Introduction to Hand Hygiene

The aim of the ‘In Safe Hands’ Brochure is to assist management in the implementation and control of good hand hygiene practice. It provides background information on hand hygiene and practical guidance on its management in food processing or food service. In the UK alone more than 23 million days are lost to employers each year through diarrhoea and vomiting. For the food producers and retailers who supply contaminated product which results in isolated or large-scale food poisoning outbreaks, the consequences can be disastrous. Penalties can vary from small fines to closure. In most food processing or food service environments the handling of food is commonplace and often impossible to avoid. Cross-contamination by the transfer of pathogenic or food spoilage organisms can be a significant issue. Hands are one of the most common vehicles for transfer of microorganisms to high-risk products and can become contaminated in a number of ways. Lack of hand washing when required and not following a correct hand washing procedure are the most common problems observed.

EU Regulation 852/2004 on the Hygiene of Foodstuffs contains specific requirements relating to hand washing facilities and personal hygiene. This regulation states the following:

In addition to these general requirements EU Regulation 853/2004 on the Specific Hygiene Rules for Food of Animal Origin states that the equipment used by staff for washing hands ... must have taps designed to prevent the spread of contamination.”

The British Retail Consortium Global Standard for Food Safety Version 7 also requires the following:

<table>
<thead>
<tr>
<th>Reference</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>Annex II, Chapter 1 paragraph 4</td>
<td>An adequate number of washbasins is to be available, suitably located and designated for cleaning hands. Washbasins for cleaning hands are to be provided with hot and cold running water, materials for cleaning hands and for hygienic drying. Where necessary, the facilities for washing food are to be separate from the hand-washing facility.</td>
</tr>
<tr>
<td>Annex II, Chapter VII</td>
<td>Every person working in a food-handling area is to maintain a high degree of personal cleanliness and is to wear suitable, clean and, where necessary, protective clothing.</td>
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Criteria Reference | Wording |
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<tbody>
<tr>
<td>4.8.6</td>
<td>Suitable and sufficient hand-washing facilities shall be provided at access to, and at other appropriate points within, production areas. Such hand-washing facilities shall provide as a minimum:</td>
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<tr>
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<td>- Advisory signs to prompt hand-washing</td>
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<td>- A sufficient quantity of water at a suitable temperature</td>
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<td></td>
<td>- Water taps with hands-free operation</td>
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<td>- Liquid/foam soap</td>
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<td></td>
<td>- Single-use towels or suitably designed and located air driers.</td>
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<tr>
<td>7.2.2</td>
<td>Hand cleaning shall be performed on entry to the production areas and at a frequency that is appropriate to minimise the risk of product contamination.</td>
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</table>
**RESIDENT & TRANSIENT BACTERIA**

Hands carry two main types of bacteria, resident and transient.

**Resident bacteria** are a part of our natural flora and are not normally pathogenic. The washing and disinfecting of hands will remove most of these bacteria present on the skin surface, suppressing the bacterial levels for a given period of time. However, the numbers will begin to increase shortly after the washing has been completed. It is virtually impossible to remove all resident bacteria from the skin and tests have shown that after repeated washing large numbers of bacteria can still be recovered from the fingers and thumbs. Resident bacteria are found on the superficial skin surface (epidermis). However, 10 to 20% of this total resident population are within the epidermal layer of the skin and in skin crevices where they are very difficult to remove or kill. Types of resident bacteria vary from person to person and generally don’t cause food poisoning. However, the exception is *Staphylococcus aureus*. It is estimated that 40% of people carry this microorganism as part of their resident body flora, which can easily be transferred to the hands. Infected cuts and boils can be a significant source of *Staphylococcus aureus*. Thorough hand washing can reduce the number of microorganisms but it is impossible to remove or kill all of them.

**Transient bacteria** are those that are found on the surface of the skin but do not normally reside there. They have been transferred onto the skin from another source either by direct contact or by aerosol. Transient bacteria can cause infection on broken skin.

