

# FOOD SAFETY BULLETIN

**ISSUE 5 2006** 

TRANS FAT It's time to go

**E. coli** A world issue

## UTILITIES

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# **TRASS** What are they and what's the danger?



"A trans fatty acid (commonly shortened to 'trans fat') is an unsaturated fatty acid whose molecules contain trans double bonds between carbon atoms, which makes the molecules less kinked compared to those of 'cis fat'." (Wikipedia definition)

Trans fats have become a hot topic in recent times and, without government intervention and industry modification, look set to become as familiar an issue to the consumer as their natural relatives – saturated fats. What are they and why are they shaping to be a scourge?

Over the last 15 years, the food industry has attempted to overcome the problem of excluding undesirable saturated fats in products by replacing them with a manufactured equivalent – effectively, a modified unsaturated fatty acid. However, this solution is transpiring to be as equally or possibly more unpalatable than the original product. Several recent scientific reports have suggested that the health effects of the now commonplace trans fats are particularly serious and disturbing. Of concern to many is the fact that the inclusion of these trans fats are undeclared. The public are unaware of their dangers or inclusion in a product that, to many, could appear to be a more healthy alternative.

Trans fats are produced by the partial hydrogenation of liquid vegetable oils. This process sees them becoming more solid at room temperatures and therefore more useful and acceptable in the food process (eg margarine) and more marketable. Trans fats are unsaturated fats with at least one double bond in the trans-configuration (hence the name). Usually, 30% of fat is converted in the partial hydrogenation process.

It is true that very small amounts of transfats do naturally occur in meat and dairy produce but almost all such fat that is actually consumed by humans is not naturally occurring but manufactured as an alternative to saturated fat. Margarine, cooking oils and processed foods have been found to contain disturbingly high quantities.

Even extremely low levels of trans fat intake are associated with significantly increased risk of heart disease. In an analysis of prospective studies totalling 14000 men and women, it was determined by Professor Dariush Mozaffarian of Harvard Medical School and his team, that an intake of 2% of total calories from trans fats (40 calories from 2000 in a typical diet) was associated with a 23% higher risk of heart attack or disease. He goes on to say, "the harmful effects of trans fats are now better established than for nearly any other substance in our food supply. The strength of evidence and the potential magnitude of harm greatly exceed those of food contaminants or pesticide residues that are appropriately regulated to very low levels.

An Australian Consumers Association test in 2005 found that of 55 foods tested, 18 (33%) had trans fat levels of greater than 2%. The data also showed a variation in trans fats levels of greater than 22% (O.8% - 22.5% of total fat) in popular fast foods.

In Australia, not only is the inclusion not regulated, there is no requirement to detail the amount of trans fats on a product's label. Two years ago, Denmark became the first country to mandate limits, which largely eliminated its use, and their example has been followed by Canada and the United States at least in terms of labelling and is set to be followed in the coming months by many more countries.

John Kaye, the NSW Greens spokesman on food issues suggests that Australia is lagging behind. At a recent forum on trans fats in the state parliament he suggested that between 1000 and 3400 Australians would suffer premature death while awaiting the outcome of a Federal Government report on the subject that is not expected to be completed until next year. The parliamentary secretary to the federal minister of health, Mr Christopher Pyne who heads the ministerial council said he " won't respond to every claim by The Greens. A lot of people will die in the next six months for a whole host of reasons" he went on to say. He will wait until the report is finalised by FSANZ before making any decisions.

Extremely low levels of trans fat intake are associated with significantly increased risk of heart disease.

Meanwhile, however, industry is moving a lot faster with several well known companies in the fast food and snack food markets making significant moves to replace considerable percentages of trans fats in its product. There is of course a price to pay and that may well see an increase in saturated fats but at least the consumer has to be informed of their presence. Certain quarters of industry have claimed that limiting trans fats will affect cost and taste but Dr Mozaffarian suggests that there is no evidence to support this. Regardless, the overwhelming evidence – and the publics increasing awareness - is making industry jump even if the government is doing little to determine the process and timing.

In summary, it is difficult to conclude anything other than that the consumption of trans fats from partially hydrogenated vegetable oils is an unacceptable alternative to saturated fats and its removal or reduction from diet, either through legislation or labelling would prevent tens of thousands of premature deaths around the world.



### SOME GUIDELINES FOR HACCP PROGRAMME VALIDATION

Operators often misunderstand the process of validation in HACCP Programs. These guidelines might help clarify the process for some.

#### Definition

Validation is the process of demonstrating via scientific or technical data that the HACCP system, when properly implemented, is capable of adequately controlling the identified hazards in order to produce a safe product.

The scientific or technical justification may be:

- > an article from a scientific journal
- > a documented challenge study
- In-house data e.g. observations, measurements, test results that demonstrate the process is capable of meeting the scientifically documented parameters.

The documentation should identify the hazard, including the level of hazard prevention and identify which processing steps will achieve this.

#### Who Validates the HACCP Plan?

- > The HACCP Team
- > Any qualified individual (relevant training and/or experience)

#### What to Consider When Carrying Out the Validation?

- > Do the identified CCP's control the hazards?
- > Are the Critical Limits appropriate?
- > Do the monitoring methods and frequency provide adequate control?
- > Do the Corrective Actions properly address the affected product/process and correct the deviation from the critical limit?
- > Review of consumer complaints?

#### When Should the HACCP Plan be Validated?

- > When the HACCP Plan is first developed
- > Changes in product description e.g. intended use or consumer
- > Changes in process flow
- > Changes in raw materials, including the source
- > Changes in product formulation
- > Changes in processing methods
- > Changes in packaging
- > Changes in finished product distribution systems
- > Recent industry recalls of similar product
- > New or emerging hazards
- > Recurring deviations
- > Food safety consumer complaints
- > Regulatory agency recommendations



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## Contract Cleaning in the food industry is now becoming a realitybut it's not for the faint hearted

Contract Cleaning has, over recent years, become an attractive option for industry. Increasingly these days, manufacturers and processors want to concentrate their efforts and resources on their core functions, devoting their energies to that which they know best. Third party options for many services have become commonplace – nobody is surprised to see such things as transport, lunchroom services, garbage, pest control or payroll being handled by an expert contractor.

While contract cleaning is also common in industry generally, it is less so in the food and beverage sector. 'Cleaning and Sanitation' is a major subsection of a HACCP base food safety programme and such programmes are all tailored to the functions and procedures in a particular facility. Historically, third party organisations have not had the HACCP skills and knowledge required to undertake this specialist food industry function and, understandably, industry has shied away from allowing these tasks to be carried out by others

While contract cleaning is also common in industry generally, it is less so in the food and beverage section.

This does appear to be changing. Several contract-cleaning and bathroom service organisations are now becoming expert in performing these key functions. Some contract cleaning companies have HACCP components in their Standard Operating Procedures and their operations have been audited to ensure compliance with their principals' HACCP programme.

In the course of the last 12 months, several organisations have decided to take valuable experience gleaned in other strictly controlled environments, such as medical and pharmaceutical sites and apply it to the food industry. Certain cleaning



Initial Healthcare's standard operating procedures are compliant with HACCP food safety protocols

organisations carry endorsement from HACCP Australia, having written new Standard Operating Procedures for Food Operations, put their key operating personnel through HACCP training and undertaken to have their food operations independently audited. Such an audit not only examines the operations and staff training but also the products and chemicals used by the contractor in the process.

While each food facility is different, this all round knowledge, background and familiarity with HACCP should gives confidence to the plant management that the service will be compatible with their HACCP programme.

Clive Withinshaw of HACCP Australia says "Obviously, the plant management will have to precisely instruct their contractor on particular and idiosyncratic functions, however the important thing is the qualified contractor has the resources and expertise available to manage the process. As an organisation, they also understand the importance of compliance, critical limits and reporting. Furthermore, they have the expert support of our food technologists available to them and their customers."

In terms of bathroom services, a well-known organisation that has tailored its service to meet the HACCP requirements of the food industry is *Initial Healthcare*. *Initial Healthcare* provides a range of bathroom services that minimise the risk of bacterial infection. Their service and operating procedures have been independently reviewed by HACCP Australia to ensure that they don't compromise HACCP protocols and the staff are aware of HACCP, its implications and importance. *Initial Healthcare* also carries the HACCP mark, affirming their compliance and suitability.



Jenny West General Manager, Initial Healthcare

"We at *Initial Healthcare* are proud to be helping many of Australia's food processors and manufacturing facilities meet the stringent standards required by providing both quality products and regular servicing within HACCP guidelines," says General Manager, Ms Jenny West.

"We believe that HACCP plays an important part in the industry in ensuring quality standards and best practice is maintained. This endorsement only adds further credibility to the strict standards and guidelines already established in our business."

