

TEMPERATURE IN THE SUPPLY CHAIN

Logging is now easy
and economic

HACCP INTERNATIONAL

An introduction to
the Asia office

TOP 5

Food safety issues





The **Driving Force** In Pneumatics

Supporting Food Safety With...



HACCP PRODUCTS

Valves - Pressure Indicators - Pressure Regulators - Tube - Fittings - Accessories - Vacuum
Actuators - Flow Control - Filters - Instrumentation

Freecall SMC Australia: 1800 Pneumatics (1800 763 862)

SMC Pneumatics (Australia) Pty Ltd

www.smcaus.com.au

Welcome to the first International edition of HACCP International's Food Safety Bulletin.

This bulletin is designed to offer information, news, tips and updates to the Food and Beverage Industry. Whether you are managing a processing plant, opening a restaurant or merely looking for a suitable food safe product, we do trust this periodic journal has something of interest for everyone. Many of the articles herein have been written in response to the information most commonly sort by our customers and the industry in general.



THE SAFETY OF BEVERAGES IN PLASTIC BOTTLES

By Jill Culora

Jill Culora is a freelance writer, specialising in health, science and consumer news, and is a media consultant to the International Bottled Water Association. This article is written with a US perspective but is pertinent to all markets.

With bisphenol A (BPA) and polyethylene terephthalate (PET) consistently in the mass media with regard to beverage packaging, beverage processors must manage the vast amount of misinformation that abounds and maintain strict standards of beverage safety. While cognisant of consumer concerns, beverage manufacturers must insist on transparency and continue to reassure consumers about product safety. Below are common questions that beverage and food manufacturers must answer to reassure customers of the safety of their products.

So how much of what we read about the safety of plastic bottled water containers is factual or just a plain modern-day myth?

"What a lot of people don't realise is that the US Food and Drug Administration (FDA) stringently regulates bottled water as a packaged food product. FDA has strict standards of quality and clear standards of identity for bottled water that protect consumers. FDA is also charged with ensuring the safety of the materials that package all food products, including bottled water. All plastics (and other materials) intended for contact with foods or beverages are regulated by FDA to help ensure their safety," says Joe Doss, president and CEO of the International Bottled Water Association (IBWA).

A large percentage of bottled water is packaged in plastic containers, which includes those made from PET, polycarbonate and high-density polyethylene (HDPE). Although aluminium cans and glass containers remain popular, most single-serve beverages, including bottled water, sold in the US today are bottled in 100% recyclable PET plastic, (aluminium cans are the multipack leader). Plastic is popular for beverage containers because it is light weight, strong and extensively tested for safety; it has been around for

CONTINUED ON PAGE 4

more than 100 years and has revolutionised the way we live.

The scientific testing of all plastic containers looks at two specific aspects: establishing that there is a minimal amount of transfer of substance between plastic food packaging and its contents, and establishing that any substances that may transfer from the plastic to the food do not pose a risk to human health.

How does one verify safe packaging?

The FDA carefully reviews all packaging substances that come into contact with food and beverages. As part of its review, FDA assesses the migration or potential migration of plastics and substances within plastic into the liquid contents. FDA has found that the levels of migration to food of the substances in plastics are well within the margin of safety based on information available to the agency (ie, toxicological testing has demonstrated that the cumulative dietary concentration of these migrants resulting from the use of the plastic materials in food packaging is at least 100 - to 1,000-fold lower than the level at which no toxic effect was observed in animal studies). This means no short- or long-term health effects are likely to occur, even from life-long daily dietary exposure to these substances migrating from plastic food contact materials.

Do PET bottles release dangerous substances when exposed to high or freezing temperatures?

It's important to understand that single-serve PET plastic bottles do not contain compounds capable of producing dangerous substances under conditions of normal use, including being subjected to hot cars or placed in a freezer. The Johns Hopkins Bloomberg School of Public Health has weighed in on the issue of freezing bottled water. Its website states: "This is an urban legend. Freezing actually works against the release of chemicals...[freezing] would limit chemical release if there were dioxins in plastic, and we don't think there are."

The FDA has reviewed migration-testing data and has concluded that PET containers do not leach harmful amounts of substances into their contents even under extreme conditions of use. With respect to leaving bottled water in a hot car, FDA has stated: "It is true that exposing the bottle to higher temperatures may imply a greater degree of migration of substances from the plastic to the water [or other beverages in similar containers]. However, in its safety review, the FDA takes into account exposures to higher temperatures, such as during storage and transportation of bottled water prior to sale, in its estimates of potential levels of migration of substances from the plastic to the water."

"The levels of migration expected, including during periods of exposure to elevated temperatures in storage and transport (such as might be experienced in a closed vehicle in the sun) have, as discussed above, been determined by the agency to be well within the margin of safety. Therefore, the agency does not consider this situation to be a safety concern."

What is the safety record of polycarbonate plastics?

Recent media stories have raised questions about the safety of polycarbonate plastic bottles due to the presence of a substance known as BPA. Polycarbonate plastic is used in a wide variety of consumer products, including food and drink containers. Many 3- and 5-gallon bottled water containers are made of polycarbonate plastic and consumers can remain confident about the safety of these products.

Polycarbonate plastic has been the material of choice for food and beverage product containers for nearly 50 years because it is lightweight, highly shatter-resistant and transparent. During that time, many studies have been conducted to assess the potential for trace levels of BPA to migrate from polycarbonate bottles into foods or beverages. The conclusions from those studies and comprehensive safety evaluations by government bodies worldwide are that polycarbonate bottles are safe for consumer use.

What is FDA's stance on BPA?

On October 28, 2008, FDA issued a statement in response to a report by an FDA Science Board Subcommittee that raised questions regarding FDA's safety assessment of BPA. FDA agreed that more research "would be valuable" and the agency

is "moving forward" with additional planned studies.

That statement also reaffirmed the agency's position regarding the safety of BPA. It said:

"Consumers should know that based upon all available evidence, the present consensus among regulatory agencies in the United States, Canada, Europe and Japan is that current levels of exposure to BPA through food packaging do not pose an immediate health

risk to the general population, including infants and babies."

Do plastic water bottles have a "shelf life"?