Transient bacteria have been collected on the surface of the hands, usually on the palms, under fingernails and on the fingertips. Unless these bacteria can be removed effectively they are likely to be spread from hand to food contact surface, thereby presenting a cross contamination risk. The type of transient bacteria on the skin will be varied and dependant on what has been touched. Pathogens such as *Escherichia coli* O157, *Salmonella* spp, *Shigella* spp and *Clostridium perfringens* can all be carried on the skin.

In addition high levels of transient microorganisms are found attached to hand, finger tips and fingernails surfaces after visiting the toilet and after handling raw food. These may include a significant number of pathogens. Broken skin, cuts, boils and spots cannot effectively be cleaned by a hand washing routine and should therefore always be properly covered.

**BARRIERS TO HAND WASHING**

The objective of the food handler when washing their hands should be to reduce the number of transient bacteria to a safe level. Effective hand washing relies on friction and dilution to achieve this. A single wash procedure is required after the following situations:

- Insufficient management commitment and enforcement
- Failure to educate and motivate employees
- Inadequate facilities, soap or drying materials
- No effective system in place for hand washing
- Poor access to hand wash sinks
- Poor quality hand soap which can result in a weak lather or dry and cracked skin
- Water temperature too cold/hot making it unpleasant to wash hands
- Using a stiff nailbrush resulting in cracked skin or inflammation
- Not enough time allocated for hand washing
- Lack of notices/posters
- High staff turnover

Understaffing has also been related to ineffective personal hygiene. This was a significant factor for the largest outbreak of *Salmonella* spp. ever reported. A clear relationship between understaffing and poor hand washing was identified in this particular outbreak in Brazil.

Religious objection to alcohol sanitisers can also be an issue and clarification with regards to their use should be sought before implementation.

**EFFECTIVE HAND WASHING**

The majority of people can appreciate to some extent the importance of correct hand washing, but as a manager do you provide sufficient facilities, training, motivation, enforcement and monitoring to ensure this important part of hygiene management is carried out? Some of the most common reasons for failing to wash hands correctly are:

- Insufficient management commitment and enforcement
- Eating, smoking, coughing or blowing nose
- Handling waste
- Light cleaning tasks
- Handling external packaging
- Before and after putting gloves on
- Touching dirty surfaces (there may be instances where a double hand wash procedure is required)
- Handling ready-to-eat food
- Heavy cleaning tasks

The number of transient bacteria on hands can be reduced by 3 log by following a single hand washing and drying routine. A double wash procedure has been shown to be effective in reducing contamination to safe levels even when hands are heavily contaminated. It may also involve the use of a soft bristled nailbrush during the first wash. The physical action will assist in dislodging debris and bacteria from under and around the fingertips and nail.
IN SAFE HANDS

EFFECTIVE HAND WASHING

A hand wash procedure involves the following stages:

- Wet hands thoroughly
- Apply soap and produce lather
- Rub hands and fingertips vigorously ensuring the fingertips, around the nails, between fingers, around the thumbs, the forearm and wrists are thoroughly massaged (this should take approx. 20 seconds)
- The hands should be thoroughly rinsed under free flowing warm water for about 10 seconds
- The hands must be thoroughly dried

The hand wash and drying procedure should take approx. 45 seconds to complete, which doesn’t include the application of a hand sanitiser.

This can be applied and rubbed into the hands whilst the person is making their way (where possible) to their point of work.

Research has shown that scrubbing with a nailbrush can provide over 350 times greater removal of transient bacteria from the hands than washing without. Scrubbing underneath the fingernails was found to offer the most significant reduction.

If nailbrushes are to be used in the hand washing procedure choose the type carefully. If the bristles are too firm regular washing may damage the skin; causing the skin around and under the fingernail to become inflamed or split.

Soft nailbrushes should ideally be used to help loosen the soil around and under the nail.

However, in most food manufacturing environments and in the health care sector, the use of nail brushes has significantly decreased over the years due to the difficulties in effectively managing them from a hygienic point of view. It is also viewed as being difficult to enforce their use on a regular basis due to the perception of users that the nail brushes damage the skin and increase the risk of dermatitis.

