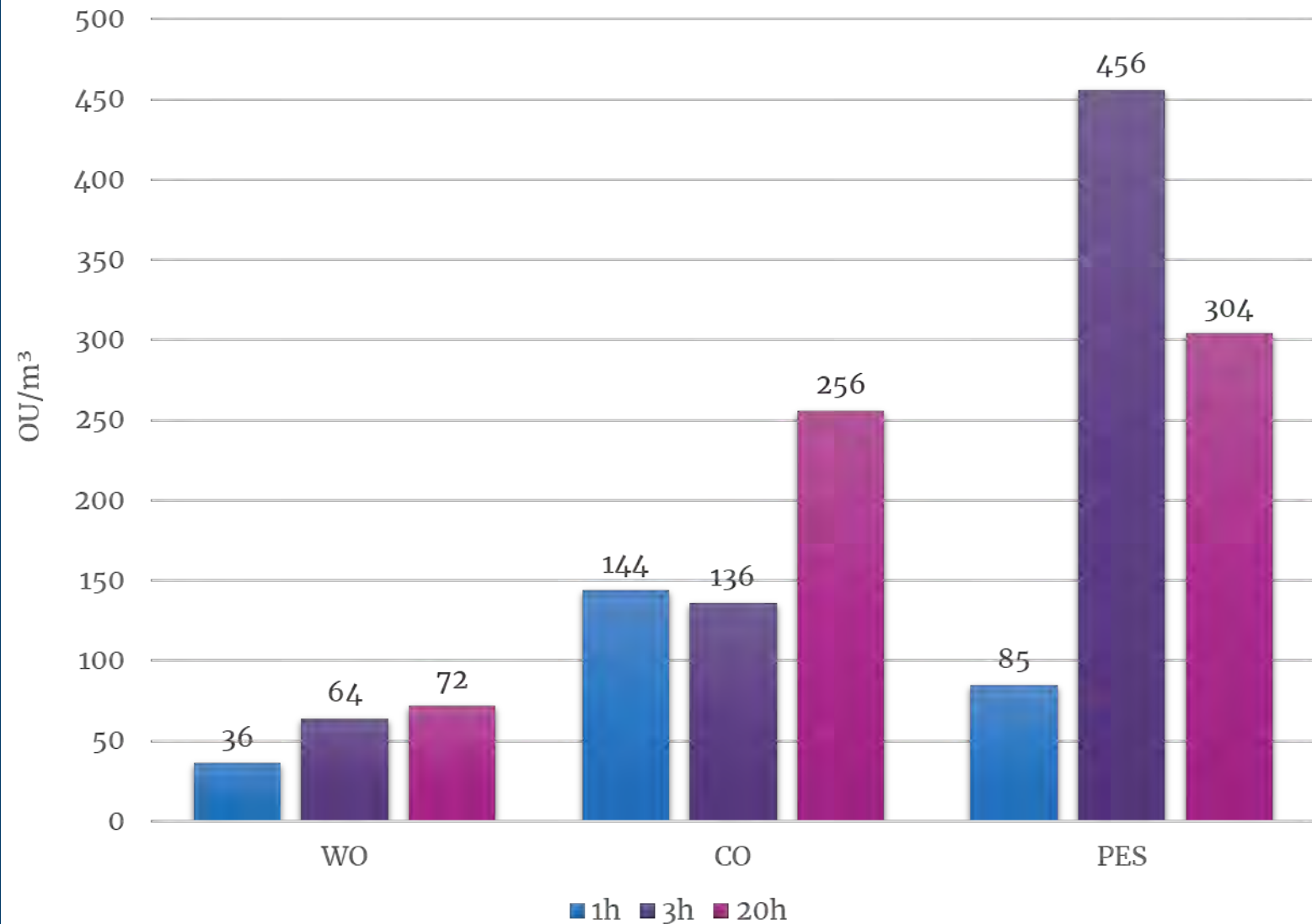
Recovery rate



Recovery rate



Sensory evaluation by olfactometry



Adhesion/Dehesion of sweat odor

Variety of influencing parameters:

- chemical structure of the odorants,
- fibre type,
- fibre finish,
- moisture sorption of the fabrics,
- construction and local influences of the skin, e.g. temperature and TEWL

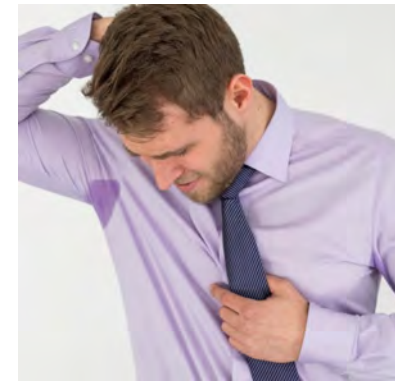
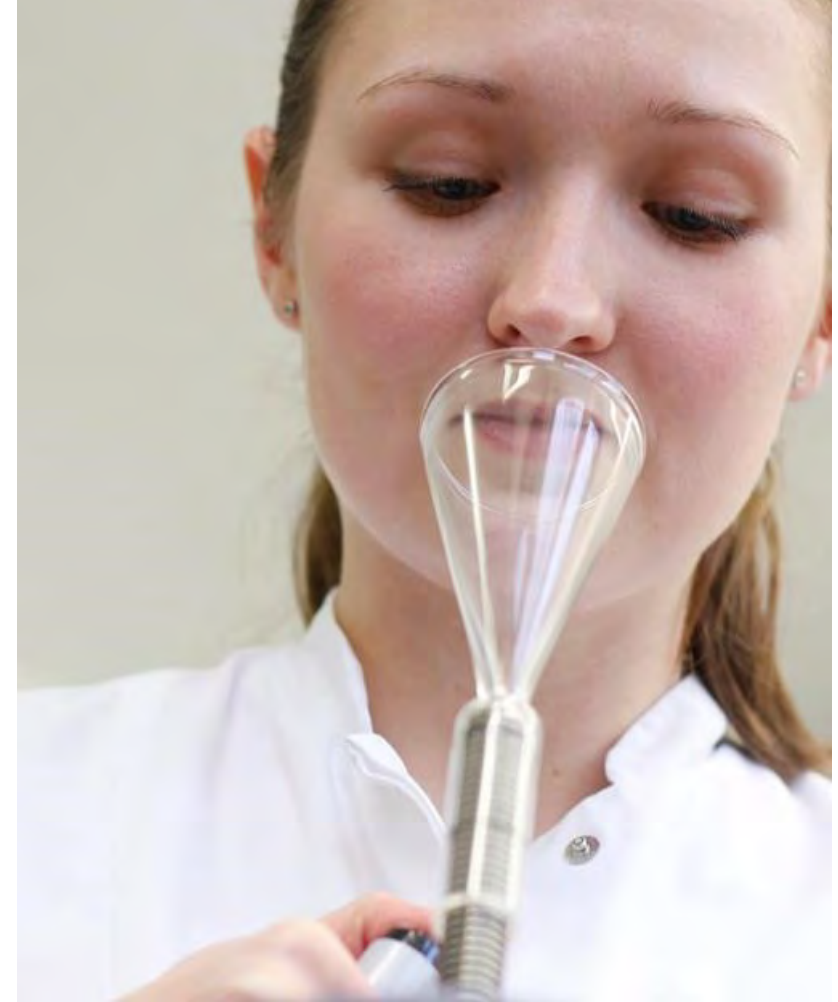


Interaction of materials and odor

Adherence of odor molecules to different materials and odor release determine the perceived smell.

Assessing the capacity of clothing to reduce sweat odor

- in laboratory tests (in vitro)
- in wearing tests (in vivo)



Thank you

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