Container producers and bottlers continually conduct shelf tests of finished products over varying time periods and under various conditions to help ensure the safety and integrity of the package and its contents. Bottled water is considered a shelf-stable product, and there is no information linking safety concerns with bottled water sold up to two years after bottling. Some large retailers require all food suppliers (including manufacturers of bottled water and other beverages) to carry a two-year expiration date. Production-date coding is popular with retailers for stock rotation purposes.

FDA, which regulates bottled water as a packaged food product, has not established a shelf life for bottle water. IBWA advises consumers to store bottled water (and all other beverages in plastic containers) at room temperature (or cooler), out of direct sunlight and away from solvents and chemicals such as gasoline, paint thinner, household cleaners and dry-cleaning chemicals. In terms of storage and handling, consumers should treat bottled water with the same care and respect as other packaged foods and beverages.

CONTINUED ON PAGE 12



From correspondents at Food Quality News

Many Chinese food companies lag behind foreign firms in ensuring food safety, partly because consumers do not trust safety certification, said experts yesterday. China has thousands of small-scale food manufacturers and many do not invest in food safety certification, said Huang Dejun, director of Beijing Orient Agribusiness Consultancy (BOABC) earlier this year.

Huang was speaking at a meeting of food and agribusiness leaders outside Beijing to promote quality in the global food chain. Much of the discussion at the closing press conference focused on China. The country is now the third largest supplier of food and agricultural products to the US but has been racked by food safety incidents in recent years, including last year's melamine scandal that left at least six infants dead and thousands of others ill.

Conference participants stressed that China is not alone in facing food safety incidents but they recognized that the huge nation faces sizeable obstacles in improving standards.

"The Chinese consumer is going to have to realize the value of safe food. Larger companies putting [food safety and quality] programmes in place are having difficulties convincing consumers to pay more for those products," said Vincent Paez, director of food safety business development at Thermo Fisher Scientific.

Thad Simons, chief executive of animal nutrition firm Novus, pointed out that "there are companies in China following excellent processes". But frequent faking of labels and certificates means Chinese consumers have no reason to believe this is the case. "The consumer doesn't know who to trust right now," Simons said retailers could play a role in building consumer trust in safe brands.

Also, the government needs to back intellectual property, said Brady Sidwell, head of advisory at Rabobank's north-east Asia office. "Companies would be willing to invest in food safety if the consumer is prepared to pay more, which they will. But, if there's no brand protection and the company can't protect its premium, then there's no incentive for them to invest," he said.

Opportunities

Despite such issues, participants said interest in investing in China remains strong. Yangjun Lu, senior financial analyst at GIC, said foreign firms see "only the opportunities" in the Chinese market.

China has few nationwide food brands but market consolidation will force companies to pay greater attention to brand development and food safety, said Huang. The country's food and agriculture sector could be worth \$1.5 trillion but two-thirds of the market has not yet been explored, he added.

Small and medium-sized firms need more training on food safety, said Huang. "We hope we can learn from these foreign companies and draw on experience from abroad."

Since then, China's State Food and Drug Administration has launched a new food safety reporting system which it has offered for public consultation.

The system is designed to ensure food safety accidents or potential food safety accidents at regional level are reported swiftly and accurately. According to the China State News Agency: "The time to respond to the report should be no more than six hours, and no party or individual shall conceal, lie, or delay the reporting of food accidents."

Regional (above county level) food and drug administrations are empowered to investigate food service providers who are obliged to provide food samples and information. Regional administrators will be allowed to take some provisional measures including, but not limited to, isolating the food and materials that may be related to the accident, sealing contaminated tools, and disclosing information about the accident.

The new rules require food service providers to report any food related accidents within two hours to the local supervision departments and to take effective measures to coordinate the investigation of the accidents.

Meanwhile, China has also announced plans to launch a food safety commission to oversee the nation's entire food monitoring system.

The new commission is expected to focus on the nation's macro food safety strategies and the division of responsibilities in times of emergency. It will not have any representatives from the food industry.

Technical support for the new organization is expected to come from three existing organizations: the State Food Safety Science and Technology Commission, the State Food Safety Risk Assessment Commission, and the State Food Safety Standard Commission. ■



ECONOMIC & EFFICIENT

Temperature Monitoring in the Cold Chain

We all know the importance of maintaining food safety and quality as it travels through the supply chain from the farm all the way to the plate.

By Karen Constable : HACCP Australia

Managing temperature within the supply chain is necessary in terms of both food safety and quality.

The cold chain is a sequence of logistics in the production, distribution, storage and retailing of chilled and frozen foods. It extends from raw material supply, through production, to the presentation of product for final consumption, including the handover of foods between different links in the cold chain, for example from producer to delivery truck, from delivery truck to retailer.

Unfortunately, if there is a failure to maintain correct temperatures in the cold chain, the food manufacturer may be faced with the necessity of recalling products that have had their safety or quality compromised.

Refrigerated storage is a very widely practiced method of controlling microbial growth in foods. Storing foods at a temperature of less than 5°C will slow the growth of many micro organisms sufficiently to extend the shelf life by days or even weeks.

For different products, there will be an optimal temperature for storage, as well as a maximum time allowed for storage. The time/temperature requirements are determined by the potential for contamination with and survival of pathogenic organisms and the potential for subsequent growth and/or toxin production within the food.

As well as controlling microbial growth, storage at low temperatures also helps to minimize changes to the biochemical and physical properties of foods. For example, Vitamin C losses in vegetables can be up to 50% per day at ambient temperatures, but may be reduced to 10% per day when stored at 2°C.

Food codes require all potentially hazardous foods to be kept under temperature control. Temperature control generally means maintaining food at a temperature of 5°C or below or 60°C or above. The Food and Agriculture Organization of the United Nations' Agreement on the International Carriage of Perishable Foodstuffs Act (1987) specifies maximum allowable temperatures during shipping of meats (7°C); meat products, butter (6°C); poultry, milk and dairy (4°C); offal (3°C) and fish (2°C). Monitoring of these foods during transport and storage is important to ensure that these regulatory requirements are met.

Monitoring devices can now communicate temperature and global positioning data in real time using radio frequency identification.