Between the nail and finger is a difficult area to clean and the longer the nail the more difficult. It is recommended that food handlers keep short trimmed nails to not only make cleaning of hands easier, but also to reduce the risk of infection under the nail caused by trapped and rotting food debris.
Hand Hygiene Products

Individuals will have different levels of resistance to hand care products; most will suffer no ill effect while others may suffer skin irritation or even dermatitis. As a food handler, regular hand washing is essential and needs to be encouraged so the soap must be pleasant to use.

Dermatitis is a common condition that can affect workers in many industries. The signs are redness, swelling, blisters, flaking and cracking of the skin. This dermatitis (or eczema) is caused by contact with certain chemicals. The skin acts as a barrier and if damaged will lose its ability to protect, leading to irritation. The irritation can be caused by direct damage to the skin or by sensitisation to a chemical. In the latter case this involves an immune system reaction.

Operatives working within a food production area may wash and sanitise their hands many times throughout the working day. All detergents contain surface-active agents (surfactants), which are designed to remove debris; regular and prolonged washing can remove some of the protein and fats in the protective layer of the skin surface. Hand soaps should be formulated to minimise damage to the skin; good quality hand soaps contain ingredients to remoisturise the skin and therefore help maintain its elasticity and its ability to act as a natural barrier.

Hand soaps are available in the form of a bar, liquid and foam. Bar soaps are difficult to manage in the food industry, could become a source of contamination and look very unprofessional. Generally liquid soaps are used from wall-mounted dispensers with some dispensers being reliable and other systems using replaceable sealed cartridges. Soaps can be a good growth medium for bacteria, although good quality hand soaps should have preservatives built into them to reduce the risk of bacterial growth. Reliable soap dispensers can easily become contaminated and subsequently grow high populations of bacteria if the hand soap dispenser is not routinely stripped down for cleaning. Modern reliable hand soap dispensers, such as those sold by Holchem, can be easily disassembled for effective cleaning and disinfection. A replaceable sealed cartridge mechanism ensures that the soap is dispensed free from contamination and also removes the potential of clumsy and messy refilling of containers.

Barrier creams (sometimes known as pre-work creams) claim to reduce the physical action of a specific substance on the skin. Barrier creams are not used prior to food production because of the risk of food contamination from the cream.

Remoisturisers (sometimes known as after work creams) help replace moisture and temporarily restore the barrier effect of the skin, thereby allowing the natural remoisturisation of the skin to take place. Remoisturisers should not be applied prior to direct food handling because of the risk of food contamination. It is recommended when leaving production areas that operatives wash their hands then use a remoisturiser to protect the skin surface.

Whilst hand washing will be an essential element of any hand hygiene programme, it is important to recognise that all hand washing will have an effect on the skin. If washed frequently the skin on the hands will be damaged, making it easier for transient organisms to colonise the skin, which may be more difficult to remove. If hands are washed more than 20 times per day, then most dermatologists would consider that this is a cause for concern.

Where hands are not visibly contaminated with organic matter, but there is a concern about transfer of potentially pathogenic bacteria via the surface of the hands, then an alcohol sanitiser should be considered. These are quick acting, effective and if correctly buffered do not cause skin damage.

In the health care sector, where prevention of infection is an important issue, the emphasis is now more on limiting hand washing to where it is really necessary and using alcohol sanitisers as an alternative.

Antimicrobial V Non-Antimicrobial Soaps

Although antimicrobial soaps have a distinct advantage over non-antimicrobial versions in that they can achieve a higher bacterial log reduction during a standard hand washing procedure, several lab studies have found that the use of non-antimicrobial soaps can be nearly as effective. Rotter et al (1999) determined that washing the hands for 30 seconds with a non-antimicrobial soap can achieve up to a 2.8 Log reduction, close to the typical figure of 3 Log achieved when using an antimicrobial soap. Larson et al (2003) also found that there was no difference between the use of an antimicrobial and a non-antimicrobial soap in reducing the bacterial counts on the skin. There is some evidence that because antimicrobial soaps are more aggressive than non-antimicrobial soaps that, they can have a long term undesirable effect on resident bacteria (typically harmless). The defence provided by the resident bacteria may become weaker and thus allow transient bacteria an opportunity to colonise the skin.