Says Martin Stone, Technical director at HACCP Australia, "Historically, contract cleaners and service providers have not been able to demonstrate a deep enough knowledge of the



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## However, some contractors are now showing a real commitment to the industry and its processes.

particular requirements of the food industry. Understandably, this tended to disqualify the concept rather than individual organisations. However, some contractors are now showing a real commitment to the industry and its processes. This can only be good news for food plant operators who would like to see this function managed effectively by experts who meet food industry needs. It does at least present the food industry with the same options as other sectors. That said, contractors who wish to pursue this market sector had better be aware that there are no short cuts. Food businesses that operate HACCP programmes are very demanding. Record keeping, product specifications of cleaning materials and chemicals as well as performance audits, do not allow for shortcuts and a cautious industry sector will require convincing of a contractors credentials."





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## **E CO A** WORLD **PROBLEM LOOMING** RECENT OUTBREAK IS ANOTHER IN AN INCREASINGLY

LONG AND DEATHLY LINE

Hot on the heels of an important meeting of food safety experts in Dublin to discuss the very topic, yet another serious outbreak of food-borne illness caused by Escherichia coli (E. coli) bacteria has been identified in uncooked spinach in 26 US states. So far one death is confirmed with the possibility of further fatalities ahead.

At least 192 people were infected, including the one person who has died and 30 more who suffered a type of kidney failure called hemolytic uremic syndrome through eating spinach contaminated with the often deadly bacterium E. coli O157:H7, that particularly brings on bloody diarrhoea and dehydration. This strain is more potent than in any other U.S. food poisoning



scares. US Federal health officials said half of those reported sick were hospitalised, compared to 25 to 30 percent in past outbreaks.

The United States Food and Drug Administration (FDA) called for bagged fresh spinach to be removed from shelves and warned people not to eat any kind of fresh spinach or fresh spinach-containing products. The FDA also stated that washing the spinach was insufficient to sanitize it because the bacteria is systemic, meaning that it is not just on the outside of the spinach, but that it has been absorbed through the roots and is now inside the spinach. The Canadian Food Inspection Agency also advised consumers not to eat fresh spinach from the U.S., including bagged, loose in bulk or in salad blends.

The outbreak was traced to bagged fresh spinach grown on the spinach fields of Salinas Valley, in California. Investigators with the Centers for Disease Control speculate that the dangerous bacteria originated from grazing deer or from irrigation water contaminated with cattle faeces.

As well as the dreadful human toll, the economic plight is also serious. In California, where three-quarters of all domestically grown spinach is harvested, farmers could endure up to U.S \$75 million (A\$105M) in losses due to this E. coli outbreak. This could increase significantly as authorities believe lettuces grown in the same area may also be similarly infected requiring further stock to be recalled and destroyed.

## INTERNATIONAL FORUM IN DUBLIN BEGINS TO FURTHER ATTACK THE ISSUE

The food safety experts that met in Dublin in early September to discuss international standards hope they will be able cut back on the rising number of infections caused by this deadly enterohaemorrhagic Escherichia coli bacteria (EHEC), commonly known as E. coli O157:H7

The Food Safety Authority of Ireland (FSAI) hosted the meeting of the Food and Agriculture Organization (FAO) of the United Nations, the World Health Organization (WHO) and a number of international food science and medical experts. Present were representatives from UN bodies and member countries that make up the Codex Alimentarius committee on food hygiene who considered the need for risk-based standards to control EHEC.

Codex Alimentarius standards form the basis of food legislation in many countries and are recognised as international benchmarks by one of the multilateral agreements of the UN World Trade Organization (WTO). The Codex Alimentarius Commission sets the food safety and other standards that are voluntary. However many countries incorporate them into national legislation. They also apply to safety controls used to regulate international food trade.

"We are seeing a worldwide increase in the number of people infected with these dangerous pathogens, particularly E. coli O157" said Dr Peter Ben Embarek from the World Health Organization in Geneva. These are the most serious group of harmful bacteria that are being transmitted through the food chain and can cause severe illness, including blood poisoning and kidney failure, which can be fatal". Dr Sarah Cahill from the FAO states, "In addition to the human health costs, the economic costs arising from product recalls, interruption to trade and legal actions are enormous. "Legal costs arising from just one outbreak in the USA amounted to in excess of \$30 million."

Scotland has the misfortune of topping the statistics with a frightening 21 deaths among a group of attendees at a church lunch.

The Food Safety Authority of Ireland (FSAI) hosted the meeting in Dublin following a recent increase in the country of cases of EHEC infection. Between 2004 and 2005 the annual number of EHEC cases increased to 135 from 67 in Ireland. To date in 2006, 98 EHEC cases have been reported in Ireland compared to 53 in the same period last year. The number of EHEC outbreaks involving food or water has also increased, with seven outbreaks recorded in 2005 compared to two in 2004, the FSAI stated. This is not an uncommon trend in several other countries.

John O'Brien, chief executive of the host organisation FSAI, said the meeting was intended to highlight the threat posed by the spread of EHEC. He certainly got the message highlighted but in the worst way imaginable

Said Mr O'Brien, "An effective risk management strategy is required to halt the spread of these harmful bacteria in the food chain and the aim of the meeting is to put such measures in place". Many now expect fast and effective measures to come about as a consequence of their meeting and the subsequent reminder.



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#### WHAT IS E. coli?

EHEC was first identified as a human pathogen in 1982 when strains of a previously uncommon serotype, O157:H7, were implicated in two outbreaks of haemorrhagic colitis in the US.

Since then, outbreaks of EHEC O157:H7 infection have occurred and continue to occur throughout many regions of the world, as have outbreaks of infections from non-O157 serotypes of E. coli, including O26:H11, O103:H2, O113:H21, O104:H21 and O111:H8 which hit Australia with deadly results in 1995.

EHEC can cause a range of symptoms, some of which can lead to death. Illness typically begins with abdominal cramps and non-bloody diarrhoea that can progress to bloody diarrhoea within two to three days. Infection with EHEC may lead to further complications, most notably haemolytic uremic syndrome (HUS), the most common cause of kidney failure in young children.

E. coli is a normal inhabitant of the intestines of all animals, including humans. Almost all strains are harmless bacteria which can help suppress the growth of harmful bacteria and can synthesize some vitamins. However, a few strains of E. coli, including the enterohemorrhagic strain O157:H7, are harmful. E. coli O157:H7 produces a potent toxin, which can damage the lining of the intestine. Infection with E. coli O157:H7 causes hemorrhagic colitis, a disease characterised by severe abdominal pain and diarrhoea which is initially watery but may turn bloody. The disease is usually self-limiting. However, its complications include the haemolytic uremic syndrome, characterised by renal

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# In February 1995 Adelaide suffered one of Australia's most disastrous food poisoning outbreaks.

failure and haemolytic anemia, which may lead to permanent loss of kidney function.

#### E. coli IN AUSTRALIA

In Feb 1995 Adelaide suffered one of Australia's most disastrous food poisoning outbreaks. Small goods are thought to have been the source of the illness that caused the death of one child, and serious symptoms in many others. In the aftermath of the disaster, researchers found some frightening facts. E. coli 0111 caused the problems and it was found to be especially virulent. It was the first time it had been seen in Australia. The contamination was found to have been caused by a breakdown in the processing system, although the precise nature of the breakdown was never fully identified. The name of the smallgoods producer, Garibaldi however is rarely forgotton.

Remarkably however, Australia has remained free of the more common E. coli O157:H7. However, the increasing popularity of organic foods coupled with a general desire for less processed foods does bring with it increased dangers and this is certainly one of them. Many consumers are expressing a preference for foods that are unprocessed or minimally processed and with fewer additives (eg, unpasteurised apple juice and preservativefree sausages). A reduction in the processing of some foods has been identified as being a possible contributing factor in the increase in E coli and food poisoning generally. Couple this with ever increasing international travel and trade and the difficulty in monitoring agricultural practises, in both fertilising and irrigation, does make this unwelcome pathogen a more likely visitor in the years ahead. Industry and government is going to have to remain particularly vigilant.

Australians must never lose sight of how devastating these outbreaks have been in other developed countries. This recent spinach episode in the US is one of many in their history over the last ten years. Elsewhere, in the summer of 1996, Japan had the world's largest E.coli outbreak, affecting almost 10,000 people, mostly school children, with at least 11 confirmed deaths. However in terms of the death toll, Scotland has the misfortune of topping the statistics with a frightening 21 deaths among a group of attendees at a church lunch that was accredited to an outbreak of E. coli 0157 in Lanarkshire also in 1996. The source was a local butcher's shop.

While under processed meats have often been found to be a major source of E. coli, other more innocent looking products - such as sprouts, lettuce and spinach are now high on the suspect list.



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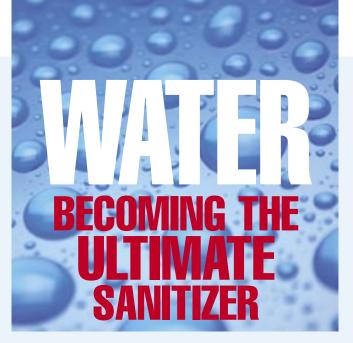


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Originating in Japan, this exciting new product has been developed and brought to market in Australia and is being described by many as the "next-generation cleaner".

