

## HandiSan TECHNICAL INFORMATION



effective against  
**MRSA and C. difficile**

### BACKGROUND

To hand hygiene in the following settings:

- Healthcare setting
- Office environment
- Food handling environment

Hospital acquired infections, known as nosocomial infections (NIs), remain a global concern. Hand hygiene within a **HEALTHCARE SETTING** is therefore of paramount importance within any infection control policy.

Nurses wash their hands some 13 to 30 times each day (and some up to 44 times). Unless soap and water is close to hand i.e. by a patient's bed, compliance in washing hands regularly is poor and the incidence of infection higher. Compliance for regular hand cleaning is aided by

- 1) easy access to a bedside sink and
- 2) provision of a readily accessible alcohol gel dispenser. (1)

Alcohol based hand gels are now widely used in UK hospitals and other healthcare establishments such as **nursing homes**.

Healthcare environments are not the only places where infection is a concern. Increasingly the **OFFICE ENVIRONMENT** is coming under scrutiny:

Dirty or unwashed hands are a major factor towards infection with scientific studies proving that keyboards can contain germs such as E Coli, MRSA and Salmonella. 97% of workers use a computer at work and 90% at home, yet little consideration is given to the crisps, biscuits, saliva etc. cultivating in the desking environment (one survey showed that nine out of ten workers admitted to eating their lunch at their desk).

According to the studies, telephones have up to 25,127 germs per square inch, keyboards 3,295 per square inch and computer mice 1,676 per square inch. Other findings show that an office keyboard is 14 times more contaminated with bacteria than a typical toilet seat and is an easy and fast channel to disease spread such as flu.

Hand hygiene also remains a major concern for personnel working in the food sector and **HANDLING FOOD**. Hands offer an easy route for the spread of harmful bacteria and toxins. Effective hand washing is considered the most important aspect of personal hygiene for food handlers to prevent cross-contamination of food and avoid causing food poisoning.

By law, those working with food must wash their hands when entering a food handling area e.g after a break or going to the toilet (the number of germs doubles on fingertips after using the toilet), before

preparing food, after handling raw foods or touching food waste or rubbish, after cleaning or after blowing their nose. (2)

## **EFFICACY**

Washing hands with plain soap and water has basically no antimicrobial activity – it can reduce ‘transient’ bacteria, but has no real effect on ‘resident’ hand flora (i.e. permanent inhabitants of the skin). Dermal tolerance with both plain and medicated soap is rather poor with frequent washing causing skin dryness and irritative contact dermatitis (now a major occupational health concern) – which may become infected. (3)

A much greater antimicrobial effect can be achieved with ethanol with the best effect being achieved at a concentration of 60-85%. The activity is broad and immediate. **Alcohol-based hand rubs having good or excellent antimicrobial activity against viruses, fungi, mycobacteria and gram-positive and gram-negative bacteria.** (4) A 70% alcohol concentration has been recognised for at least 40 years as the optimum concentration for disinfectant properties.

Fungi – less commonly found than bacteria as causative agents of NIs, but their frequency and importance are increasing.

### **Some key offenders:**

***Staphylococcus aureus*** – more commonly known as the **MRSA superbug**, is the most common gram-positive bacterium causing NIs. Colonisation of healthcare worker’s hands has been recorded as between 10.5 – 78.3% and lasts for at least 150 minutes. When present in food, this bacteria produces a toxin that can cause severe food poisoning, survive boiling for long periods and grow at temperatures as low as 7°C.

***Escherichia coli*** – the most common gram-negative bacterium, causing mainly urinary tract infections. Another bacteria that can cause food poisoning.

***Pseudomonas aeruginosa*** - also a very common gram negative bacterium, chiefly causing lower respiratory tract infections.

***Clostridium difficile*** – the main spore-forming bacterium causing NIs and now being termed the **latest superbug – the incidence of infection with this bacterium rose by 8% in 2006 in the over 65’s**. An estimated 15-55% of all cases of antibiotic-associated diarrhoea are caused by this bacterium. Its ability to produce spores allows it to survive outside the body for up to seventy days, living on floors and toilets. (5) It can even protect itself from some cleaning agents, although bleach is normally effective.

**HandiSan** has been shown in tests to be highly effective against all these prominent bacteria (refer testing).

In relation to viruses, most colds, for example are caused by rhinoviruses, which spread through the air when someone with an infection coughs or sneezes. Viruses can be inhaled, but an individual is

more likely to get sick if they touch their eyes, nose or mouth after handling a contaminated object. Telephones, computer keyboards and doorknobs are especially notorious for harboring these germs.

But colds aren't inevitable. Scrubbing the hands for at least 15 seconds with ordinary soap and water or using an **alcohol-based sanitiser** destroys most viruses, which can linger on surfaces for up to 48 hours. And although hand washing remains the best defense against illness, common-sense suggestions such as these also can help:

- Use a paper towel rather than a cloth one to dry hands with.
- Regularly clean desks, phones and computer keyboards — at home and at the office — with sanitising wipes.
- Avoid sharing dishes, towels or silverware.
- Make a serious effort to manage stress, which lowers immunity and may make an individual more susceptible to illness.
- Boost natural immunity with regular exercise and a healthy diet.

Hand washing is the single most important activity for preventing cross infection. Drying hands thoroughly is essential – 1000 times as many germs spread from damp hands as dry hands.

## **ACCEPTABILITY**

The problem with frequent washing with soap (medicated or non-medicated) and water is the tendency to cause skin dryness, cracking or redness. A single hand wash significantly reduces sebum (oil) content for up to an hour and adversely affects skin hydration – frequent hand washing means that the skin does not get a chance to recover.

Likewise, continual use of an alcohol hand rub can also lead to dryness and thus lower compliance. It is therefore usual practice to add emollients, such as glycerine, to the hand rub.