The most important part of any hand washing procedure is the technique employed and the time spent on it.
HAND DRYING

This is the final stage of the hand washing process and is critical to achieving clean hands but can often be overlooked. It has been demonstrated that the dryer the hands after proper hand washing, the lower the level of cross contamination from hand to food or to food contact surface. One study found that 1,000 times as many microorganisms can be spread from damp hands than with dry hands (www.foodlink.org.uk 2008).

The most effective drying method will continue to be debated. Warm air dryers, disposable paper towels or cabinet towels may all be used but each has drawbacks. Warm air dryers are generally not recommended in food processing areas as the user is unlikely to achieve thorough drying of the hands, leaving the hands damp and promoting microbial growth. People may also become impatient and use their work garments to finish drying their hands. Research carried out on 35 blow dryers found that 100% of the dryers inlets and airflows and 97% of the nozzles contained Staphylococci and Micrococci probably from hair and skin, 95% showed evidence of potential Staphylococcus aureus and at least 6 species of Enterobacteria were isolated from the air flows of 63% of the dryers. (Redway et al).

Dyson and other manufacturers have recently introduced the Airblade type hand dryers which have proven to be very popular and are making inroads into the food industry. These types of automatic hand dryers scrape the water off the surface of the skin by blowing air at speeds of up to 400 mph.

If this type of hand dryer is to be used in a food processing environment, particularly a high care one, then it should be trialled alongside a traditional paper towel system to determine its effectiveness in ensuring the microbial loading on hands after drying is as equal or better.

There may be some environmental benefits to using automatic hand dryers as it cuts down the amount of waste generated and saves the time required emptying bins and disposing of it. Further investigatory work is required to validate these assumptions.

Paper towels can now be dispensed in a variety of ways. There is obviously a benefit if the dispense does not involve touching the dispenser parts as buttons or levers to dispense the towel are a cross contamination point. Units that avoid hand contact either by directly pulling on the towel or by automatic means have a distinct advantage.

Storage of paper towels also needs careful consideration since they are extremely absorbent. Ideally they should be kept in a dry area where the risk of becoming damp is negligible.

Redway et al in their work demonstrated that the most effective drying method was found to be the use of disposable paper or cloth towels.

AUTOMATIC HAND DRYERS VERSUS HAND TOWELS

In a study by the Food Hygiene Department at Campden BRI the use of paper towels was compared against warm air dryers (Taylor & Kaur 2000). The study showed that there was no significant difference between the two approaches with respect to the amount of bacteria recovered from the hands after washing and drying had finished. The study also concluded that there was no evidence to suggest that warm air dryers contaminate the local atmosphere.
Hand sanitisers have traditionally been based on alcohol, although some newer generation products are alcohol free. The solution is rubbed into the hands after thorough washing and drying and allowed to evaporate on the hands. The hand sanitiser, which may be an alcohol only or in combination with a biocide, provides a further reduction in microorganisms on the skin surface. Alcohol-based hand sanitisers often contain an emollient system that helps reduce the drying of the skin caused by the alcohol.

Hand wash programs are an effective product and have the additional benefit of being attractive to the Muslim community, the long-term effects of the biocides to human skin and their presence in the environment are largely unknown. Further research will be required over the forthcoming years to alleviate any concerns with regards to the use of biocides in sanitisers.

In terms of hand hygiene, it is generally accepted that hands must be cleaned of potentially pathogenic transient microorganisms. Furthermore, the hyperhydrated skin is more easily penetrated by both chemicals and microorganisms. It should also be considered that the skin remains hyperhydrated for some considerable time after gloves have been removed and is thus vulnerable from contact with contaminated surfaces.

In Germany, this has been recognised in the Hazardous Substances (TRGS401). Wearing of occlusive gloves is required. Gloves are graded using a system called AQL (Acceptable Quality Level), as shown in the table below:

<table>
<thead>
<tr>
<th>Level</th>
<th>AQL</th>
<th>Faults per 100 gloves</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>4.0</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>2</td>
<td>1.5</td>
<td>&lt;1.5</td>
</tr>
<tr>
<td>3</td>
<td>0.65</td>
<td>&lt;0.65</td>
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</table>

The development of a glove policy is an essential component of the management of personal hygiene in a food manufacturing environment.