It's a new electrolyzed water product called Aqua Magic. Made

#### FOOD SAFETY ADVERTORIAL

entirely from water, one has to ask - is this the ultimate in environmental and economical friendliness?

Essentially, pure water is processed in such a way as to pack it with a large number of negative ions through electrolysis and ion exchange technology. The transformed water becomes particularly high-alkaline with a pH of 12.5 and in such a state gains the qualities associated with high alkalinity – in particular the powerful cleaning effect while remaining as perfectly safe as any normal (neutral) water is.

The technology to alter water in this way has been around a long time, the difficulty has always been stabilising the pH and making it available to market in an economic format. With both those obstacles overcome, all that is left is to educate and inform users of cleaning chemicals that a product as ordinary as water can deliver an effective alternative with hygienic cleaning properties.

Aqua Magic does not use any surfactants or chemosynthetic substances at all. Unlike general detergents and cleaners, it produces no bubbles, does not rust metals, and causes zero environmental pollution. As it leaves behind no smell or residue, it is hygienic and easy to rinse and wipe off which substantially shortens cleaning time. Furthermore, it will even dissolve and remove ingrained dirt (e.g: coffee and blood stains, wine, proteins and fats) in carpets and textiles, without damaging fibres.



This new product, while originating in Japan, is now manufactured in Australia. The description attached to this product is "pure water plus negative ions - with no colour, no smell, no irritants and no toxicity.

#### Made entirely from water, one has to ask - is this the **ultimate in environmental** and **economical friendliness?**

*Aqua Magic* offers an effective and economic alternative especially as it can be diluted 50 fold for use in removing ordinary dirt that does not contain grease, or 200 fold as a vegetable wash.

HACCP Australia has reviewed this product and endorses its use in the food industry. Says Martin Stone, HACCP Australia's technical director, "The high pH does give the product antibacteria charactersitics, offering a real alternative to traditional chemicals in many situations – we are very glad to see this economic and effective technology available to the industry in Australia"

Take a few minutes to follow this up and call Wondertech on 02 9453 4800 and speak to Mr Neo Kuroda.



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In this section are a few food safety and food related news snippets from around the country and some from overseas. Keep up to date with trivia as well as news!

#### From: Australia MEAT PIE MAKEOVER

The Aussie meat pie is in line for surgery to improve its reputation in the face of bad press.



Food Standards Australia New Zealand (FSANZ) yesterday released details of changes to its code which would require pies to contain 25 per cent meat **flesh.** 

The current definition leaves off the word "flesh", meaning pies can legally contain any part of an animal carcass, including snouts, ears, tongue roots and tendons.

Including "flesh" means the meat must be skeletal muscle, but it may also include any attached fat, rind, nerves and blood vessels.

The report said media articles about the contents of meat pies were responsible for consumer dissatisfaction.

One study by Choice magazine published earlier this year said many brands were stuffed with nothing but "unappetising gristle".

"Occasionally the sales of meat pies have fallen, for a period, following the publication of such articles," the FSANZ report states.

The meat pie manufacturers, who largely support the move, have assured the regulator they would not need to boost product prices to accommodate the change, although some organisations have opposed it.

#### From: NSW

## Sydney Retailer Fined \$15,300 for Fish Substitution Rip Off

A retailer in Mount Druitt NSW has been fined \$15,375 for ripping off consumers by selling cheaper imported fish as more expensive local seafood, Primary Industries Minister Ian Macdonald said today.

Mr Macdonald said the Industrial Magistrates Court also ordered Atlantic Seafood proprietor Harry Christou to pay \$4895



costs after he was prosecuted by the NSW Food Authority on four charges for misleading and deceptive conduct in relation to advertising and fish substitution.

Christou was also prosecuted on five charges of not declaring the country of origin for baby octopus, prawn cutlets, barramundi, pacific dory and scallops. The Minister, said it is vital that consumers know exactly what they are buying.

"Not only did he fleece consumers by passing off cheaper fish as more expensive species and then pocketed the difference but he also didn't let his customers know where seafood came from," Minister Macdonald said.

"The position of the lemma Government is clear, consumers have a right to know what they are buying and where their food comes from and we will make sure our "truth in labelling laws" are followed.

Mr Macdonald said the Food Authority would continue to crack down on any illegal activity to make sure NSW consumers are protected.

#### From: Queensland

## New food contamination laws in Queensland to cover retailers and manufacturers

New laws introducing mandatory reporting of suspected food tampering will cover both retailers and manufacturers, have been in force since June.

Queensland state parliament passed the Food Amendment Bill 2006 compelling all food businesses in Queensland to immediately report intentionally contaminated food to health authorities. Mr Robertson, the state minister for health, said restaurants, takeaways and food factories faced fines of up to \$15,000 for not reporting suspected or confirmed food tampering under the new laws.

"The safe consumption of food in Queensland is paramount," Mr Robertson said. "It was crucial that this amendment captured both retailers and manufacturers." He went on to say "I believe that incidents involving both Sizzler and Top Taste cakes this year could have been handled a lot better if those businesses were legally obligated to immediately inform Queensland Health when they first suspected that someone had tampered with their food. That situation is now rectified"

Mr Robertson said the amendment makes it clear that reporting of food contamination is mandatory only if there is a reasonable suspicion that it was done intentionally. "The laws take into account that incidental and accidental contamination of food does occur and procedures are already in place to deal with these occurrences," he said.

"Queensland Health, in collaboration with the food industry, will develop information and guidance for businesses to help them prevent and identify intentional food tampering.

"Arrangements are also being developed between Queensland Health and the Queensland Police Service to ensure there are clear operational guidelines for timely advice and co-operation between the two agencies."

. . . . . . . . . . . . . . .

Source: Qld Government - June 2006

#### From England The Perfect Yolk – every time!

It seems that scientists (that dreaded breed!) are closing in on an age-old problem - cooking your boiled egg right - just right. Step aside the clock and the running sand granules – here comes the self-timing egg.

Using the latest heat sensitive technology, Lion Quality egg producers, a major egg business in the UK tasked boffins to create a foolproof way to guarantee the yolk comes out the way you want it - soft, medium or hard boiled - every time. Carrying a special label, the egg goes into your saucepan as normal and when it is perfectly cooked their trademark Lion logo appears as if by magic confirming your chosen preference.



"We are still perfecting the technology,

but we are very excited at the prospect of sorting a problem that has wound people up at breakfast time for decades," said Gilly Beaumont of B&H Colour Change.

Source: Lion Quality (UK)



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The Clean Design range incorporates easy to clean valve terminals which are corrosion resistant to alkaline and acid washdowns. They are easy to clean eliminating crevices for biological and chemical residue. Rated 1P65, IP67 and IP69K.

Our Clean Design range of ISO/VDMA cylinders in either hard anodized or full stainless steel are Alkaline and acid resistant, fully repairable with Food grade grease and seals. Easy to wipe clean or washdown.









Australia: Customer Service No: Tel: 1300 88 96 96 www.festo.com.au

New Zealand Auckland Tel: (09) 574 1094

Christchurch Tel: (03) 348 8796 www.festo.co.nz

#### From: The USA Boycott call for cocaine buzz drink

Lawmakers in the The United States have denounced the manufacturer of a new, highly caffeinated soft drink called Cocaine, and called for a boycott of the beverage, saying it glamorised an illegal and deadly stimulant.

"There are only two reasons that you would seek to use this infamous and insidious name to market your so-called energy drink," said Councilman James Sanders of Queens in New York State. "Either you are woefully ignorant of the horrors of cocaine addiction, or your God is the dollar bill."

The beverage has attracted mostly negative publicity, since it was introduced last month by its manufacturer, Redux Beverages LLC, in southern California.While the company's internet site says it does not advocate drug use, it suggests that the carbonated drink be mixed with alcohol — offering recipes for cocktails with names such as Liquid Cocaine, Cocaine Smash, Cocaine Blast and even Cocaine Snort. The site promotes the beverage's page on MySpace, an internet site popular among children and teenagers.

## From: The United States Death by Chocolate – a close thing

It does sound like a chocoholic's dream, but stepping into a vat of bubbling chocolate became a two-hour nightmare for a 21-year-old man last month.



Donovan Garcia, an employee of a company that supplies chocolate ingredients, said he was pushing the chocolate down into a vat at Debelis Corp in Wisconsin. However, the awkward chocolate loosened suddenly and Donovan followed into the vat. "It was in my hair, in my ears, my mouth,

everywhere," said Garcia, who has worked at the company for two years."I felt like I weighed 900 pounds. I couldn't move."

The chocolate was 110 degrees (43 Celsius), hotter than a normal shower, said Capt. Greg Sinnen of the Kenosha Fire Department. Co-workers, police and firefighters tried to free the man but couldn't get him loose until the chocolate was thinned out with cocoa butter. "It was pretty thick. It was virtually like quicksand," said police Capt. Randy Berner. Garcia was treated for minor injuries at a nearby medical center and released.

Is it possible that for 50% of the population - we can't say which 50% - eating one's way out might have been an option!