There are a number of different methods for monitoring temperatures in the cold chain, including refrigeration system control and feedback devices, simple temperature gauges, hand-held devices such as probes or infrared surface temperature gauges, data loggers and time temperature indicators (TTIs) such as labels or markers that change colour when exposed to a certain temperature. There are even real-time temperature monitoring devices which communicate temperature and global

Small and inexpensive data loggers such as these are also ideal for use in the export of fresh seafood to overseas.

positioning data in real time using radio frequency identification tags. These are currently used during international transport of pharmaceutical products.

When choosing a temperature monitoring device for use in cold chain applications, there are a number of questions to ask: Do we need to measure ambient temperatures and packaging temperatures as well as product temperatures? What is the required temperature range for the instrument? Does the system need to provide a permanent record? Do we need to measure time/temperature combination and if so what frequency of sampling is required? What is the required accuracy? What is the required response time? If electronic, is the battery life suitable? Is water-proofing required? Can the data be imported into commercial data analysis software? Does the system allow ease of calibration? Does the monitoring device need to be re-useable?

One food business that uses data loggers to monitor product temperature is **Cadbury Schweppes** operations in Australia. Their confectionery is transported at the temperature of 15 – 17°C to maintain optimum product quality. The data logger that they use is the **3M TL20**. It is attached to a pallet of product before it leaves the **Cadbury Schweppes** National Distribution Centre in Melbourne, destined for a large customer such as a grocery chain. The receiver is asked to retrieve the data logger and return it to **Cadbury Schweppes** in a pre-paid postage bag.



After the data is retrieved, the devices are re-programmed and used again. Michael Ratcliffe, National Distribution Manager for confectionery, reports that the data loggers have been an

effective method of monitoring the performance of transport companies, which is particularly important during the summer months for this type of product.

Small and inexpensive data loggers such as these are also ideal for use in the export of fresh seafood to overseas markets. They allow the seafood buyer in the country of destination to access time/temperature data for the products that they have purchased. This gives assurance of quality and conformance to purchase agreements. The **3M TL20** is an economic and efficient data logger. It is extremely cost effective - even if used only once! However, it is re-programmable and can be re-used many times. Its small design, combined with its bright blue colour, make it versatile and easy to locate. There is a 'check' button with indicator light which allows the receiver to easily check for temperature abuse without having to download any data. Other features which make this data logger ideal for exporting include the ability to store shipping information, dual time zone reporting and multiple language options. ■

COLOUR CODING

Colour coding is one of the very best food safety disciplines and is commonly used for items such as chopping boards. But knives, cleaning equipment and other utensils will just as easily cross contaminate foods, particularly in raw/cooked situations. Consideration should be given to colour coding all equipment in key areas. Knives, utensils, wiping cloths, tongs, containers and cleaning equipment are all available in colour-coded systems.

Unfortunately, there is not one common globally recognised colouring system. However the following is commonly adopted by catering and food processing businesses.

-  White for Dairy,
-  Brown for Cooked Meat
-  Red for Raw Meat,
-  Blue for Seafood,
-  Yellow for Poultry,
-  Green for Vegetables

However, there are many different food-handling processes and no colour scheme could accommodate every application. Any colour combinations is fine as long as they are easily recognisable and all staff understand the rules.

Make and hang posters in a conspicuous place to remind the food handlers of the code system. And check that all staff recognise the colours – remember one in ten males suffers from some form of colour blindness! ■

DEMAND THE BEST



Protecta®



Contrac® Ditrac®



Trapper®



Used Globally, Trusted Locally

www.belllabs.com



THE WORLD LEADER IN RODENT CONTROL TECHNOLOGY

Madison, WI 53704 USA • www.belllabs.com

Modern technology and electronics combine to provide an effective air borne pollutant system



An introduction to BAXX cold plasma technology

BAXX is an advanced development discovered out of investigating methods of combating germ warfare by the British Ministry of Defence who had a remit to assess the risk of bacterial attack on the British Isles in the 60/70's. This in turn had been initiated by observations over a hundred years prior by Louis Pasteur who had documented that the atmosphere in high altitudes and sunny days reduced the incidence of infection and effectively killed bacteria and viruses.

The answer lay in the natural occurrence of airborne Hydroxyl Clusters.

Modern technology and electronics allows the BAXX to achieve the aim of eliminating airborne pathogens by using cold plasma to strip a hydrogen atom from some of the natural water molecules (H₂O) contained in the air around us, leaving them as unbalanced hydroxyl clusters (-OH). These clusters seek and attach to airborne bacteria and virus cells and recover their missing hydrogen atom from the cells wall to return to a natural water molecule again (H₂O). In that instant, the bacteria/virus metabolism and cell wall is disrupted and the cell dies. Thus nature's way of eliminating airborne pathogens has been reproduced.

Hydroxyl clusters will also land on surfaces and kill surface contamination by the same method. These same Hydroxyl Clusters can reduce and eliminate odours as well – particularly so on odours based on ammonia compounds and waste decomposition.

The use of stripping away hydrogen atoms from airborne water molecules to form hydroxyl clusters is unique to the BAXX cold plasma technology which naturally kills all airborne pathogens including MRSA, C.Diff (Spore Form), Norovirus and Bacteria. BAXX introduces several technological breakthroughs and advantages –

- It doesn't require any consumables other than electricity. No filters to clean, no chemicals or liquids to replenish, no service required. Install it and leave it to do its work. Electrical consumption is a mere 120watts – the equivalent of two 60watt light-globes.
- The case of the Baxx is in 316 stainless steel which makes it

ideal for food manufacturing plants, health care facilities, retail outlets, and any other moist environments where a germ free environment is paramount.

- The only moving part is a resin-packed motor attached to a fan. These type motors can cope with dry and dusty conditions to wet and clammy environments and so the Baxx can be employed in steamy kitchens or cold wet chillers just as easily as dry powder mixing rooms and anything in-between.

Such is the confidence in the construction and reliability of the Baxx unit that it is guaranteed for 3 years of non-stop 24/7 running.