When selecting a hand soap or hand sanitiser, consideration should be given to the antimicrobial efficacy of each product, especially the sanitiser. A clinical study (Hayes RA et al.) performed among surgical Intensive Care Unit Health Care Workers found that cleansing hands with antimicrobial wipes was almost as effective as hand washing with soap and water. However, it should be noted though that disinfectant wipes are not a direct substitute for effective hand washing and disinfection and should only be used as a compliment to the existing hand wash program.

When specifying gloves it is important to understand the standard that is required. Gloves are graded using a system called AQL (Acceptable Quality Level), as shown in the table below:

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</table>
Most food poisoning outbreaks are caused by negligence or ignorance and a failure to implement good hygiene practice. That is why food processors should ensure that they have various management systems in place to ensure that standards are met.

A knowledgeable and motivated workforce that understands their responsibilities is the key to good food production. The following elements need to be in place to ensure the system is effective:

### Management of Hand Hygiene

**Setting the Standards**

To determine the standards of hand washing required in a food premises a risk assessment must be conducted first. This should take into account where hand wash facilities are required, when hands need to be washed, what cross contamination routes there may be, training, monitoring etc.

Whilst conducting a risk assessment it should be remembered that a good hand wash followed by a thorough drying procedure will typically realise a 3 log reduction with a further 1 log reduction achievable by the introduction of an alcohol based hand sanitiser. When an assessment has been completed, swabbing of hands should take place to verify that the hand hygiene procedure has been effective.

A thorough double wash procedure followed by the use of an alcohol sanitizer should nearly always be sufficient in most food manufacturing environments. Finally, it should always be remembered that the point at which a swab is taken only reflects that point in time. Hands can soon become contaminated during normal working procedures so it is just as important to ensure that operatives are aware of the importance of effective and regular hand washing throughout the working shift.

It is becoming common practice to wash hands after putting on a head covering and any footwear but prior to handling the overall. After hand washing the overall is put on and the person leaves the changing area. Hands are then washed for a second time. After drying a hand sanitiser is often applied before handling any food.

### Facilities

The quality and quantity of the hand care facilities provided by a food processor will determine the effectiveness of a site’s hand care policy. The planning and attention to locations of hand care facilities must be given careful consideration so as not to impede on existing operations. Ideally hand care facilities should be provided at entrances and exits to production areas, toilets and any other locations established from the planning phase.

Once the locations for hand care facilities have been determined the following should be provided:

- Sufficient hand wash sinks
- The hand wash sinks to be fed with a good volume of warm water (approx. 34-38°C @ 4-8 litres min)
- Operation of the water should be via a knee operated valve or automatic sensor valve
- Hand wash sinks should be equipped with hand soap dispensers and a suitable drying method
- Hand wash sinks should be clearly separated from the areas, toilets and any other locations

### Policy

Each food processor should have a Hygiene Policy in position covering all aspects of their provisions for hygiene management. Amongst the provisions of the policy should be a section on personal hygiene and hand care.

From this policy the site can set the requirements for standards, facilities, training, implementation and monitoring. The policy should also make provisions for contractors, visitors and customers.

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The changing procedures employed throughout food premises can vary from site to site. The procedure used may vary because of the nature of the product that is produced, layout of the area or historical reasons. Although there is no clearly defined legislation or guidelines available, the following procedure tends to be adopted by most sites, particularly when a high care production environment is encountered.

- Remove outer clothing, such as coats, and place into a locker or hang on rack
- Remove shoes and place into a locker or another suitable means of storage
- Put on clean, disposable hair covering (mob cap or hair net or both) and an additional headgear (helmet, hat, etc.) if required
- Cross barrier
- Put on factory footwear
- Put on coat
- Wash and dry hands
- Put on coat
- Apply post wash hand sanitiser to hands
- Enter production area

If gloves are to be used then these too may require sanitising with the hand sanitiser. It is always good practice to show the correct hand washing procedure.