#### From: Japan

#### A woman's two best friends

While on the subject of chocolate, a Tokyo based jeweller has baked a somewhat special concoction and in so doing has expressed his love for South Africa, Africa as a whole and Chocolate!!! The jeweller has baked,

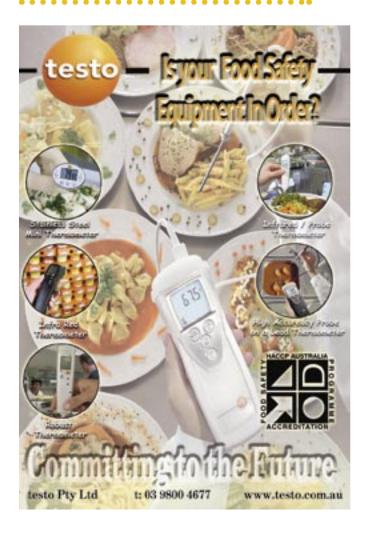


the bitter chocolate encrusted with over 2000 diamonds, in the mould of the African continent. For those of you who can't decide whether to get chocolate or diamonds for that special someone on Valentine's Day, consider this – a snip at A\$7million!!

#### From England, Ramsay moves inn

British mega chef, Gordon Ramsay, is going to the pub. He has decided against increasing his haul of seven Michelin stars by opening new restaurants in Britain - instead he wants to open a chain of country pubs. His business managers are drawing up plans to buy several country inns. Although the establishments would sell beer and spirits, their primary role would be to serve food and they would join other 'inns' in the Ramsay empire such as Claridge's and The Savoy Grill.

Ramsay's move into pubs is a sign of the former footballer's ambition and also shows how modern television cooks are finding new ways of making money. The 39-year-old was named by British newspaper The Independent as Britain's richest chef, with a fortune totalling £67 million (A\$165 million).



FIRSTS FOR THE AUSTRALIAN FOOD INDUSTRY

Consumer confidence can slide considerably with the alarming statistics released by the Food Standards Agency such as 39% of catering staff do not wash their hands after visiting the toilet at work , and 53% do not wash their hands before preparing food.

Contributory factors include a lack of food safety training and education and budgetary constraints – factors addressed by *Deb*, makers of the first dedicated skin care range for the food industry – *Florafree*.

This revolutionary new Product range includes 3 Australian firsts:

- 1. Non-Aerosol Foaming Alcohol Skin Sanitiser
- 2. BioCote treated dispensers
- 3. HACCP Endorsed range of Liquid Skin Cleaning Products and Soap Dispensers.

After considerable technical development, *Deb* introduces for the first time in Australia, a 'Non-Aerosol' Alcohol Foam Skin Sanitiser with moisturisers, eliminating the problems experienced when using a 'Alcohol Gel/Liquid'. It has been tested to the highest European standards for microbial efficacy. This instantaction, non-tainting foaming formula has a worldwide patents. It is easy to apply, there is no wastage and it conditions the skin. It

Does your floor have

**COMPLIANCE PROBLEMS?** 

does not contain any gelling agents so will not block dispensers or feel sticky after use.

In addition, *Deb* has formed a unique partnership with BioCote to deliver the world's first biocidal dispenser to combat bacterial and mould growth on and throughout the life of the dispenser. Impregnated into the plastic of the dispenser, the silver ion technology helps prevent bacteria growth and lessens the risk of food contamination.

These developments are just part of the *Florafree* range developed specifically for the food industry. Colour-coded packaging makes the products easily recognizable and simple 'how-to-use" instructional illustrations make hand hygiene easy for everyone.

With HACCP Endorsement, the *Florafree* range is designed to develop and support a 'best practice' culture in hand hygiene.

*Deb's* nationwide sales team is trained in Food Hygiene Standards and can provide skin hygiene advice and guidance for food-handling businesses.

For more information on the *Florafree* range or for a no obligation On-Site Survey contact 1800 090 330 or go to www.deb.com.au. Further information on BioCote can be found by logging onto www.biocote.com.



A Range of personal hygiene products specifically developed for food handling and manufacturing environments. The Range is designed to:

• Raise the level of employee compliance with skin hygiene protocols • Improve skin condition

• Reduce the potential for cross-contamination to safe-levels.

What's more, all products in the Florafree range offer excellent cost-in-use, exceptional performance and are backed-up by an unrivalled package of extensive testing, support, awareness and training manuals.

For more information on how to become part of the Florafree Experience contact: Deb Australia Tolfree 1800 090 330 or visit www.deb.com.au



Eco Flooring Systems will resolve most OH&S, Council and Customer compliance flooring problems in 1 day.

Some of its features are:

- Anti microbial
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- Suppliers to most fast food chains, bakeries and supermarkets
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- Eliminates odour from existing and new floors
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40

# Are your utilities a source of Hazard?

During the hazard analysis phase of a HACCP programme, the process steps and ingredients are typically reviewed in terms of hazards present, risk and controls. However, we often observe a disregard for other less obvious inputs into the process....especially utilities.

When reviewing or writing your programme, failure to assess the hazards associated with utilities could result in an audit nonconformance or worse, a food safety system failure within the operation.

Some issues for consideration in regard to utilities;

#### WATER

Is the water of appropriate standard for use as an ingredient or wash down water? Are appropriate systems in place to ensure reuse water cannot contaminate other streams? Can the supplier assure quality and is a failsafe system in place in case of a problem occurring which could impact upon the safety of your product? Are you treating process water on site and if so, are appropriate controls in place to ensure the correct treatment is actually occurring.

#### **STEAM**

Is live steam injected into the food product? A poorly serviced or malfunctioning boiler can allow boiler water (including the treatment chemicals) to contaminate the steam lines. Checks of condensate for conductivity can be used as a monitoring step if a significant risk is determined from this source. Pinholes in steam coils can also allow bleeding of steam into product so a procedure should be set up to check coil integrity on a routine basis.

#### AIR

Compressed air quality within food plants varies as widely as the uses of air within facilities. Originating from the compressors themselves, air can carry atomised lubricants which can contaminate food. This could occur through direct injection or in some cases, indirectly from discharge ports on equipment. Endorsed suppliers of equipment such as *Festo, SMC* and *Norgren* can advise on appropriate filtration strategies for your systems.

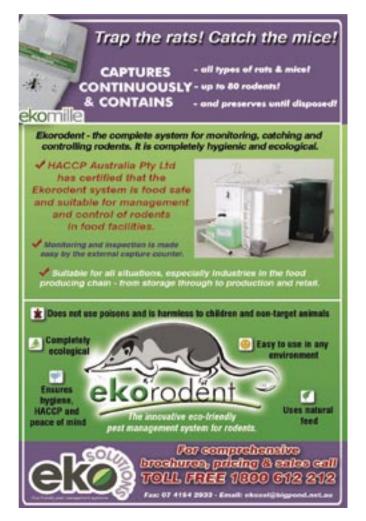
#### POWER

Whilst the energy itself will not contaminate food, power can be a source of hazard. Monitoring systems, alarms, PLC etc rely on power to operate. Power outages or the supply of dirty power can render these systems inoperative, exposing the process to failure through loss of control. Are backup systems available? Is the system failsafe?



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A program can be tailored to suit the type, size and opening hours of your business. All this in compliance with the high food safety standards of HACCP. Established in 1984, MFKS has an enviable reputation for reliability.

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professional and cost effective solution to your business.



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## Salmonella

Salmonella is a dangerous food poisoning bacteria and as few as 15 living cells can cause illness. Therefore, it should be absent from all ready to eat foods and those requiring minimal heat treatment. This organism is the most common cause of food-borne deaths.

The onset for the disease is usually 12 to 36 hours and the duration of the illness is 1 to 7 days. If the bacteria cross from the intestinal tract into the bloodstream, extremely serious complications can occur.

Salmonella is a facultative anaerobe that grows between 5°C and 45°C and causes food poisoning by infection. Salmonellae are non-spore forming, so a temperature of 70°C is usually sufficient to kill them.

Foods commonly involved are meat, poultry, raw milk, milk products and eggs.

Contamination may be directly or indirectly from human or animal excreta. Over 2000 types of Salmonella are known, all of which are capable of causing illness in man. Salmonella typhimurium or Salmonella enteritidis are particularly common causes of Salmonella food poisoning.

To avoid the growth of Salmonella, foods need to be thoroughly cooked and the potential for cross contamination from raw to cooked, direct and indirect must be eliminated. Food handling, sanitation and hygiene need to be maintained at high levels to avoid the growth of Salmonella.

Of interest, reptiles are known to be carriers of extremely high numbers of Salmonella.



## Sensitive salmonella detection

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#### A new testing kit for Salmonella promises to give the most sensitive detection results in less than a day, its manufacturers claim.

Salmonella is one of the food industry's most problematic food-poisoning bacteria. In 2004 the most frequently reported zoonotic diseases in humans were salmonellosis and campylobacteriosis, with the most deadly being listeriosis, according to a European Commission report. Eggs, poultry meat and milk products are the major sources of human Salmonella infections.



Oxoid claims its DuPont lateral flow system Salmonella test has the ability to detect one colony forming unit of Salmonella in a 25g food sample within 24 hours.

