In it for the long haul

hygiene and infection control have become a part of our everyday lives. Public and business spaces have borne the brunt of government regulations and controls as they remain the most likely place for infection to spread. The Covid-19 pandemic is here to stay, for a while at least. As a novel virus, it presents an ever-changing and dynamic landscape that requires agile responses and protocols. It may feel like a big ask, but putting in place the appropriate systems and processes is the responsible – and legally required – thing to do.

Infection control

Sanitisers

Recently, questions have arisen over the safety and efficacy of hand sanitisers. You can't enter a store without using them, and new brands are popping up everywhere. So, what's the truth behind the sanitiser?

Annette Devenish, marketing manager at Sani-touch (Infection Protection Products), says, "Medical personnel have been using high alcohol hand sanitisers for many years, very safely. They sanitise every 20 minutes. But it can dry out your skin, and in the fight against Covid-19, soap and water is still your best bet." This is because the coronavirus is protected by a fatty bilayer — washing with soap and water for 20 seconds



dissolves the fatty layer and renders the virus inactive. Devenish says, "We have always used ethanol over isopropyl alcohol (IPA), as it's a more sustainable alcohol that is plant-derived, whereas IPA is chemically derived."

The ideal hand sanitisers are gels that contain a humectant, glycerol or skin softener that prevent the skin from drying out. "The problem with a gel sanitiser is that it needs to be rubbed into the skin until it is dry and not sticky, and often the user doesn't do this, especially if it's a small child who will rub it off their hands, instead of rubbing it in. In my opinion, if you're going to be using hand sanitisers on children, you should try to find an ethanol-based one. A spray sanitiser doesn't provide protection for as long as a gel, but a fine mist spray will cover a large part of your hands quickly," says Devenish.





How effective are wipes?

Scientists tend to agree that pre-moistened wipes are more effective than a spray-and-wipe solution. They also agree that detergent disinfectant wipes provide the right combination of detergent to dissolve the virus' fatty layer, and disinfectant to render it inactive.

Devenish says, "Wipes physically remove dirt bacteria and any micro-organisms, including viruses, that may be present on a surface. These germs get trapped into the fibres of the wipes, allowing the fluid to coat them, deactivate them and destroy them."

Microbiologist Charles Gerba, also known as 'Dr Germ', recommends disinfectant wipes for cleaning other surfaces, too. With spray-and-wipe products, consumers often wipe the product up before it can do its job. But in studies done in people's homes, they are more likely to let a surface air-dry after swabbing it with a disinfectant wipe, giving the disinfecting compounds time to work.

Trolley hygiene

When it comes to trolley sanitising, Devenish says, "Trolley wipes are manufactured with a tried and tested detergent disinfectant solution. The wipe, used correctly, will allow the detergent to clean the trolley handle by picking up the dirt, bacteria, and viruses found on the surface. The disinfectant and the alcohol in the wipe will not only sanitise the surface of the trolley handle, but will allow any germs trapped inside the wipe to have sufficient contact time to be destroyed."



The stock situation

Demand for sanitising products has far outstripped supply, and there is uncertainty surrounding ethanal and IPA supplies, which has worsened this issue considerably. This means a host of new companies are popping up, making and selling sanitisers or supplying ethanol or IPA of undetermined quality and origin, at vastly inflated prices.

Always look for a full list of ingredients, as well as clearly visible SABS marks on the packaging, as these refer to the actual authenticity, quality checks and tests for that specific product.

Devenish explains that "ISO accreditations refer to the quality management system of a business, so a company can claim SABS ISO certification on a 'new' product that may look authentic, but it doesn't say anything about the quality of the actual product." Adding to that, the quality systems could be relevant to the company being a gifting company, so it really says nothing about the quality of, in this instance, the sanitisation product.

"Always ask for the MSDS (Material Safety Data Sheet) and make sure they are 16-point MSDS. Also ask for lab test reports, even if they are not Covid tests (these are not available in SA), as lab tests will show the efficacy of the product. Make sure the labels on the product follow the SA Labelling Act with ingredients listed, as well as warnings and precautions and full company details."

According to the WHO (World Health Organisation) and the CDC (Centre for Disease Control)...

An IPA content of 70%, or an ethanol content of 80%, is sufficient to render the coronavirus inactive

Make sure that the sanitiser you purchase for store use or to sell in your store guarantees this percentage.

