HARTMANN

High-alcohol hand rubs for efficiency and patient safety

Concentration matters

- Simplify hand hygiene compliance
- Improved patient safety
- Less waste of ressources
- Save time and money
- Lower application volumes

SCIENCE CENTER HARTMANN

Research for infection protection

Diving deeper:
Why high-alcohol hand rubs are the smarter choice

Even before the COVID-19 pandemic, a wide range of alcohol-based hand rubs (ABHR) with differing levels of alcohol - ranging from low to high-alcohol content - were available. Low-alcohol products which at first glance appear to be more economical, claim efficacy based on EN 1500[1] for hygienic hand disinfection.

But patient safety and cost must be carefully considered when using these products in healthcare settings. On closer inspection, high-alcohol hand rubs come with undeniable advantages.

Lower consumption

Our evaluation of data from more than 250 approved hand rubs[1] revealed that with decreasing alcohol content, the application volume (in ml) needed to meet the requirements of EN 1500 increases.

1/3 Cost reduction

Products with low alcohol content are less economical – due to the higher application volumes – than products with high alcohol content.

	Low-alcohol	High-alcohol
Ethanol	65% w/w (72% v/v)	85% w/w (89% v/v)
EN 1500 in 30 seconds	2 x 3 ml (= 6 ml)	1 x 3 ml
No. of applications / 500 mL	83	**167**
ø costs[2] / 500 mL bottle	3.96 €	5.18 €
ø costs / application	5 cents	3 cents
ø costs / 100 applications	4.76 €	**3.11 € (1/3 less)**

[1] VAH-listed [3]
[2] Determined from prices of three online stores.

More sustainable

Interestingly, a product with a high-alcohol content uses in fact less alcohol than a low-alcohol product to achieve the same efficacy. For example, a product with a 65% concentration requires 3.9 ml of pure alcohol per application, whereas a product with an 85% concentration only needs 2.55 ml of pure alcohol, which saves resources considerably.

Secondly, high-alcohol products halve plastic waste because the number of applications per bottle is higher.

Time-saving

Fewer bottle changes and dispenser reprocessing are required, as high alcohol products are used for longer.

Increased alcohol concentrations result in reduced drying times, ensuring fast application.

Meeting healthcare professionals' needs

3 ml application volume is closer to the amount of 1.5–2 ml acceptable to healthcare workers [4].

High-alcohol products have been demonstrated to have high efficacy with an application time of 15 seconds [5], which is relevant for clinical practice, as 89% of infection control teams estimate the real-world application time to be less than 15 seconds [6].

High-alcohol hand rubs are not only more economical, but also fit seamlessly into the requirements and routines of healthcare personnel. Their use ensures better compliance, higher patient safety and increases the sustainability of the clinic.

Did you know?

The concentration of alcohol in ABHRs is usually described as a percentage. This percentage may be expressed by volume (v/v) or weight (w/w). If you want a true comparison of the alcohol content in different ABHRs, please make sure to compare the same metric (weight or volume)! For example, 72% volume of ethanol is only 65% in weight.

For HARTMANN products you will always find the concentration as w/w.

Visit our website for more information or contact our expert team for our conversion calculator.

www.hartmann-science-center.com/

Sources

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3. Verbund für Angewandte Hygiene, Desinfektionsmittel-Liste des VAH: https://vah-liste.mhp-verlag.de (accessed on 02.08.2023)
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5. Dharan S et al. (2003) Comparison of Waterless Hand Antisepsis Agents at Short Application Times: Raising the Flag of Concern. Infect Control Hosp Epidemiol, 24(3):160-164.
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