The kit has it's own primary enrichment medium for testing that facilitates the recovery of sub-lethally injured and healthy cells in only five hours for more reliable results. Oxoid claims that the product worked perfectly in two controlled line tests.

Minimal training is required to effectively use the kit making it suitable for salmonella screening in both large and small laboratories. Small labs also may be interested in the claim that the kit requires no capital investment.

The kit is suitable for use with raw meat and poultry, processed

meats, dairy products, eggs and other fresh produce.

The Salmonella test is part of the Oxoid's expanding range of DuPont kits. The company has kits for detecting Listeria, E coli and other systems specifically suited for the detection of yeasts and moulds.

European consumers have become increasing concerned about food safety, mainly due to the bovine spongiform encephalopathy (BSE) scare in cattle beginning in the late 1980s, a foot and mouth disease outbreak in 2001 and of avian flu in 2003 and this year. Consumer concerns have in turn led to tougher regulatory action and increased surveillance of safety in food processing plants.

## Salmonella is one of the foods industry's most problematic food poisoning bacteria.

There were 192,703 reported cases of salmonellosis and 183,961 of campylobacteriosis cases reported during 2004 in the EU, according to a European Commission report. The incidence of salmonellosis represent 42.2 cases per 100,000 population, which represents an increase of 22 per cent when compared with 2003, indicating the higher levels encountered in the new EC members.



Aerodynamic Developments Pty Ltd 1800 05 11 00 www.aeromfg.com.au Email: sales@aeromfg.com.au



#### Mould Mould Mould

Everything you wanted to know about mould – what a great site! Includes identification, how to culture and discussion on reproduction and other botanic issues of mould.

www.botany.utoronto.ca/ResearchLabs/MallochLab/ Malloch/Moulds/Moulds.html

#### Food Safety in The News

A 'Topix.net' generated news site that focuses on issues of food safety and science. A strong US slant but easy to browse and find press on food issues on top of the media's list. Shows that the biggest food industry sometimes has the biggest problems. Lots to learn for Australian manufacturers.

www.topix.net/business/food-science

#### **Airline Meals**

Hate them - or even love them (some people do, you know, Business Class can be good so we've heard!), airline food always prompts comment. While this is not strictly a food technology site, it is food and there is plenty of technology involved in getting it to you (safely) at 30,000 feet! This is good viewing with many amusing comments describing the best to the worst from all over the world – plenty from down-under too. Don't just grumble next time - take a photo and send it in!!

#### www.airlinemeals.net

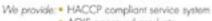
#### **Food Science Central**

Published by Food Science and Technology Abstracts and in association with the International Food Information Service, this site delivers a range of information from current press to more specific food science abstracts. A good page to keep an eye on



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to keep abreast of happenings in the world of food science and related disciplines.

#### www.foodsciencecentral.com

#### **Food Statistics**

Liars, liars and damn statisticians! The Australian food statistics for 2005 have been published by the Department of Agriculture, Fisheries and Forestry...DAFF. A great and detailed revision of issues impacting on the Australian market in terms of our domestic consumption, manufacturing and food imports. The numbers prove it !

Go to daff.gov.au and follow the links / search or use this long link below;

www.daff.gov.au/content/publications.cfm?Category=Food &ObjectID=A3D38C08-413A-4211-B34B83CF5A8459C6

#### **The Lawyers Perspective**

Blake, Dawson, Waldron are a well-known law firm in Australia. The issue a food law update from time to time which contains some interesting articles relating to recent events and cases. The last one was issued on 15th September and so it is quite topical – have a look and save yourself a legal bill!

Go to the site below and in the Search box, type "food law update" and then scroll down the page.

#### www.bdw.com



In this section we will answer two commonly asked questions.

**Q** We are keen to embark on a HACCP project but we are also thinking about moving...is it a waste to start on HACCP now and then have to start again at our new premises should we move ?

Α HACCP is based on the processes you use and whilst the manufacturing environment plays a part in the final programme, it is the operational steps which a programme is built upon. A HACCP programme developed at one location should be relatively easily transported to a new location as long as the process remains the same. In this case you certainly won't be 'starting again', rather just making some simple modifications based on the new premises. If you are thinking about a relocation, an important tip is to get your HACCP project manager to review the plans of the new operation before you move or even commit. Our staff are skilled in food facility design criteria and a simple review by our technologists can save you the cost and inconvenience of a retro-fit to meet basic design criteria.

**Q** HACCP is something we have to do but our facility is old. Can we get HACCP without the expense of a total rebuild?

Α Whilst a new, well designed facility is of course desirable, it is not essential to achieve ultimate certification. HACCP is a risk-based methodology and the risk of environmental contamination from your facility will be taken into account and specific controls designed to manage such risks. The facility should certainly meet basic design criteria as regulated by local government authorities and outlined in Australian Standard AS4674 as a minimum (see HACCP Australia Bulletin Issue 4). In our experience it is rare that major capital works are ever required to achieve certification however the facility should be in a good state of repair. Surfaces must be sound, smooth and cleanable, rust should be removed, holes and cracks filled and the facility should be pest-proofed for example. In regard to HACCP, an older facility in poor condition means more risk of contamination, which in turn translates to increased time and effort to manage those risks.





#### THE COUNTRY'S LEADING SERVICE PROVIDER

HACCP Australia is the country's leading provider of specialist food safety services. Our certification mark is widely known as representing the very best in food safety initiatives and conformance. Over the years, our HACCP programmes have been implemented in thousands of sites and facilities throughout the country and in hugely varied and diverse applications.

Our project managers, who look after programme implementations, are all highly qualified technologists with substantial operational experience in industry. Our staff, their knowledge, their experience and the resources upon which they can call, are the very reason that HACCP Australia is chosen by more than any other food businesses to handle food safety procedures, implementations and accreditations.

HACCP Australia's reputation and operational base has been built on strong foundations of service, reliability and meeting industry needs with practical solutions. This takes time, care and commitment to our clients' businesses. Its maintenance depends upon coupling these with efficient results and recommendations.

Our range of services includes Technical Consultancy, Programme Development, Training, Vendor Quality Assurance Services, Audit and Nonfood product Endorsement.

Our staff are based in Victoria, NSW and Queensland and our services are delivered anywhere in Australia as well as South East Asia. Our new international affiliation with one of the world's best known standards and



auditing company further honed our ability to deliver 'world's best practice' in food safety solutions.

Please do call us if you think we can help your business in any way - even if it is only for a word of advice from any of our top technologists.

#### NEW FACES

We thought it might be time to put a face to a voice on behalf of those of you who speak to our staff regularly. Since our last 'photo-fit' three more people have joined our team at HACCP Australia. Michelle James has been with us for some time now but has always refused to have her photo taken - but we got one anyway! Michelle is our Operations Manager and responsible for all food safety programme implementations both in Australia and overseas. Nikki McMahon joined us earlier this year and is responsible for administration and certification. Vivien Leung is a food technologist who works along side the project team and also undertakes a lot of the Vendor Quality Assurance work on behalf of our customers







Michelle James

Vivien Leung

HACCP AUSTRALIA TEL : 05005HACCP or 02 9956 6911 WEB : www.haccp.com.au

Nikki McMahon



# FoodQuality

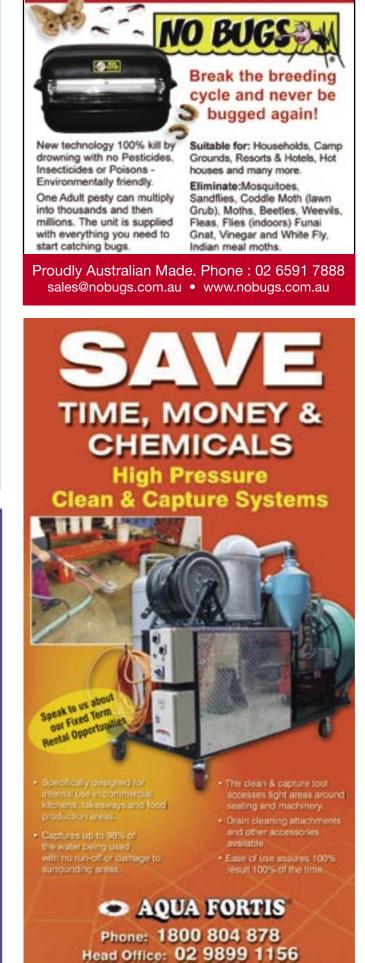
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www.foodqualitynews.com for more details.

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#### HACCP AUSTRALIA ENDORSED PRODUCTS SERVING THE FOOD INDUSTRY

The HACCP Australia endorsement process supports organisations achieving food safety excellence in non-food products and services that are commonly used in the food industry. The HACCP endorsement is particularly aimed at those organisations that are required to supply 'food safe', 'compliant' or 'HACCP approved' products and services to their food safety conscious customers. This independent assessment and verification of fitness for purpose offers assurance to the buyer or user that HACCP food safety protocols will not be compromised in using such a product or service correctly and that such a product is 'fit for purpose' in the food industry.