The ceiling is the preferred mounting position for a Baxx unit – usually, but not essentially, central to the room. Brackets on the Baxx unit also facilitate wall mounting as an alternative where suitable. It's usual to hard wire the Baxx unit to a continuous power circuit as the Baxx unit should never be turned off. Not overnight, not for weekends, not for holidays – it's always working for you to eliminate pathogen contamination in that room.

Each room to be covered should have its own Baxx unit(s). A single Baxx unit is capable of covering up to a 360 cubic metre room, although if there are other fans or cross currents in the room then two units may be preferable to maximise air circulation and surface coverage.

The S800 unit is the largest unit of 1 metre long. It also has the highest treated air output and so is ideal for production areas. The smaller S600 unit has been recently released for quieter locations such as doctor's surgeries, hospital wards, office buildings, schools, children's nurseries and aged care facilities.

Booster units are available to supplement rooms with lots of airflow such as cool rooms. In these circumstances, a single S800 Baxx unit can be installed to run continuously, while the booster units are positioned in front of the existing cooling fans and wired to them so as to only be active when the fan is blowing over them. This reduces the initial purchase price of installing BAXX to large plants.

CONTINUED ON PAGE 10

In the near future, 12 and 24 volt units will become available for refrigerated trucks, coaches and similar such applications.

Applications encountered so far include –

- Flour mill storage rooms to eliminate flour moulds – 40% measured reduction.
- Packaging company clean rooms for food packaging materials.
- Smallgoods manufacturing.
- Export Game meat facility boning room.
- Yogurt cooking and rapid cooling rooms.
- Meat wholesalers.
- Chicken meat processing plants.
- Seafood processing plants.
- Hospital wards – particularly to combat Norovirus.
- Retail fruit and vegetable displays – reduced banana browning by 4 days.
- Cold storage rooms.
- Pet shops and accommodations.

The application of BAXX into the flour mills has been particularly exciting with a major milling company encountering problems of small pockets of mould growth in flour storage areas where some spilled and residual flour on the floors and in corners was near impossible to control.

BAXX was installed as a trial and in the first 2 weeks of operation demonstrated a 40% reduction in airborne spores and units were purchased. The same company in another plant were concerned about premature mould growth in some of their

Such is the confidence in the construction and reliability of the Baxx unit that it is guaranteed for 3 years of non-stop 24/7 running.

baked product lines prior to the packaged use-by dates despite positive and filtered air control in the packing and cooling rooms. The installation four Baxx units into an area of some 400 square metres of floor space to compliment the existing air control is showing dramatic improvements in lowering mould spore counts in the two rooms. Final results will be reported in a future update.

Several large meat and other food industry users of BAXX have also noted a reduction in sick leave by staff working in the areas covered by the Baxx units. After all, BAXX is killing flu and cold virus just as efficiently and effectively as any other pathogen. ■



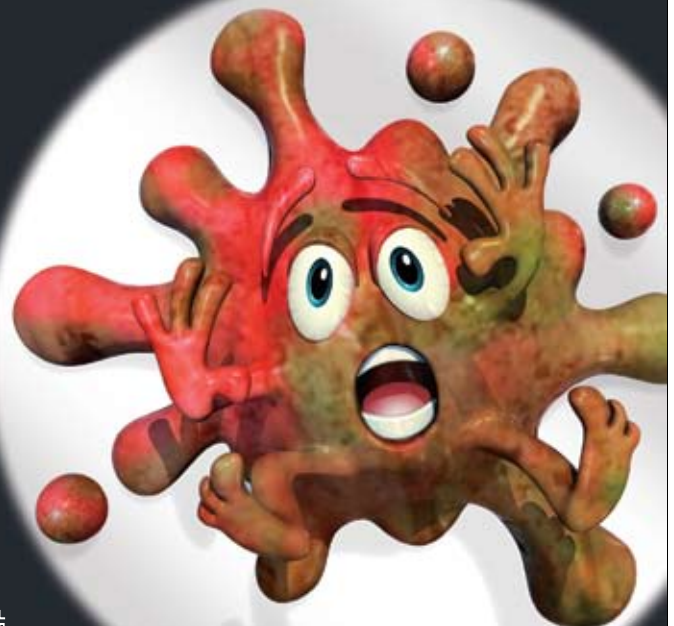
altro

the future is safer with altro

**Bacteria love grout and cracked ceramic tiles
Give them **nowhere to hide****

Altro Safety Flooring – the hygienic alternative to ceramic tiles, and reduces slips and falls too.

Available throughout the Asia Pacific region. Email now for your local distributor.



email: warwick@asf.com.au or visit www.nowheretohide.com.au

An introduction to HACCP International's regional operations in Asia

**Hong Kong Office combines with
Australasian and European Operations
to give even greater 'international'
support to the food industry**

HACCP International, the global organisation is represented in Asia by HACCP Asia Pacific. Its regional headquarters are in Hong Kong. From this international centre, HACCP Asia offers food science and food safety services industry in all Asia Pacific countries. The international organisation is supported by resources within the region as well as from regional offices in Australia and the UK.

Bill Simos is the Managing Director of HACCP Asia and heads up all regional operations of HACCP International. Prior to joining HACCP International, Bill worked for a number of publicly listed companies and most recently was Managing Director of IMI Cornelius Asia Pacific for four years. He has worked in the Asian Food and Beverage industry for over 20 years. He holds a degree in Food Science from the University of Western Sydney, Australia and a MBA from the University of South Australia.



Bill Simos, Managing Director – HACCP Asia Pacific

Martin Stone, the Technical Director of HACCP International says "Bill's background, coupled with his unique combination of professional knowledge and extensive industrial experience has equipped him extremely well to lead HACCP International's regional expansion. The client base that has already been developed in the region is testament to that. We are delighted to be offering our full a suite of technical and certification services to the Asian region from one central location. A significant

**"We now
deliver a
global service
with a regional
focus."**



number of international companies use our services and I am delighted that our support for those organisations can be handled either locally or globally through our Hong Kong Office. It makes great sense after a number of years of international activity in Asia.