In 1997 the University of Westminster carried out a survey of the British public’s hand washing habits. It was found that 32% of the people surveyed didn’t bother to wash their hands after using the toilet; of those who did 58% used water only. If this finding is representative then hand hygiene training of staff must be considered a prerequisite of induction to a food processing environment. This training must include all personnel who enter the production areas including visitors or contractors.

The training and education of food handlers is one of the most important factors affecting the success of achieving the standards required. Compliance with a method or procedure will increase if there is understanding and agreement on that requirement. Effective training on hand washing is fundamental to ensure the safe, hygienic and consistent production of food. Effective training results in competency and:
- Enables the staff to carry out their duties in a safe manner
- Promotes confidence and job satisfaction
- Reduces the level of supervision necessary

Any person entering the food processing environment should be able to demonstrate the knowledge of why, when and how hands should be washed and show the correct hand washing procedure.

A hand care training programme should be designed to ensure that:
- Induction, coaching and assessment of all staff are covered
- Actual hand washing demonstrations are undertaken. Adapting the “I show you - You show me” concept. Visual aids can make all the difference to training food handlers and can increase the level of interest in a particular subject. Training methods may include e-learning, videos, PowerPoint presentations and photographs.

UV Inspection Cabinets are a very effective training tool as well because they can show how effectively a person washes their hands. The procedure is carried out by first coating the hands with a fluorescent liquid. The person then washes and dries their hands in the normal manner. When the hands are placed under the UV light within the cabinet any dye not washed away will fluoresce showing the areas missed.

Assessment of hand care training should establish that the trainee understands and can demonstrate competency, including:
- The need for hand washing
- When to wash their hands
- How to wash and dry their hands

Information on the hand washing procedure should be displayed at each hand wash station in the form of posters or signage.

For any system to be effective it is vital that the responsibilities for overseeing it are clearly defined. Management plays a crucial role and without input and commitment the system will surely fail. It is therefore important that management not only set and communicate policy on hand care but must lead by example as well by ensuring they follow the correct hand wash procedure at all times.

Management personnel should also enforce the policy throughout the site’s operations ensuring that the standards for hand care are met and maintained.

A good food business will have a disciplinary procedure in place for smoking outside of designated areas but do they have a disciplinary procedure in place for hand washing non-compliance? There should be a disciplinary procedure in place for hand washing non-compliance. This will act as an additional deterrent in the drive to ensure that the site’s Hygiene Policy is adhered to.

Once the training has been completed the management team will need to monitor compliance to the procedure. This may be carried out in a number of ways and it may be necessary to carry out more than one method of monitoring.

The constant monitoring of hand care should receive the support from management that it deserves. It can be done in a number of ways:
- Observation of individual washing procedure
- Closed circuit television
- Hand swabbing of production operatives
- Actual hand washing demonstrations

Hand washing compliance is a very simple and effective method of reinforcing hand washing procedure. CCTV and visual checks are an effective method of monitoring the hand washing procedure and will identify personnel skipping or incorrectly washing their hands. However, these methods cannot determine if the hands are free of bacteria.

Monitoring should also make provisions for the quality of facilities provided such as hand soap, hand disinfectant, paper towels, cleaning and disinfection of facilities and the quality and temperature of water.

Recording the usage of hand washing/drying/sanitisation consumables is a very simple and effective method of determining if hand washing compliance is occurring. If the usage levels of these items aren’t consistent over a period of time, it may indicate that hand washing frequency is declining.