Compliant or endorsed products are rigorously reviewed by HACCP Australia's food technologists and in their expert estimation are manufactured and designed to meet all the appropriate food safety standards demanded by industry or regulation in Australia and internationally. In performing the assessment, they look for 'world's best' in terms of food safety features and characteristics. The technologists undertaking these reviews all have extensive industry and manufacturing experience. They are very familiar with the particular needs of the food industry.

Generally, conforming products need to be:

- > Well designed with 'food safe' characteristics
- > Non-Toxic (or with appropriate levels of toxicity)
- > Easy to clean
- > Likely to reduce the risk of any form of contamination
- > Designed for a low consequence of error in use
- > Contributing to food safety in their employment.

Only products that are assessed as meeting the criteria can carry the mark. Quite often, organisations are required to make modifications to the product, design, delivery, literature or recommendations in order to comply. This process is therefore particularly useful for products that are designed for many industrial applications.

The companies listed in this section carry a range of excellent and food safe products or services endorsed by HACCP Australia. If you are looking for more detail or a particular food safe product or service for use in a facility operating a HACCP based food safety programme, please call us for a recommendation or assistance at any time (05005 HACCP or 02 9956 6911).

#### SUPPLIERS OF ENDORSED PRODUCTS AND SERVICES SUPPORTING THE FOOD INDUSTRY

Catering Equipment (Heavy)	Carts Australia	Coffee and food carts for mobile sales	02 9888 5200
	Semak	Manufacturers of chicken rotisseries	03 9551 5896
	W and P reedy	Suppliers of ovens and provers to the baking industry	02 9533 9522
CLEANING EQUIPMENT	ADVANCED CARTS JUG WASH	Automatic jug cleaning and sanitising system	02 8868 8999
	AUSSIE RED EQUIPMENT	Aquafortis hot water high pressure clean and capture equip.	1800 804 878
	GOLDSTEIN ESWOOD	Manufacturers of industrial dish and glass washers	02 9604 7333
	OATES CLEAN	Full range of food grade cleaning equipment	1800 791 099
CLEANING CHEMICALS	AVANTI CHEMICALS	Cleaning chemicals for food and agri. businesses	07 5549 3666
	DEB AUSTRALIA	Skin care and hand cleaning soaps for food handlers	1800 090 330
	HYGIENESIS	Liquid skin cleaning products	07 3889 3788
	PASCOES	Cleaning chemicals for the food industry	08 9353 3900
	WONDER TECH	High Alkaline water for general cleaning	0418 621 629
CLEANING AND MAINTENANCE SERVICES TO THE FOOD INDUSTRY	ACE FILTERS BORG CLEANING INITIAL BATHROOM SERVICES METROPOLITAN FILTERS OZ TANK STRIP TANK	Food grade cooking oil filters Specialist contract cleaning services for food premises Bathroom services for the food industry and premises Filters and filter services for range hoods and food facilities SS deep cleaning tanks and systems for pans and trays SS deep cleaning tanks and systems for pans and trays	1300 555 204 03 9463 1300 1800 007 794 02 9971 8060 1300 66 88 66 03 9551 9563
CLEANING MATERIALS	3M	Scotchbrite <sup>™</sup> , Cleaning Chemicals, Scourers and sponges	136 136
	CLOROX AUSTRALIA	Chux <sup>™</sup> , Oso <sup>™</sup> and Glad <sup>™</sup> range of materials	02 9794 9500
	DEB AUSTRALIA	Disposable Cleaning Wipes	02 9755 3388
	MERINO PTY LTD	Swipes <sup>™</sup> disposable and anti-bacterial paper cloths	1800 622 018
	PARAMOUNT SAFETY PRODUCTS	Disposable Gloves for the food industry	03 9762 2500
	SABCO	Scourers, sponges, clothes and cleaning aids	02 9642 6411
CLEANING SYSTEMS FOR	gibpat PTY LTD	Automatic glass and cutlery cleaning machinery	1300 558 668
CUTLERY AND UTENSILS	Hit equipment	Specialist cutlery polishing machinery	02 8211 2732
FACILITY FIXTURES	COLDSHIELD FLEXIBLE DOORS	PVC flexible doors for food premises	1800 462 233
AND FITTINGS	THORN LIGHTING	Food safe lighting solutions for food handling facilities	1300 139 965
FLOORING, SURFACES, WALLS AND MATTING	AERODYNAMIC DEVELOPMENTS ALTRO SAFETY FLOORING BLUESCOPE STEEL ECO SURFACES GENERAL MAT COMPANY (THE)	Glasbord Coolroom and Food Transport Panelling Products Specialist Food premises flooring Colorbond® Anti Bacterial Coolroom Panelling Products (quote 2222) Anti Bacterial Flooring Product and Services Specialist safety matting for food and beverage areas	1800 051 100 1800 673 441 1800 022 999 1300 853 990 1800 625 388