- ↪ An alcohol-based hand rub with emollients has been shown to produce significantly less skin irritation and dryness than soap and water.

**HandiSan** contains both emollients and a rehydrating system to protect the skin from dryness and irritation. Its unique formulation is specifically designed to allow effective coverage before drying in order to achieve effective all over kill.

In addition, **HandiSan** dries in a manner so as to avoid the unpleasant cold shock associated with other alcohol based hand gels and to leave the hands feeling non-sticky or 'heavy' or 'coated'. The overall impression in our trials after application is that of a smooth well conditioned skin.

## **TESTING**

The most widely used test in Europe to evaluate the efficacy hand-hygiene agents is European Standard EN1500 – 1997 (Chemical disinfectants and antiseptics. Hygiene hand-rub test method and requirements) which **HandiSan** passes comfortably. As stated in the most recent WHO guidelines (January 2006 – advanced draft) any EN validated alcohol hand gel formulated product is regarded as acceptable and complies with their requirements. (6)

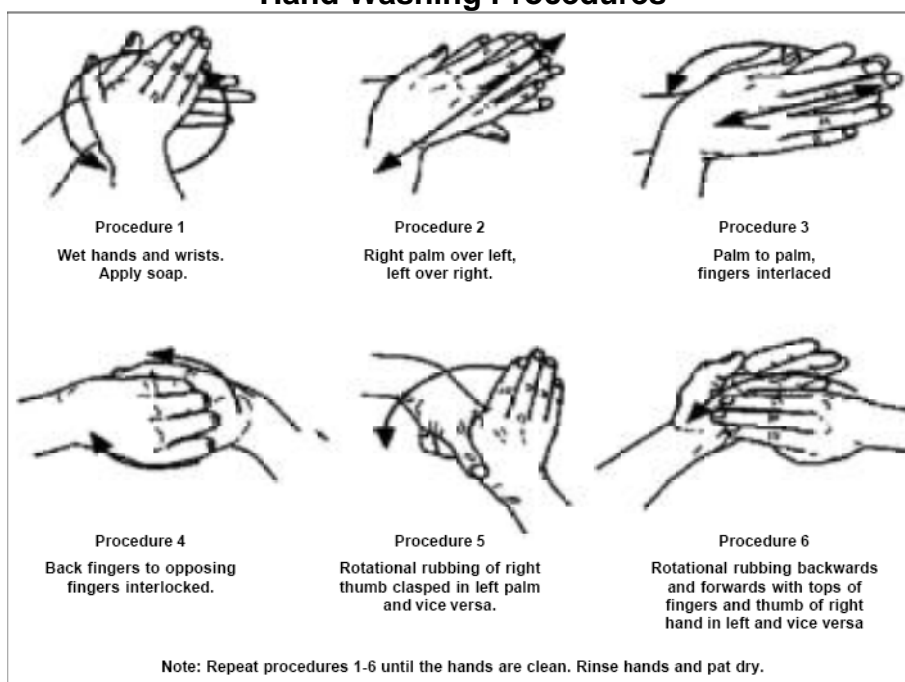
**HandiSan** also meets the requirements of EN12054 and, because it contains an additional antimicrobial agent, also conforms to EN13704, the European standard for efficacy against *C. difficile*.

## **PACKAGING INFORMATION**

Delf offers the following pack sizes:

Pack Size	Cap Type	Comment
30ml (sample)	Pump dispenser	
50ml	Flip cap / pump dispenser	Pocket clips, lanyards available
100ml	Flip cap / pump dispenser	Pocket size
500ml	Pump dispenser	Suitable for desk top
5 Litres	Standard cap	For refilling dispensers/ other packs Dispensers available

### **Hand Washing Procedures**



Source: World Health Organization. Regional Office for Western Pacific. *Interim guidelines for national SARS preparedness*. Manila: WHO, 2003, page 45.

- Rub hands together, covering all surfaces of hands and fingers, until hands are dry.
- Do not rinse.
- Note: When there is visible soiling of hands, they should first be washed with soap and water before using waterless hand rubs, gels or alcohol swabs.
- If soap and water are unavailable, hands should first be cleansed with detergent-containing towelettes, before using the alcohol-based hand rub, gel or swab.

## References

1. JM Boyce. (2001) Antiseptic Technology: Access, Affordability and Acceptance. *Emerg Infect Dis.* 7(2).
2. Food Standards Agency (2006). Food Hygiene – A Guide for Businesses.
3. G Kampf, A Kramer. (2004) Epidemiologic Background of Hand Hygiene and Evaluation of the Most Important Agents for Scrubs and Rubs. *Clin Microbiol Rev.* 17(4):863-893.
4. JM Boyce, D Pittet. (2002) Centers for Disease Control and Prevention. Guideline for Hand Hygiene in Health-Care Settings: Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. *MMWR* 2002;51(No. RR-16):1-44.
5. Association of Medical Microbiologists ([www.amm.co.uk](http://www.amm.co.uk)).
6. WHO (2006) WHO Guidelines on Hand Hygiene in Health Care (Advanced Draft).

## OTHER PRODUCTS IN THE DELF RANGE

### Healthcare

Bactericidal Hand Cleaner  
Bactericidal Dishwash Cleaner  
Pine Disinfectant  
Lysol Disinfectant  
Multi Surface Cleaner  
Bactericidal Hard Surface Cleaner  
Shower Tile Cleaner  
Surgical Equipment Cleaner / Sanitiser  
Wet Wipes / Biowipes  
Hand Cleaning / Sanitising / Probe and Equipment Wipes

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**Delf (UK) Ltd.**  
462 Cleveland Street, Birkenhead, Wirral, CH41 8EQ  
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