All results of monitoring should be recorded, along with any actions that are recommended and those that are implemented.
<table>
<thead>
<tr>
<th><strong>Luxor Hand Soap Dispenser</strong></th>
<th><strong>Luxor Hand Soap</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid dispenser for cartridge product H4 Hand Soap (Luxor). The dispenser delivers 0.7 ml per push.</td>
<td>A high quality, gentle soap coupled with skin conditioning ingredients to ensure that no drying or adverse skin conditions occur. H5 Luxor Hand Soap 8 x 1 litre Order Code: OPTH5</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th><strong>Foamsan Hand Sanitiser Dispenser</strong></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Liquid dispenser for cartridge product H6 Hand Sanitiser (Foamsan). The dispenser delivers 1.7 ml per push.</td>
<td>An antimicrobial, non drying post wash hand sanitiser gel. The antimicrobial efficacy of Foamsan has been tested and passes EN12054 and EN1500.</td>
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<thead>
<tr>
<th><strong>Luxury Hand Soap Dispenser</strong></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Foam dispenser for cartridge product H3 Hand Soap (Luxury). The dispenser delivers 0.7 ml per push.</td>
<td>A pleasantly fragranced luxury hand soap. Not suitable for use in food production areas.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Hand Soap</strong></th>
<th><strong>Hand Soap Gel</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand soap is a liquid hand soap combining the cleansing power of synthetic soaps with an emollient that reduces the drying of the skin. It is un-perfumed and is suitable for use in food processing or preparation areas.</td>
<td>Hand soap is a liquid hand soap containing an emollient that reduces the drying of the skin.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Hand Care Dispenser</strong></th>
<th><strong>Hand Care</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable, hygienic, refillable liquid dispenser for Hand Care.</td>
<td>A non alcohol based antimicrobial, non drying, post hand wash hand sanitiser gel.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Refillable Dispensers</strong></th>
<th><strong>Refillable Dispensers</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>M7 Hand Sanitiser 4 x 5 litre Order Code: HLH7</td>
<td>M8 Hand Mousse - Hand Soap 4 x 5 litre Order Code: HLM8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dermolsan Dispenser</strong></th>
<th><strong>Dermolsan</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Durable, hygienic, refillable liquid dispenser for Dermolsan.</td>
<td>A QAC free, non drying, post hand wash/hand sanitiser liquid.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dermolsan</strong></th>
<th><strong>Dermolsan</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>M9 Hand Care - Remoisturiser 4 x 5 litre Order Code: HLM9</td>
<td>M10 Hand Mousse - Hand Soap 4 x 5 litre Order Code: HLM10</td>
</tr>
</tbody>
</table>
IN SAFE HANDS

Hand Wash Station Boards for use in conjunction with all Holchem hand hygiene dispensers (dispenser not included)

**DISPENSER MOUNTING BOARDS**

**FOR HAND SOAP**

- **Hand Soap Board**
  - 1 off
  - Order Code: SKS20155

**FOR HAND SANITISER**

- **Hand Sanitiser Board**
  - 1 off
  - Order Code: SKS20156

**FOR HAND RE-MOISTURISER**

- **Hand Re-moisturiser Board**
  - 1 off
  - Order Code: SKS20157

**HAND WASH POSTERS**

Hand Washing technique posters are self-adhesive, laminated signs for display in handwashing areas. They show the correct sequence and method for washing and drying.

**WASH - DRY WITH PAPER TOWEL**

- **Hand Wash**
  - Dry with paper towel
  - 1 off
  - Order Code: RES0000018

**WASH - DRY WITH DYSON**

- **Hand Wash**
  - Dry with Dyson
  - 1 off
  - Order Code: RES0000021

**WASH - DRY WITH HAND DRYER**

- **Hand Wash**
  - Dry with hand dryer
  - 1 off
  - Order Code: RES0000023

**WASH & SANITISE DRY WITH PAPER TOWEL**

- **Hand Wash & Sanitise**
  - Dry with paper towel
  - 1 off
  - Order Code: RES0000019

**WASH & SANITISE DRY WITH DYSON**

- **Hand Wash & Sanitise**
  - Dry with Dyson
  - 1 off
  - Order Code: RES0000022

**WASH & SANITISE DRY WITH HAND DRYER**

- **Hand Wash & Sanitise**
  - Dry with hand dryer
  - 1 off
  - Order Code: RES0000024

**PAPER PRODUCTS**

Dispensers and refills

**ONE PULL DISPENSER**

The hand towel is dispensed from the centre of the roll and perforated to ensure single sheet dispense.

**ONE PULL HAND TOWEL REFILL**

1 Ply, 750 sheet, blue, 26 gsm., recycled hand towel. 200mm x 285 metres.

2 Ply, 395 sheet, blue, 38 gsm., recycled hand towel. 200mm x 150 metres.

**CENTRE FEED ROLLS DISPENSER**

Smooth, moulded plastic dispenser for centre feed hand towel.