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CLINCK         Ball <sup>1</sup> , Out <sup>1</sup> and Bol <sup>1</sup> may be interested in the Cottal part of the UNE VERSION VERS	FOREIGN BODY IDENTIFICATION			
UNAMERICATION FORMEREvidence for the ford products and ford relial00 5737 0101LUBRICATION FORMERLINDER AUSTIFILIASignates of food grade their capitoret01 5273 3233AND COMPONENTSENAN PTY ID PERFORMERManufactures of food grade their capitoret150 15073 3333AND COMPONENTSENAN PTY ID PERFORMERManufactures of food grade their capitoret150 15073 3333PRADADING MERTIALPERFORMERManufactures of food grade their capitoret150 15074 3233PRADADING MERTIALPERFORMERPERFORMER26 566 3560PRET CONTROL (NSW)PERFORMERPERFORMER26 566 3560PEST CONTROL (NSW)PERFORMERPERFORMER26 566 3560PEST CONTROL (NSW)PERFORMERSingleirs of food grade their go grading methenis Singleirs of food grade their go grading methenis Singleirs of food grade their go grading methenis Singleirs of food grade their go trading collabor26 566 3560PEST CONTROL (NSW)PEST CONTROL (NSW)PERFORMERSingleirs of food grade their go grading methenis Singleirs of food grade their go gra	KITCHEN CONSUMABLES	CLOROX	Glad <sup>™</sup> , Chux <sup>™</sup> and Oso <sup>™</sup> range of materials	02 9794 9500
NUMBEREVANUATIONCONTROLAvailabilityCONTROL	LABELS - FOOD GRADE			
AND COMPONENTS         FESTO PTY 10 PROVIDE INCOMPONENTS         FESTO PTY 10 PROVIDE INCOMPONENTS         Provide Incomposition Supplies of processors Supplies of processors fro biol industry Supplies of the supplies of processors fro biol industry Supplies of the supplies of processors fro biol industry Supplies of the supplies of the supplies of the supplies of the supplies of the suplies of the supplies of the supplies of the supplies of the supp	LUBRICANTS - FOOD GRADE	LANOTEC AUSTRALIA	Suppliers of food grade lubricants	07 3373 3700
AND EQUIPMENTKINGPORA (PT UD) MICROPAR PT UD MICROPAR PT		FESTO PTY LTD HARRINGTON ELECTRICAL MOTORS NORGREN PTY LTD	Pneumatics and valves for food manufacturing equipment Stainless Steel Electric Motors for food processors Suppliers of pneumatics and valves for food manufacturing	1300 889 696 03 9546 7515 02 9582 8000
PEST CONTROL (NSW)         AEROBEAM PROFESSIONAL PEST NONT, AFFERAMINE PEST CONTROL AFFERAMINE PEST CONTROL BOODE PEST NANAGEMENT Specialist pest control services for the industry AFFERAMINE PEST CONTROL BOODE PEST NANAGEMENT Specialist pest control services for the industry AFFERAMINE PEST CONTROL BOODE PEST CONTROL BOODE PEST NANAGEMENT SPECIAL PEST CONTROL BOODE PEST CONTROL BO		KINGFOIL CONTAINERS MICROPAK PTY LTD	Suppliers of food grade foil containers Manufacturers of food grade packaging materials	02 8825 8800 02 9646 3666
AFFRIGENATION FEST CONTROL ANT-EATE ENFORMENTIAL Second spectra best control services for food industry     07 E568 2555 (074 PEST CONTROL COPPARTE PEST CONTROL COPPARTE PEST MANAGEMENT PROTOKL     Specialist pest control services for food industry     02 B937 251 (074 PEST AFRIENCE SETWICES Specialist pest control services for food industry     02 B937 251 (074 PEST AFRIENCES)       PEST CONTROL (QLD)     COPPARTE PEST MANAGEMENT PROTOKL     Specialist pest control services for the industry     02 B937 251 (074 PEST AFRIENCES)       PEST CONTROL (QLD)     COODE PEST CONTROL PROTOKL     Specialist pest control services for the food industry     02 B937 351 (073 P62 252)       PEST CONTROL (WC)     COODE PEST CONTROL PROTOKL     Specialist pest control services for the food industry     07 3968 2252 (073 P62 074)       PEST CONTROL (WC)     COODE PEST CONTROL PROTOKL     Specialist pest control services for the food industry     07 3968 2252 (073 P62 074)       PEST CONTROL (WC)     DAVEONT SVEED NOP PEST CONTROL PROTOKL     Specialist pest control services for the food industry     030 736 82 252 (073 P62 074)       PEST CONTROL (WC)     DAVEONT SVEED NOP PEST CONTROL PROTOKL     Specialist pest control services for the food industry     030 736 82 252 (071 P61 P61 P61 P61 P61 P61 P61 P61 P61 P6	PEST CONTROL (ALL STATES)	RENTOKIL	National pest control services for the food industry	1800 675 356
PEST CONTROL (MC)     Pest CONTROL (MC)     National pest control services for the food industry     7.3268 2252       PEST CONTROL (MC)     DAWSON'S WEED AND PEST CONTROL RENTOKIL     Specialist pest control services for food the industry     1300 739 840       PEST CONTROL (MC)     DAWSON'S WEED AND PEST CONTROL RENTOKIL     Specialist pest control services for the food industry     03 93222 2222       Specialist pest control services for the food industry     1300 739 840       PEST CONTROL (WA/SA)     RENTOKIL     National pest control services for the food industry     03 93726 6699       PEST CONTROL (WA/SA)     RENTOKIL     National pest control services for the food industry     03 9472 4622       PEST CONTROL CONTROL EQUIPMENT     EKO SOLUTIONS CLOBE ALSTRALIA NO BUGS ALSTRALIA NO BUG PIT LTD     Temperature controlles and supervisors for teficipation 02 9623 9398     02 6591 7888       REFRIGERATION MATERIALS AND EQUIPMENT     CAHEL CHILZONE DAWFOSS PORTABLE COOLFOON HRE POST THERE ALSTRALIA PTY LTD HASEFALE     Temperature controlles and supervisors for teficipation 02 9823 9398     02 8762 9200       REFRIGERATION GOVERNORS     CAHEL DAWFOSS PORTABLE COOLFOOM HRE POST THEREHREERATION SERVICES PORTABLE COOLFOOM HRE POST THEREHREERATION RESEARCH     Temperature controllers and supervisors for refrigration 03 9553 08000       REFRIG	PEST CONTROL (NSW)	AFFIRMATIVE PEST CONTROL ANT-EATER ENVIRONMENTAL SERVICES COPES PEST CONTROL CPM PEST & HYGIENE SERVICES CORPORATE PEST MANAGEMENT HACCP PEST MANAGEMENT RENTOKIL SCIENTIFIC PEST MANAGEMENT	Specialist pest control services for food industry Specialist pest control services for food industry Specialist pest control services for food the industry Specialist pest control services for food industry Specialist pest control services for food industry Specialist food premises pest management services National pest control services for the food industry Regional pest control services for the food industry	07 5596 2555 02 9939 8208 1800 13 13 15 02 9674 5499 02 9311 1234 02 9922 3743 02 9395 0519 1300 139 840
PROTECH PEST CONTROL RENTOKIL SCIENTIFIC PEST MANAGEMENTSpacialist pest control services for food industry National pest control services for the food industry1300 780 980PEST CONTROL (WA/SA)RENTOKILNational pest control services for the food industry08 9479 4622PEST CONTROL EQUIPMENTEKO SOLUTIONS CLOUPMENTDistributors of the "control services for the food industry08 9479 4622PEST CONTROL EQUIPMENTEKO SOLUTIONS CLOUPMENTDistributors of the "insect-o-maile" odent eradication equipment NO BUGS AUSTRALIA PEST REE AUSTRALIA PEST REE AUSTRALIA PTY LTD WEEGCOT PTY LTDDistributors of the "insect-o-maile" odent eradication equipment Spacialist electronic vermin elimination devices Construction of food grade controls02 4969 5515PEFRIGERATIONCAREL CHILLZONE CHILLZONE DAHFOSSTemperature controllers and supervisors for refrigeration Construction of food grade controns CO apsectialist electronic vermin elimination devices Construction of food grade controns CO apsectialist and alarms 13 23 5013 23 50REFRIGERATIONCHILLZONE CONSTLINE REFRIGERATION SERVICES PORTABLE COOL ROOM HIRE REFRIGERATION GOVERNORSCAREL CONSTRUCETemperature controllers for refrigeration CAREL Construction of food grade contronsC2 9823 9388 203 9583 1327REFRIGERATION GOVERNORSCAREL DAHFOSS HEATCRAFT AUSTRALIA PTY LTD PHASEFALETemperature controllers for refrigeration Construction of food grade controns Construction of food grade contronsC2 9823 9386 20 3953 0800REFRIGERATION GOVERNORSCAREL DAHFOSS HEATCRAFT AUSTRALIA PTY LTD PHASEFALETemperature controllers for refri	PEST CONTROL (QLD)	RENTOKIL	National pest control services for the food industry	07 3268 2252
PEST CONTROL EQUIPMENT       EKO SOLUTIONS GLOBE AUSTRALIA NO BUGS AUSTRALIA PEST FREE AUSTRALIA PTY LTD       Distributors of the 'ecomille rodent eradication equipment Specialist food area insect trapping system       1800 612 212 (24 969 5515         REFRIGERATION MATERIALS AND EQUIPMENT       CAREL CHILLZONE DANFOSS       CAREL CHILLZONE DANFOSS       Care on the specialist food area insect trapping system       02 8691 788 (22 9823 9398 (23 9894 2255)         REFRIGERATION       CAREL CHILLZONE DANFOSS       Care on the specialist food area insect trapping system       02 8762 9200 (23 8845 1813)         REFRIGERATION       CAREL CHILLZONE DANFOSS       Care on the controllers of the special controllers of trapper trapping system       02 8845 1813 (23 8845 1813)         REFRIGERATION       CHILLZONE PHASEFALE       Construction of food grade coolrooms POSTIALE COOLOROM HIRE REFERIGERATION GOVERNORS       C2 8762 9200 (20 droom services PORTABLE COOLOROM HIRE REFERIGERATION GOVERNORS       Care on services PARFOSS HEAT AUSTRALIA PTY LTD PHASEFALE       Construction of food grade coolrooms Coal room services       02 9823 9398 (20 droom services PORTABLE COOLOROM HIRE REFERIGERATION SERVICES PORTABLE COLOROM HIRE REFERIGERATION GOVERNORS       Care CL PARE AUSTRALIA PTY LTD PHASEFALE       Construction of food grade coolrooms Coal room services       02 8762 9200 (23 8762 9200 (23 8762 9800)       02 8762 9200 (23 8762 9800)         REFRIGERATON GOVERNORS       CAREL PHASEFALE       Construction of food grade coolrooms Coal room services       02 9863 9303 (20 470 929 826 93930)       02 8762 9200 (23 8763 9300	PEST CONTROL (VIC)	PROTECH PEST CONTROL RENTOKIL	Specialist pest control services for food industry National pest control services for the food industry	1300 780 980 03 9372 6699