In-store sanitisation

Chlorine tablets for in-store spraying

Devenish says, "Actirite D contains a detergent and a disinfectant, so the detergent helps to break down the outer layers of the Covid virus, while the chlorine (NaDcc, which is also known as sodium dichloroisocyanurate) – will then deactivate it. NaDcc has been used in the disinfection of drinking water for over 100 years. It can be used safely in food preparation areas, washrooms, bathrooms, reception areas, sluice rooms and more.





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NaDcc has three times the antibacterial killing properties of a normal liquid bleach. When used for spraying or in food preparation, it is advisable to use concentrations below 200ppms. Stores can use chlorine tablets themselves, as long as they make sure that it is mixed correctly and in the right concentrations. Keep in mind that most disinfectants work better with longer contact times."

Fogging in the event of a confirmed infection

Fogging is mainly suggested in the event that a staff member or customer is identified as having Covid-19 and therefore potentially infecting areas of the store. Fogging uses specialised chemicals that are contained in droplets tiny enough to reach even the smallest nooks and crannies, and provide wide coverage of surfaces. Additional cleaning of high touch surfaces may be required.

Due to the nature of the chemicals used, appropriate PPEs (personal protective equipment) and RPEs (respiratory protective equipment), such as hazmat (hazardous materials) gear and respirators must be used, and the procedure must take place when the store is empty.

An on-site inspection by a trained technician will determine what needs to be done, and the job must be carried out by professionals. Local companies such as turtlejar.co.za, envirotechpest. co.za, and www.rentokil.co.za provide Covid-19-specific fogging, deep cleaning and disinfecting options. Ensure that any products used in a retail store are SABS HACCP approved to be food-safe,



as well as non-toxic, non-corrosive, non-staining and odour-free.

The CDC (www.cdc.gov) recommends waiting 24 hours before you initiate a cleaning procedure, and if you cannot wait 24 hours, then wait as long as possible before initiating a cleaning procedure. If the site has been closed for seven (7) days or longer since the sick person was last there, regular cleaning and disinfecting is sufficient.

Points of sale and points of contact

High-touch areas should be frequently cleaned using an alcohol-based disinfectant (70% or more) and a microfibre cloth (which should be washed in hot water), or a disinfectant/detergent wipe after each customer or use. The CDC has also suggested installing wipeable covers for electronics where possible.

Ultraviolet (UV) radiation can be used to sanitise





high-touch areas, as UV light — in particular, UV-C light — is highly effective in killing germs and viruses. The applications are potentially vast and UV-C light is already being used in some hospitals and airports, air and water filtration systems, but this is always under strict supervision and the units are always provided and installed by qualified technicians. For instance, in the recent surgery ward outbreakof Covid-19 at Netcare Hospital Sunninghill, Johannesburg, UV robots were part of the hospital's arsenal used to clean and disinfect the operating theatres.

For example, UV surface disinfection systems are chemical free and effective against viruses. A high quality system will use superior quality lamps only, which contain the lowest amount of mercury and have a lamp life of ± 9 000 hours. Each lamp is enclosed in a UV transmitting plastic security sleeve, preventing any glass or mercury splintering onto working areas should breakage occur. Sani UV-C handheld devices that are currently used for bedding and touch surfaces could be used on high-touch surfaces in a store.

At this stage, UV point of sale units are not particularly common, so there is a cost consideration and also training would be required for the staff members who would be tasked with using them. However, this is a technology to watch.

Shields

Shields should be installed wherever customers and staff come into close contact, such as tills and



service counters, as this can add an extra layer of protection. Sneeze guards or desk shields can be made from Perspex, acrylic or even plastic. These barriers must be in place for cashiers, and in any environment where staff members need to work within 2 metres of each other, such as back-office areas.

Masks

The South African government, following the advice of the WHO, has made the use of masks mandatory when in public spaces, to help prevent the spread of the disease.

Masks provide a barrier to the water drops (from when we speak, breath, cough, or sneeze) that carry the virus.

They are not a 100% effective barrier and also don't prevent aerosols, the tiniest drops, from travelling, which is why social distancing is also still in force.

The only truly effective mask would be a medical respirator such as an N95 mask, but as these are in short supply, the South African government has requested that medical-grade masks be left for use by healthcare personnel. There are guidelines in place for fabric masks (these can be found on the government websites for the Department of Health and the Department of Trade and Industry – you can find the downloadable PDF here: http://www.health.gov.za/index.php/component/phocadownload/category/631).