**CENTRE FEED HAND TOWEL REFILL**

1 Ply, 750 sheet, blue, 21 gsm., recycled hand towel. 200mm x 285 metres.

2 Ply, 395 sheet, blue, 38 gsm., recycled hand towel. 200mm x 150 metres.

**ONE PULL HAND TOWEL REFILL**

1 off Order Code: TCR57001

**PAPER TOWEL DISPENSER**

- **Smooth, moulded plastic dispenser for C-Fold & Interfold paper towels.**

**C-FOLD TOWEL REFILL**

1 Pj, 194 sheet, blue, 40 gsm., recycled C-Fold hand towel. 230mm x 310mm. Pack Size: 16 sheets x 194 sheets (3,024 sheets).

**INTERFOLD TOWELS REFILL**

1 Pj, 240 sheet, blue, 45 gsm., recycled Interfold hand towel. 240mm x 220mm. Pack Size: 15 sheets x 240 sheets (3,600 sheets).

**WAVE N’ DRY HAND TOWEL REFILL**

Revolutionary touch-free, hygienic dispenser which delivers a measured length of towel when a hand is waved below the sensor. Facility to add reserve roll which dispenses when the first roll is empty.

**HANDS FREE HAND TOWEL DISPENSER**

Towels are dispensed by pulling with both hands on the exposed sheet. Facility to add reserve roll which dispenses when the first roll is empty.

**WAVE N’ DRY HAND TOWEL REFILL**

1 Pj, blue, 40 gsm., 553 sheet, 200mm x 155 metres. 12 rolls

Order Code: TCR50008/BL-12

**ONE PULL DISISPENSER**

1 off Order Code: TCR57025

**ONE PULL HAND TOWEL REFILL**

1 off Order Code: TCR571255

**PAPER TOWEL DISPENSER**

1 off Order Code: TCR571001

**CENTRE FEED DISPENSER**

Smooth, moulded plastic dispenser for centre feed hand towel.

**CENTRE FEED HAND TOWEL REFILL**

1 Pj, 6 rolls

Order Code: TCR57016/01-6

**HANDS FREE HAND TOWEL REFILL**

1 Pj, 6 rolls

Order Code: TCR57016/01-6

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IN SAFE HANDS

IN SAFE HANDS TRAINING PACK

The In Safe Hands training pack is designed to assist the setting up and control of good hand hygiene practice. It provides the background information on hand hygiene and practical guidance on its management in food processing and food service.

CHANGING PROCEDURE SIGNAGE

Below is an example procedure that Holchem can produce for its customers.

The sequence of change can be illustrated to match the customer's changing procedure.

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DVD SUMMARY – ‘IN SAFE HANDS’

<table>
<thead>
<tr>
<th>Video</th>
<th>DVD format. Running Time 5 minutes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>Why we need to wash hands</td>
</tr>
<tr>
<td></td>
<td>When to wash hands</td>
</tr>
<tr>
<td></td>
<td>How to wash hands</td>
</tr>
<tr>
<td>Target Audience</td>
<td>All staff, visitors and contractors who enter food processing areas.</td>
</tr>
<tr>
<td>Training</td>
<td>Suggest that video is part of personal hygiene training for induction or for more comprehensive training sessions.</td>
</tr>
<tr>
<td></td>
<td>Suggest that training also includes practical demonstration of hand washing. This should be followed by trainee demonstrating correct procedure.</td>
</tr>
<tr>
<td>Introduction to video</td>
<td>Explain scope of video. Ask the question why do we need to wash our hands.</td>
</tr>
<tr>
<td>After video</td>
<td>Reinforce message by asking: Why do we need to wash hands? When do we wash hands? How do we wash hands?</td>
</tr>
</tbody>
</table>

In Safe Hands Training Pack
1 off Order Code: RES0000020
In Safe Hands Brochure
1 off Order Code: RES0000024
In Safe Hands CD
1 off Order Code: RES0000025

Changing Procedure Sign
1 off Order Code: RES0000030/bespoke