GLOBE AUSTRALIASuppliers of the 'insect-o-matic' pest eradication system1800 244 300NO BUGS AUSTRALIASpecialist food area insect trapping system02 6591 7888PEST FREE AUSTRALIA PTY LTDSpecialist leotcronic vermin elimination devices02 4969 5515WEBCOT PTY LTDSuppliers of "Brandenburg" Flying Insect Control03 9984 2255AND EQUIPMENTCARELTemperature controllers and supervisors for refrigeration02 8762 9200AND EQUIPMENTCARELTemperature controllers and supervisors for refrigeration02 8762 9200PHASEFALETemperature controllers for and supervisors for refrigeration02 8845 1813HEATCRAFT AUSTRALIA PTY LTDHACCP specification cool room thermostats and alarms13 23 50PHASEFALETemperature controllers for refrigerated storage03 9565 30800REFRIGERATIONCHILIZONEConstruction of food grade coolrooms02 8845 1813HEATCRAFT AUSTRALIA PTY LTDHACCP specification cool room thermostats and alarms13 02 50PROSTLINE REFRIGERATION SERVICESConstruction of food grade coolrooms02 8963 9388PROSTLINE REFRIGERATION RESEARCHVersatile, mobile refrigerators for travelling and remote use08 8398 3224REFRIGERATION GOVERNORSCARELTemperature controllers and supervisors for refrigeration02 8762 9200REFRIGERATOR SERVICECOARLTemperature controllers and supervisors for travelling and remote use08 8398 3224REFRIGERATOR SERVICECARELTemperature controllers for refrigeration02 8762 9200REFRIGERATOR SERVICECARELTemp	PEST CONTROL (WA/SA)	RENTOKIL	National pest control services for the food industry	08 9479 4622
AND EQUIPMENTCHILLZONE DANFOSSConstruction of food grade coolrooms02 9823 9398 02 8845 1813REFRIGERATIONCHILLZONE PHASEFALEConstruction of food grade coolrooms02 9823 9398 02 8845 1813REFRIGERATIONCHILLZONE FROSTILINE REFRIGERATION SERVICES PORTABLE COOLOROOM HIRE REFETE/REFRIGERATION RESEARCHConstruction of food grade coolrooms02 9823 9398 02 9823 9398REFRIGERATION GOVERNORSCAREL DANFOSS HEATCRAFT AUSTRALIA PTY LTD PHASEFALEConstruction of food grade coolrooms02 9823 9398 03 9553 0800REFRIGERATION GOVERNORSCAREL DANFOSS HEATCRAFT AUSTRALIA PTY LTD PHASEFALETemperature controllers and temporary use Versatile, mobile refrigerators for rativelling and remote use02 8626 1837 02 9823 9388 02 8845 1813REFRIGERATOR SERVICECAREL DANFOSS HEATCRAFT AUSTRALIA PTY LTD PHASEFALETemperature controllers and supervisors for refrigeration 13 23 50 02 9823 9388 02 8845 1813 02 8845 1813REFRIGERATOR SERVICECHILLZONE FROSTILINE REFRIGERATION MELBOURNER FERIGERATION SERVICES REFRIGERATION SERVICESConstruction of food grade coolrooms 02 9823 9388 02 8845 1813 1300 550 502STAFF RECRUITMENT AND HAUMAN RESOURCESSKILLED GROUPSpecialist cool room cleaning and rejuvenation services 0407 292 826STAFF RECRUITMENT AND HAUMAN RESOURCESARMACEL TECHNOLOGY GROUP SynchroMATICFood storage containers, food grade shelving Distributors of food grade pallets and storage solutions O2 9690	PEST CONTROL EQUIPMENT	GLOBE AUSTRALIA NO BUGS AUSTRALIA PEST FREE AUSTRALIA PTY LTD	Suppliers of the 'insect-o-matic' pest eradication system Specialist food area insect trapping system Specialist electronic vermin elimination devices	1800 244 300 02 6591 7888 02 4969 5515
FROSTLINE REFRIGERATION SERVICES PORTABLE COOLROOM HIRE REEFER/REFRIGERATION RESEARCHCold room services Mobile coolrooms for all events and temporary use Versatile, mobile refrigerators for travelling and remote use1300 550 502 03 9568 1357 08 8398 3224REFRIGERATION GOVERNORSCAREL DANFOSS HATCRAFT AUSTRALIA PTY LTD PHASEFALETemperature controllers and supervisors for refrigeration M2 alarm and monitoring system Temperature controllers for refrigerated storage02 8876 29200 02 8845 1813 13 23 50 13 39 550 8000REFRIGERATOR SERVICECHILLZONE FROSTLINE REFRIGERATION MELBOURNE REFRIGERATION MELBOURNE REFRIGERATION SERVICES REJUVENATORS (THE)Construction of food grade coolrooms Cold room services02 9823 9398 1300 550 502 03 9553 08000STAFF RECRUITMENT AND HUMAN RESOURCESSKILLED GROUPSpecialist cool room cleaning and rejuvenation services NeLBOURNE REFRIGERATION SERVICESFood storage containers, food grade shelving Distributors of Food Grade Shelving02 9450 0900 02 9690 0900THERMOMETERS AND PH METERSTESTO PTY LTDSpecialist thermometers for use in the food industry03 9800 4677 1300 366 600TRANSPORT CONTAINERS AND PALLETSARMACEL TECHNOLOGY GROUP DSL PACKAGING – SCHÜTZManufacturers of food grade pallets and storage solutions food safe storage and transportation palletcons02 9450 0900 1800 33 62 28		CHILLZONE DANFOSS HEATCRAFT AUSTRALIA PTY LTD	Construction of food grade coolrooms M2 alarm and monitoring system HACCP specification cool room thermostats and alarms	02 9823 9398 02 8845 1813 13 23 50
DANFOSS HEATCRAFT AUSTRALIA PTY LTD PHASEFALEM2 alarm and monitoring system02 8845 1813 13 23 50 03 9553 0800REFRIGERATOR SERVICECHILLZONE FROSTLINE REFRIGERATION MELBOURNE REFRIGERATION SERVICES REJUVENATORS (THE)Construction of food grade coolrooms Cold room services02 9823 9398 1300 550 502 1300 550 502 Refrigeration installation and repair Specialist cool room cleaning and rejuvenation services02 9823 9398 1300 550 502 1300 550 502STAFF RECRUITMENT AND HUMAN RESOURCESSkilled GROUPSpecialist cool room cleaning and rejuvenation services 0407 292 8260407 292 826STORAGE, SHELVING AND RACKINGARMACEL TECHNOLOGY GROUP SYNCHROMATICFood storage containers, food grade shelving Distributors of Food Grade Shelving02 9450 0900 02 9690 0900THERMOMETERS AND PH METERS AND PALLETSTESTO PTY LTDSpecialist thermometers for use in the food industry03 9800 4677 03 9800 4677TRANSPORT CONTAINERS AND PALLETSARMACEL TECHNOLOGY GROUP DSL PACKAGING – SCHÜTZManufacturers of food grade pallets and storage solutions Food safe storage and transportation palletcons02 9450 0900 1800 336 228	REFRIGERATION	FROSTLINE REFRIGERATION SERVICES PORTABLE COOLROOM HIRE	Cold room services Mobile coolrooms for all events and temporary use	1300 550 502 03 9568 1357
FROSTLINE REFRIGERATION MELBOURNE REFRIGERATION SERVICES REJUVENATORS (THE)Cold room services1300 550 502 Refrigeration installation and repair Specialist cool room cleaning and rejuvenation services1300 441 718 0407 292 826STAFF RECRUITMENT AND HUMAN RESOURCESSKILLED GROUPSpecialist cool room cleaning and rejuvenation services1300 366 606STORAGE, SHELVING AND RACKINGARMACEL TECHNOLOGY GROUP SYNCHROMATICFood storage containers, food grade shelving Distributors of Food Grade Shelving02 9450 0900 02 9690 0900THERMOMETERS AND PH METERSTESTO PTY LTDSpecialist thermometers for use in the food industry03 9800 4677TRANSPORT CONTAINERS AND PALLETSARMACEL TECHNOLOGY GROUP DSL PACKAGING – SCHÜTZManufacturers of food grade pallets and storage solutions Food safe storage and transportation palletcons02 9450 0900 1800 336 228	REFRIGERATION GOVERNORS	DANFOSS HEATCRAFT AUSTRALIA PTY LTD	M2 alarm and monitoring system HACCP specification cool room thermostats and alarms	02 8845 1813 13 23 50
AND HUMAN RESOURCES       ARMACEL TECHNOLOGY GROUP       Food storage containers, food grade shelving       02 9450 0900         STORAGE, SHELVING       ARMACEL TECHNOLOGY GROUP       Food storage containers, food grade shelving       02 9690 0900         AND RACKING       SYNCHROMATIC       Distributors of Food Grade Shelving       03 9800 4677         THERMOMETERS AND PH METERS       ARMACEL TECHNOLOGY GROUP       Manufacturers of food grade pallets and storage solutions       02 9450 0900         TRANSPORT CONTAINERS       ARMACEL TECHNOLOGY GROUP       Manufacturers of food grade pallets and storage solutions       02 9450 0900         AND PALLETS       DSL PACKAGING – SCHÜTZ       Food safe storage and transportation palletcons       1800 336 228	REFRIGERATOR SERVICE	FROSTLINE REFRIGERATION MELBOURNE REFRIGERATION SERVICES	Cold room services Refrigeration installation and repair	1300 550 502 1800 441 718
AND RACKINGSYNCHROMATICDistributors of Food Grade Shelving02 9690 0900THERMOMETERS AND PH METERSTESTO PTY LTDSpecialist thermometers for use in the food industry03 9800 4677TRANSPORT CONTAINERS AND PALLETSARMACEL TECHNOLOGY GROUP DSL PACKAGING – SCHÜTZManufacturers of food grade pallets and storage solutions Food safe storage and transportation palletcons02 9450 0900		SKILLED GROUP	Specialist workforce solutions for the food industry	1300 366 606
TRANSPORT CONTAINERS       ARMACEL TECHNOLOGY GROUP       Manufacturers of food grade pallets and storage solutions       02 9450 0900         AND PALLETS       DSL PACKAGING – SCHÜTZ       Food safe storage and transportation palletcons       1800 336 228				
AND PALLETS DSL PACKAGING – SCHÜTZ Food safe storage and transportation palletcons 1800 336 228	THERMOMETERS AND PH METERS	TESTO PTY LTD	Specialist thermometers for use in the food industry	03 9800 4677
		DSL PACKAGING – SCHÜTZ	Food safe storage and transportation palletcons	1800 336 228



plate Griddle Cleaning System features a powerful, but safe liquid cleaner that quickly removes burnt-on food soil from the hot griddle surface. In laboratory and field tests conducted by 3M, the ScotchBrite<sup>™</sup> Quick Clean Hot-plate Griddle Cleaning System has out-performed traditional hot-plate griddle cleaning products such as grill bricks, hot-plate griddle screens and some chemical cleaners.



**Innovation** 

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