Mask guidelines

• Masks must fit well and be comfortable, especially for store staff who will be wearing them for extended periods of time. Usually the best fit is provided by inverted v-masks. Masks should not be too tight, too small, or too loose. Beards can also interfere with the effective fit of a mask, so adjust them accordingly. The most comfortable head fastening differs from person to person, so allow staff to choose between head elastics, ear loops or ties. Masks must cover the nose and the mouth; wearing your mask just under your nose renders it useless. Either 2- or 3-ply masks may be used, but 3-ply masks or masks with a middle filter layer are considered more effective.

- In essence, 2 layers are sufficient, although a 3-layer system that incorporates a non-woven or similar filter layer between the outer and inner fabric layer is better. The inner layer should be soft and non-irritating. Water-repellent fabrics should not be used, as these do not absorb water droplets. The fabric should not wet easily or accumulate a lot of water. It must be a breathable fabric, and synthetic fibres are recommended due to their quick-drying properties. The outer layer should be of a woven, warp-knitted, non-woven fabric that does not allow liquids to move through it. Water-repellent qualities are a bonus here, but fabrics should not restrict normal breathing.
- Staff wearing cloth masks covering mouth and nose must be given time and space to take a break safely.
- Face shields provide an alternative to masks, but also take some getting used to. If you require staff to wear these full-time, ensure that you choose a brand with a comfortable and adjustable headpiece. Too flimsy a plastic will tear easily and require frequent replacement. Face shields provide eye protection, which cloth masks do not. This is important, as the eyes are one of the entry points for the virus.
- Staff with glasses should be provided with glasses-friendly cloth masks (with a nosepiece). There are also face shield options designed for wearing with glasses (usually a foam piece at the headband that holds the shield further away from the face).

The National Institute of Communicable diseases (www.nicd.ac.za) has the following guidelines that must be shared with your staff:

- In line with the protocol that says avoid touching your face with your hands, the outside of a face mask should never be touched when wearing them – fidgeting with the mask repeatedly is strongly discouraged.
- Do not lower the face mask when speaking, coughing, or sneezing.
- The inner side of the face mask should not be touched with hands.
- Face masks should cover your nose and mouth entirely.
- When removing a mask, first wash or sanitise your hands. Remove mask. Place in safe bin for washing. Sanitise hands again.
- Wash fabric face masks with soap and water and iron when dry.

Quality control

Thermometers and other equipment should meet the required ISO/IEC, SANS, DKD and SIT standards and guidelines, and these must be either on the packaging, or easily available from the supplier. Keep in mind that a temperature check is by no means a failsafe, as asymptomatic spreaders may not show any symptoms at all, including fever, cough, or shortness of breath.

According to the Department of Health guidelines, thermometers must be of the digital contactless infrared variety, but no specific WHO standards have been tabled at this point.





Visors or face shields should meet the following standards: EU PPE Regulation 2016/425, EN 166, ANSI/ISEA Z87.1 or equivalent. You can find these guidelines at www.health.gov.za.

Systems and procedures for keeping staff and customers safe

Systems and procedures for sanitisation and infection control should be based on science, not guesswork.

The Department of Trade and Industry, the WHO and the CDC are all good resources for finding those guidelines that best meet your store's requirements. This list is by no means exhaustive but it does cover some of the most basic guidelines:

- Access for customers and staff. This entails keeping track of, and, if necessary, controlling numbers, and ensuring hand-hygiene.
- Temperature checks. This is mandatory for all staff for recording and, in the event of a confirmed case, contact tracing.
- Regular cleaning protocols mean cleaning staff will no longer only be coming in at night or in the early morning, but all through the day.
- High touch areas such as handles, till points and admin office spaces must be frequently cleaned and disinfected. This also refers to the disinfecting of baskets and trolleys before and after every use.
- Hand washing by staff must be mandated specify set times and actions that require hand washing.

- Social distancing must be implemented for staff (within all areas of the store and also while on breaks). Staff should be trained on how to maintain social distance with shoppers. Floor guides for queues should be used.
- Adequate signage regarding the compulsory use of masks and social distancing should be displayed for customers and staff to see.
 Customers should know that they will be refused entry if they fail to wear a mask.
- Compliancy. All staff should be compliant with regards to cloth masks or face shields and gloves where necessary.
- Quick response. If a staff member shows signs of infection (dry cough, fever, shortness of breath, a tight chest, loss of sense of smell or taste), a process must be put in place to ensure
 - the staff member can self-quarantine for 14 days
 - other staff members are monitored
 - areas where the staff member had contact are thoroughly cleaned.
- Confirmed infections. If there is a confirmed infection, your store will probably need to be closed and fogged. Self-isolation will also need to be implemented by staff who came into contact with the infected person and there will be a process of contact tracing.