Bill Simos said "I'm really excited about leading our development in the region at a time of great need and contributing to making Asian foods safer for the community as a whole. This is proving to be a very exciting time to be part of a business that has so much to offer in food safety and product assurance. With our international network now becoming firmly established, we now deliver a global service with a regional focus to the food beverage and pharmaceutical industries as well as the businesses that supply them. In the last few months, I have already enjoyed working on technical and certification projects with companies supporting the industry as varied as 3m, Dyson, Baxx and Halton as well as undertaking projects with a number of well known food processors and manufacturers.

As part of its portfolio of services, HACCP International is particularly well known for its certification of non-food products and services that are so important to the food industry. This confirmation of 'fitness for purpose' has proved very beneficial for buyer and seller alike in an industry which requires the highest level of compliance. Food science consultancy, programme development and risk management projects are also key services that are managed from the Hong Kong office. ■

The Asian office details are as follows:

**HACCP ASIA PACIFIC
UNIT 6601, 66/F, THE CENTRE, 99 QUEEN'S ROAD CENTRAL,
CENTRAL, HONG KONG, SAR**

TEL: 852 2824 8601

EMAIL: bill.simos@haccpasia.com

WEB: www.haccp-international.com

What happens to plastic food containers that are stored in sunlight?

Plastic food containers, including those used for bottled water, do not include additives to prevent the effect of ultraviolet (UV) light. Those effects may be seen in products such as plastic outdoor furniture, which when left outdoors in the sun may eventually turn colour or become brittle. Many plastics used outdoors may contain additives (so-called UV stabilisers) to at least slow down this process, but plastic beverage bottles do not contain such additives and, as a result, the plastic may become weakened and develop leaks over time. The guidance on direct sunlight is based on properties of plastics rather than anything specific to the contents.

What conclusion can be drawn from these facts?

Misleading statements about plastic containers are all too commonly repeated, not only on the Internet, but within our communities. But with all these facts in hand, beverage and food manufacturers are better equipped to deal with their customers' concerns and can confidently reassure them that plastic is a safe food-container material that has been thoroughly and exhaustively investigated by FDA and several international organisations.

"What Internet scaremongers don't understand is that FDA's clearance process includes stringent requirements for estimating the levels at which such materials may transfer to the liquid," says Doss. He concludes, "There is currently no indication that contaminants from migration or from the water source are a problem in bottled water. Plastic food and beverage containers meet or exceed all FDA requirements." ■

Reprinted with permission

packaging metering • sizing



enmin
VIBRATORY EQUIPMENT

www.enmin.com

Safe, clean and reliable production.



FESTO

You can rely on Festo for valves and actuators for safe and efficient operation in your splash zones. Installing automation components right where you need them results in faster cycle speeds and reduced energy consumption. Increase your productivity, security and peace of mind by installing HACCP accredited, clean design valves and actuators from Festo.

Web: www.festo.com.au
Em: info_au@festo.com
Ph: 1300 88 96 96



Food processors and handlers cut food miles by sharing transport

With world concern growing as to the carbon or energy cost of producing and transporting products, the concept of 'food miles' is being presented as a convenient measure that allows consumers to predict the environmental cost of the food they are consuming. The term 'food miles' was coined by Tim Lang (now Professor of Food Policy, City University, London) who said: "The point was to highlight the hidden ecological, social and economic consequences of food production to consumers in a simple way, one which had objective reality but also connotations." Most recently, in the UK large manufacturers and retailers have collaborated within the UK's 'Food and Drink Federation' to address this as Jane Byrne of Food Production Daily reports.

A collaboration between leading food manufacturers and retailers aims to reduce the environmental impact of transporting food and groceries in the UK, claims scheme pioneer IGD. The scheme is a direct response to spiralling energy costs as well as demands from consumers for a reduction in the number of food miles incurred in the distribution of products, according to IGD, a food and grocery think-tank.

Currently, 37 of the UK's biggest food and drink companies have signed up for the initiative, including Coca Cola, Coors, Northern Foods, Heinz and Asda.

The concept of 'food miles' is being presented as a convenient measure that allows consumers to predict the environmental cost of the food they are consuming..

"In a highly competitive industry, getting 37 companies working together in this way is very innovative and results so far are impressive," stated IGD President and CEO of Nestle UK, Alastair Sykes.

The Sustainable Distribution initiative will result in the removal of 800 trucks from UK roads this year, which will result in savings of about 23 million litres of diesel fuel per year, claims IGD.

Callton Young, director of sustainability and competitiveness for the Food and Drink Federation (FDF), said that the industry has a particular role to play in ensuring sustainable distribution of goods.

"Shared transport is one of a number of activities that food and drink manufacturers and other companies across the supply chain can pursue to achieve fewer and friendlier food miles," stated Young.

"FDF is working with its members to achieve sustainable distribution in line with a commitment made in our Five-fold Environmental Ambition, which we launched in October last year," he added.

The transport scheme kicked off through a pilot project in early 2007, which saw Nestle and United Biscuits working together to create efficiency in their distribution network.

United Biscuits trucks now collect a load of Nestle products each day from Nestlé's factories in York and Halifax and deliver it to Nestlé's distribution centre in the Midlands, reducing empty truck runs.

IGD said that Tesco and Unilever have also explored the potential of transport collaboration, sharing vehicles between the Unilever Doncaster and the Tesco Goole distribution centres, helping to remove 500,000 road miles.

Workshops

The partnerships followed the attendance by the companies at Efficient Consumer Response (ECR) workshops managed by the IGD, which aim to drive greater collaboration between retailers and suppliers to allow companies to discover transport sharing opportunities.

The IGD claims that the outputs of the initiative will be shared widely within the industry to encourage improvements from companies of all sizes. ■

FACTERIA

Campylobacter

Campylobacter is a common bacterial infection that causes abdominal pain and diarrhoea. In Australia and many developed countries, it is the second most common form of food poisoning. Campylobacter gastroenteritis is a type of food poisoning caused by the bacteria 'Campylobacter jejuni' and 'Campylobacter coli.' known simply as Campylobacter. Sensitive population groups such as children and the elderly are more susceptible to Campylobacter infections and the symptoms are usually more serious although it can harm anyone regardless of age or fitness,

The most common symptoms of Campylobacter infection are diarrhoea (often very severe), fever, stomach cramps, nausea and vomiting.

The bacteria is found to have a long gestation period before the onset of illness. It is most commonly takes between two and five days before one becomes ill. This can sometimes make tracking and elimination of the cause quite difficult. Furthermore, the time span allows for significant intermediate spread of the disease.

Complications can include meningitis, urinary tract infections, and possibly reactive arthritis (rare and almost always short-term) and occasionally Guillain-Barre syndrome, an unusual type of paralysis. While most people who contract campylobacteriosis recover completely within 2 to 5 days, some Campylobacter infections can be fatal, resulting in a number of deaths each year.

Digestion is the by far the most common way of contracting infection. The Campylobacter bacteria are most commonly found in animals such as poultry, birds, cattle and household pets. Campylobacter bacteria are often present in uncooked meats, particularly poultry and a lack of adequate cooking is the most common reason for illness. Incorrect pasteurisation also presents a high risk as does cross contamination between cooked and uncooked meats.

Sufferers from Campylobacter infection have the bacteria in their faeces and this emphasises the need for the implementation of hygiene policies, especially hand washing, in food and beverage handling facilities. This is especially important as humans and animals can carry Campylobacter in their faeces without displaying any symptoms.

Campylobacter infection must be reported to a doctor immediately to ensure appropriate treatment and further advice in halting the spread of the disease.

Child care workers and health care workers with Campylobacter infection must not work until symptoms have stopped.

Remember food handlers who suffer this or any food borne illness need a medical certificate prior to returning to work. ■

PLUG-IN Pest Free®

Australian Designed and Patented

Pest Free Australia has received Multiple Exporting Grants from the Australian Federal Government.

**DON'T
let this
happen
to your
building!!**



**Plug-In Pest Free's Innovative technology
also protects the electrical wiring
in a building**



DOMESTIC
for Homes

- ✓ No Chemicals
- ✓ No Smell
- ✓ No Mess
- ✓ No Fumes
- ✓ Non Toxic



COMMERCIAL UNIT
For Business Premises

- ✓ Workplace safe
- ✓ Staff Safe Food Safe
- ✓ Maintenance Free
- ✓ ENVIRONMENTALLY RESPONSIBLE

The Innovative Chemical Free Pest Management System for Businesses who set high standards for their staff and customers without the use of Toxic and poisonous chemicals.

Designed to last for MANY YEARS
Save \$\$\$\$\$\$ OF DOLLARS
From ongoing expensive toxic chemical treatments by Pest Controllers.



Pest Free Australia Pty. Ltd.

Unit 1/24 Portside Crescent,
Wickham NSW 2293
AUSTRALIA

Phone + 61 2 49 69 5515
Fax +61 2 49 69 5517

sales@pestfree.com.au
www.pestfree.com.au

**HACCP
ENDORSED**



- ✓ Scientifically Proven
- ✓ Independently proven
- ✓ Consumer proven since 1995

Peanut allergies gone within five years?



By Stephen Daniells of *FoodQualityNews.com*

Genetically modified plants or immunotherapy may eliminate allergies to peanut within five years, suggests a prominent scientist from Duke University.

The comments were made in a recent issue of *The Lancet*. Peanuts can cause the most severe food allergies, affecting about three million US residents a year, and causing up to 150 deaths.

The news however may put the dampeners on the free-from food market that has been enjoying sales growth of over 300 per cent in the UK since 2000, according to market analyst Mintel.

In industrialised countries allergies have been rapidly increasing in children, for causes that are not entirely understood. One study showed that between 1997 and 2002, peanut allergies in children doubled in the United States.

But help may be just around the corner, according to Wesley Burks from Paediatric Allergy and Immunology at Duke University Medical Center. Scientists at various groups around the world are working on the development of novel immunotherapeutic strategies, which would alter the immune system's response to an allergen.

Various approaches are under investigation, but they are based on the principle of curbing the immune response of so-called Th2 cells, or by inducing tolerance.

"These studies offer the possibility of at least raising the threshold of the amount of peanut that it would take to cause a life-threatening allergic reaction; whether these types of treatments are likely to cause eventual clinical tolerance to develop remains to be seen," wrote Burks.

"It is likely that in the next 5 years there will be some type of immunotherapy available for peanut allergic individuals," he added.

The GM approach

Another approach that may yield results is the development of allergen-free peanut plants.

"An example would be to introduce anti-sense RNA copies of

the allergen gene into the peanut plant to suppress allergen gene expression," stated Dr. Burks. "Post-translational gene silencing by mRNA degradation is another approach being investigated."

"The difficulty with this and similar approaches is that several peanut proteins are involved in IgE binding.

"The process of altering enough of the peanut allergens to make a modified peanut that is less likely to cause an allergic reaction would probably render the new peanut no longer a peanut," he added.

Despite offering a potentially life-saving solution for millions around the world, acceptance of GM peanuts is not guaranteed. The GM tag continues to be one of the biggest challenges for consumer acceptance, particularly in Europe and most notably in the UK.

All food allergies gone within a decade?

In 2006, Dutch researchers told the BA Festival of Science in England that food allergies could be consigned to the history books within a decade if the combination of biotechnology and vaccines work as planned.

Dr. Ronald van Ree from the University of Amsterdam told attendees in Norwich that the key finding of the research presented was: A clever combination of biotechnology (hypo-allergenic recombinant allergens) and vaccine-development (novel adjuvants based on anti-inflammatory molecules from pathogens) [to] provide new tools to treat food allergy.

An estimated four per cent of adults and eight per cent of children in the 380m EU population suffer from food allergies, according to the European Federation of Allergy and Airways Diseases Patients' Associations. ■

Source: *The Lancet*
Volume 371,
"Peanut allergy"
Author: A.W. Burks



TOP 5



Food safety needs to be considered at every stage of the supply chain: from processing through distribution to consumption.

HACCP International director, Martin Stone, identifies the key food safety areas of which food manufacturers should be aware.

TOP 5 FOOD SAFETY ISSUES

1. Foodborne illness

Incidences are increasing in at exponential rates due to better reporting systems, greater awareness and reporting of incidences, and changing dietary habits including the move towards more complex, processed foods and eating out. Food is also travelling further for longer periods of time. Increased handling of food in a longer distribution chain means more opportunity for food safety to be challenged.