Social distancing

Global guidelines suggest 6ft or 2m is adequate for people in a regular social setting. This can be hard to manage, particularly in smaller stores where floor space is at a premium. Unfortunately, you may need to rely on your customers to practice social distancing for themselves, although management of queues should be available if necessary (and don't just leave this to regular staff, a manager should be available to back them up if needed). Education is key, but monitoring by managers and senior staff is essential – store shutdowns due to staff infection are costly, and impact sales, revenue and also reputation – customer trust can be damaged if infections happen repeatedly.

Access control

Store entrances and exits

Having a staff member (usually security) welcoming customers while also ensuring masks are used, hand sanitiser is applied and trolleys or baskets are sanitised, is the easiest way to ensure compliance. It can also set the tone for customers, so ensure your access control team is trained, understands the need for these precautions, is professional, and able to welcome customers cheerily. Stores, particularly popular stores or those with smaller layouts, must control the number of shoppers within a store in order to help maintain social distancing. According to the Covid-19 portal https://sacoronavirus.co.za/faqs/, 2 metres should be maintained when out in public, but there is also reference to 1 metre as the minimum. Most stores are following the 1.5 metre guideline - one customer per 1.5 metres. This can still, however, go very wrong.





If you are using separate entrances and exits, there must be clear communication regarding the number of shoppers entering and exiting — this will require multiple staff members coordinating and communicating with one another. There's nothing more frustrating for a shopper in a queue to see the person responsible for entrances being distracted and missing the load of shoppers who exited across the way. Queues must be clearly marked and arranged. Access cards or pegs are easier to use, but must be sanitised after each use (a bucket to drop pegs into that can then be sprayed with sanitiser is quick and effective).

If your staff (instead of professional security services) are controlling entrances and exits, they must undergo complete training — a quick five-minute brief doesn't cut it. Your store should also have protocols in place that enable access staff to manage confrontational shoppers, or those who refuse to follow the rules. Rules for entry should be clearly displayed on the exterior of the store.

Automatic hand washing and hand sanitising stations

A foot-controlled sanitiser dispenser for customers – in theory – does away with the need for a dedicated staff member spraying hands. However, the question then becomes one of compliance, as you still need to ensure that shoppers are using the system. Even with a foot-controlled sanitiser, it is advisable to have staff monitor usage.

Due to the potentially harsh nature of highalcohol hand sanitisers, and the fact that washing



for 20 seconds with soap and water is still the most effective form of hand sanitisation, staff should have access to hand washing stations. If the store cannot provide enough of these to accommodate social distancing, or cannot provide sufficient stations, a mobile unit is an alternative option. Mobile automatic handwashing stations can be rented or bought. "At around 13kg empty and measuring 100cm x 45cm x 50cm, these units can easily be moved and positioned according to a store's needs," says Godfrey Sono, director, Mo-Wash. "Units that are solar or battery-run won't impact on your energy usage, and those that use refillable water and storage tanks also do not require plumbing." These stations can use any form of soap – liquid or bar – and have sensors that automatically initiate a 10-second wash (therefore two full washes meet the requisite 20 seconds). The battery is also long-lasting and may only need to be replaced after a year.

Key learnings

This is a dynamic and constantly evolving situation. We are still learning about this virus, how it is transmitted, how long it can survive on surfaces in real-world conditions, and how best to treat and manage it. Information will change as we learn more, so don't become complacent and make sure you stay on top of new developments (the Department of Health, the WHO and the CDC are good resources for verified scientific data).

Check your store protocols on a regular basis, evaluate and adjust where necessary. Most scientists currently seem to agree that this virus will be with us in some form for quite some time, so sanitisation, hygiene and infection control measures should be viewed as long-term, and part of corporate culture and continued staff training. It is also vital to keep your staff informed of up-to-date developments, not only because education is key to managing and controlling this virus, but because knowledge is a good way to reduce fear and uncertainty.

Devenish says, "In the past, cleaning and sanitisation have been done before and after production or at the beginning and end of a shift, but Covid-19 has taught us is that in between and regular consistent cleaning is so important.

Contact times are also key. Ideally, you should first clean off dirt and grime with soap and water, followed by sanitising surfaces with a disinfectant — leave these to dry for maximum contact time and don't wash them off. To save time and labour, a one-step approach with a detergent disinfectant is a good way to go."







the handling of produce by customers, allowing the return of goods, but with specific protocols in place (Health and Safety regulations in the UK suggest separate holding areas for returned goods, as well as disinfection options depending on the product), the rotation of high-touch products, and one-way systems in store aisles, with clear directions.