2. Importing food

This can be a risky business, especially if food is being imported from countries that do not have food safety controls. While food production and imports may keep costs down, controls differ considerably from country to country. There needs to be appropriate food safety controls during the manufacturing stage.

3. Uniformity in laws and requirements

Not all food processors have a food safety programme in place. There is no uniform mandate saying something needs to be in place. While there are food standard codes there is a general lack of understanding of safety requirements.

4. Pest control

There are potential food safety risks when dealing with chemicals on-site. Both the chemicals themselves and their ability to lose potency can contribute to the risk of contamination.

5. Poor auditing

There is a large variation in the skill and ability of non-HACCP auditors in determining real food safety issues. Some auditors are too focused on minor issues within documentation and as a result

they lose site of what is actually important: making food safe. This situation results in companies looking good on paper but being less good in terms of their manufacturing facilities and practices.

TOP 5 CAUSES OF FOODBORNE BACTERIA TO BE ELIMINATED

1. *Salmonella* species
2. *Listeria monocytogenes*
3. *Campylobacter jejuni*
4. *Escherichia coli*
5. Norovirus

TOP 5 CAUSES OF FOODBORNE ILLNESS

1. **Incomplete cooking** (kill-step).
2. **Poor refrigeration.** Failure to store food at the correct temperature throughout the supply chain.
3. **Food cooling rate.** Some food is left warm for too long.
4. **Cross contamination**
5. **Poor hygiene.** Workers who have a foodborne illness or touch their face and hair can contaminate product.

TOP 5 MEASURES FOR PREVENTING FOODBORNE ILLNESS

1. **Appropriate controls.** Companies should implement a HACCP programme and follow it
2. **Put appropriate controls in place for key processes including cooking and cooling** HACCP will ensure this but if a company does not have a HACCP program, these measures still need to be implemented.

3. Personal hygiene. Ensure workers maintain high standards.

4. Suppliers' practices. Suppliers should comply with food-safe standards. Once the manufacture has an effective and safe system in place, the biggest risk to the business is from suppliers. Avoid buying from those without food safety credentials. (and check those that have!)

5. Cleaning and sanitising processing areas and equipment. This is of the utmost importance.

TOP 5 REASONS TO BE HACCP CERTIFIED

1. External verification. Certification is a clear declaration that a food manufacturer maintains stringent food safety standards.

2. Verification can open up markets for distribution. Many companies will not buy from a manufacturer unless they are HACCP certified.

3. Achievement and recognition for the business

4. Increased export potential

5. Reduced risk of costly food recalls and foodborne illness

TOP 5 BARRIERS TO IMPLEMENTING A HACCP PROGRAM

1. Time

2. Technical ability

3. No buy-in (mandate) from senior management to put it in place

4. Getting support

5. A poorly written, non-practical system. If a system is not practical, common sense and easy to use it will not work. Companies should get HACCP systems professionally developed.

TOP 5 DEVELOPMENTS IN FOOD SAFETY TECHNOLOGY

1. Improved instrumentation

2. Alarmed data loggers to record temperatures

3. Automation of factory equipment

4. Rapid microbiological testing methods

5. Allergen detection systems

TOP 5 HACCP AUDITING NO-NOS

1. Being unprepared. Documentation should be ready for the auditor.

2. Having a dirty facility. Sites should be clean and have no obvious pest problems.

3. False or missing records

4. Misleading documentation that does not reflect actual practices

5. HACCP systems that are not maintained. ■

This article was based on an interview with Martin Stone of HACCP International and written by Celia Johnson of 'Food' magazine. It is reprinted with their permission.

FLEXIBLE PVC

Strip doors

Room dividers

Swing doors

Sound booths

Welding bays

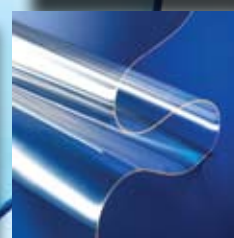
Flexible glazing

Waterproof liners

Safety accessories

Full sales, cutting and welding services

Available in strip, sheet or cut to size



DMF's flexible PVC satisfies all requirements of HACCP Australia Food Accreditation Systems, and is therefore endorsed as "food-safe" in food processing and handling facilities.
CERTIFICATE No. PE-501-DMF-01



Ph +61-2-9636 5466
www.dmf.com.au

DMF INTERNATIONAL PTY LTD SYDNEY AUSTRALIA

THE IMPORTANCE OF FOOD SAFE QUALITIES IN NON-FOOD ITEMS

Food safety is often considered to be a function of ingredients, processing and packaging. Whilst this is largely true, the impact of non-food items used to prepare and manufacture food is often overlooked, potentially with serious consequences. Inappropriate or poorly-designed, non-food items ranging from gloves to cleaning chemicals to bearings to hand dryers have also been responsible for numerous contaminations of food. Important considerations such as toxicity, consequence of error, sanitary design materials, instructions and methods for use must be reviewed to ensure the risk generated by the use of these items is acceptable.

HACCP International's certification scheme for non food items addresses these important issues giving users (and often the vendors!) assurance as to the 'fitness for purpose' of many products that are commonly used in the food industry. The mark can be seen in many parts of the world attached to excellent food safe products from companies as diverse as **3m**, **Clorox**, **Philips**, **Festo** and **Dyson** all of whom manufacture excellent food safe products to support the food industry.

Toxicity is one of the more straight forward design criteria. Most items used in the industry for food contact have a low toxicity when used as directed. However, sometimes a toxicity risk is not obvious. Consider for example, a lubricant which may not have any food contact opportunity under normal use but which could contaminate food should a seal fail.

In another example, significant in-roads in this regard have been made by the compressed air industry. A firm recently reviewed

by HACCP International takes an excellent risk management approach to the design, production and use of compressed air in the food facility. Their designs resulted in fail-safe installations meeting the requirements of the food industry and standards such as BRC compressed air for direct food contact.

To some extent, all things are toxic. It is the potential exposure that needs to be considered. Of course, appropriate risk management dictates that this consideration should be undertaken in a worst case scenario. If, in a worst case scenario, an aid to manufacturing could have a significantly toxic effect on the food stream, clearly an alternative must be sought.