Coronavirus myths

Can the virus spread through food items?

The Coronavirus is spread from person-to-person through respiratory droplets. Currently, there is no evidence to support transmission of Covid-19 associated with food.

Before preparing or eating food, it is important to always rinse the food with water and wash your hands with soap and water for 20 seconds for general food safety. However, it is critical to keep all food preparation surfaces and equipment clean and sanitised at all times.

International protocols to watch

The US and the UK have introduced several systems that could work here, including limiting

What to do as lockdown levels change

- Regularly reinforce compliancy to protocols to your staff. As lockdown levels lift, many people are becoming complacent about hygiene protocols – watch out for changing attitudes in your employees and ensure they are still following best practice. Complacency is going to be an ongoing challenge, as many of these systems and procedures are tedious, masks are uncomfortable and hand sanitiser is not kind to the skin.
- Together with frequent handwashing, masks and social distancing remain are still the best forms of defence, and remain compulsory for all retailers. Ensure your staff comply, even when out of sight of customers.

- Weekly or even more regular meetings where you address staff concerns, attitudes and challenges they face, will ensure you keep abreast of what's happening on your shop floor.
- Don't assume the virus will go away. Be wary of assuming it 'isn't that bad', as you have no way of knowing which of your customers are suffering from high-risk comorbidities.
- The initial lockdown frenzy has abated, but your best practice protocols must not.
- Clear communication with staff and customers is essential and should be an ongoing process, as non-compliance can result in fines, infection, and the closure of the store for disinfecting.

In it for the long haul

Sanitisation and infection control at a much higher level than before the pandemic are going to be part and parcel of retail life for many months to come. Related stock items are hard to gauge and control accurately at this point, but by now stores should have an idea of monthly usage of disinfectant wipes, hand sanitisers, cleaning supplies, thermometers and disposable PPEs. Speak to suppliers, ascertain their stock levels, order well in advance and investigate reputable alternative suppliers where necessary. Keep in mind that safe, accredited supplies of ethanol and isopropyl alcohol are currently not guaranteed, so ensure you have an effective and approved detergent disinfectant as an alternative. Don't forget that we are in this for the long haul. There will be challenges along the way, but the more we work together, the better the long-term outlook will be. SR





'Unglue' the virus

The coronavirus pandemic has put the humble bar of soap centre stage globally. Despite increased calls for sanitisers, according to both the World Health Organisation (WHO) and health experts around the world, soap is one of the most effective deterrents against the coronavirus.

The reason for this is that the coronavirus – like



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many viruses – is a self-assembled nanoparticle with a fatty bilayer. Soap dissolves the fat membrane of the virus which renders it inactive which is why health professionals and governments around the world have been so insistent on the need for regularly washing hands with soap.

Water on its own is typically not sufficient to destroy viruses.
When soap and water are combined, however, the soap molecules essentially dissolve the 'glue' that holds the virus together.

It is only when soap and water are not an option that health professionals advise using sanitising disinfectants, gels, alcohol-based wipes and other sanitising products containing alcohol. The WHO's recommended formulations for a hand rub and surface disinfectant to counter the coronavirus – or Covid-19 – is either 80% ethanol or 70% isopropanol. Lower amounts of ethanol or other types of alcohol are less effective at disrupting the virus. However, most antibacterial products contain alcohol and some soap which together are effective in destroying the coronavirus.

Some retailers have called for the amount of alcohol in trolley wipes, typically found at the entrance of supermarkets, to be increased. However, it would be impossible for trolley wipes to include 70 to 80% alcohol as they would simply dry out too fast, points out Annette Devenish, marketing director at Infection Protection Products, the manufacturers of Sani-touch products, including Saniwipes.

"Trolley wipes are manufactured with a tried and tested detergent disinfectant solution with a high and potent soap content which renders the coronavirus inactive which means they don't require a higher alcohol content," says Devenish. "In fact, in their current form, and if they are used correctly, they contain more than sufficient disinfectant to remove any bacteria or viruses.

This is due to the fact that the wipes contain sufficient soap to coat the virus, with the inclusion of alcohol as an added deterrent."

Disinfectant and sanitiser manufacturers around the country have been battling to meet increased demand, both as a result of a sporadic supply of alcohol as well as a shortage of other raw materials. **SR**