Often non-food products used in everyday life are found to be inconsistent with 'Good Manufacturing Practices' (GMP) due to a failing in their design or application. A simple example here is the snap-bladed craft knife or 'box cutter'. Whilst used extensively, these items are totally unsuitable within the food industry because one of their 'useful' design features can lead to disaster in food manufacturing.....their blades are designed to snap off. Once snapped, the blade is like a small razor blade and something to avoid at all costs in the food stream.

Many of the best products carry a food safety certification mark. The HACCP International mark is particularly well respected and confirms 'fitness for purpose'.



Festo's well designed valve terminals have excellent food safety characteristics

Much has been written about sanitary design and numerous international standards and guidelines reflect what is considered to be appropriate design criteria providing for ease of cleaning and sanitation. Simple things like lack of thin gaps and large radius junctions between surfaces are standard on many designs for the food industry. Other considerations include ease of strip down to component parts and potential for use of CIP (Clean-in-place) systems. A recent listeria outbreak was traced to a meat slicer which was well designed except for one crucial area....a drive actuator located in the splash zone could not be removed for cleaning with any ease. In this case, the listeria was allowed to grow in this area subsequently contaminating the food and resulting in a significant product recall.

Consequence of error is a factor that is commonly overlooked when purchasing equipment and aids to manufacture for use in the food industry. A simple example to illustrate this would be a small oil sight gage on top of a closer. Under normal use the glass gauge will give years of service with a low risk to food safety. However, should the gauge be impacted or subject to thermal shock, the glass may fracture resulting in potential contamination of the food stream.

Passive sanitation systems also require consideration. Much has been done with self-sanitizing surfaces using ion technology. These advances have been taken up by a range of non-food aids to manufacture from floors to cool room panels to hand washing systems.

It is also important to consider risks in the facility where the non-food items are manufactured. In the case of packaging for example, this is a major concern. Primary packaging items with long term direct food contact and which are used without a decontamination step will have a similar risk profile to a food ingredient! Consider the simple plastic bottle cap. A clear risk exists here. Anything which may contaminate the cap at the plastics factory will directly contaminate the beverage that it is designed to protect. Plastics moulder facilities rarely manufacture caps for the food industry only. A range of other moulded materials may well be manufactured in the plant for which food safety issues are irrelevant. The introduction of one food industry product means a food safety risk strategy, including GMP protocols, needs introduction and this might well impact processes for all products in some way, not just those that are manufactured for the food industry.

Many manufacturers of non-food items have been quick to respond to the requirements of the food industry. Recent evaluations and certification of equipment by HACCP International have discovered many products that incorporate excellence in the design criteria leaving practical application by food manufacturers.

Low, risk-fail-safe inclusions have ensured rapid uptake of these food safe items by the industry. Interestingly, some items have had positive effects on other aspects of food manufacturing design. For example, a recently evaluated extraction system not only performs its core task with excellence, the design also assists with two other facility design issues; cooling and negative pressure. The designers have taken a holistic approach to the food facility and incorporated design criteria that make everyone's job just that little bit easier.

Whilst in today's economic climate, there can be a tendency to move towards low cost alternatives especially with regard to non-food aids to manufacture, the food safety risks of such items clearly deserve special consideration. Design excellence of these items exists in differentiated products and their use in food manufacturing will certainly reduce risk and will undoubtedly eliminate potential hazards.

Consider these risks. There have been just too many cases of contamination, recall, or production disruption where food safety has been compromised through the use of poorly designed or poorly selected non-food materials which do not meet appropriate standards for the industry. Be it an item of equipment, a chemical, a consumable product or fit out material, looking for assurance as to its 'fitness for purpose' - prior to purchasing - is the first step to eliminating a high risk hazard.

Many of the best products carry a food safety certification mark. The HACCP International mark is particularly well respected and confirms 'fitness for purpose' in this regard. ■

Martin Stone, Director, HACCP International

HACCP International is a leading food science consultancy specializing in the evaluation and certification of materials used in the food industry in terms of food safety



Asia Pacific Food Industry

www.apfoodonline.com

A useful online publication that complements their well circulated journal. This journal keeps you informed of developments and concerns in this regions and reports on interesting case studies and product news. Food safety is featured frequently and the events calendar gives a comprehensive diary of the most significant shows, meetings and conferences.

Food and Fun

www.nms.on.ca/Elementary/fun_food_facts.htm

This is a bit silly but actually full of trivia which we found to make good reading. If you can remember one or two of the 'fact's here, you might impress... somebody...sometime. Did you know that lemon was originally served with fish in the belief that the juice would dissolve swallowed bones!

Health 'Insite'

www.healthinsite.gov.au

As well as having a clever name, this Australian government initiative site contains a wide range of information and with a very useful and pertinent 'food safety' section. Put 'food safety' in their internal search engine and a host of subjects are well addressed in such fields as Nutrition, Storage, Regulations and Food Handling.

Mould Mould Mould

http://www.fsis.usda.gov/FactSheets/Molds_On_Food/

Unite States Dept of Agriculture's Food Safety and Inspection Service can tell you all you need to know about mould in one short article – what a great site! Includes identification, advice on what to keep an what to discard and also addresses mycotoxins and aflatoxin.

Airline Meals

<http://www.airlinemeals.net/>

Hate them - or even love them (some people do, you know, Business Class can be good so we've heard!), airline meals always prompt 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 and the worst from all over the world. Don't just grumble next time - take a photo and send it in!!

Fast and Easy Electronic Measurement of Cooking Oil Quality



Frozen food is “in”

Deep-frying, i.e. cooking food in hot fat, is a popular form of food processing which more than likely has to do with the fact that the food industry offers quality, high standard products which can be frozen and easily cooked in this way, e.g. french fries, fish, meat products coated with breadcrumbs, some vegetarian products. In addition to the long shelf life of these products (frozen goods), they are quickly and hygienically prepared making them suitable for a varied menu.

How to deep-fry

In the deep-frying process, the water contained in the product is used for cooking. The water is vaporised due to the hot oil (typically 170 to 175°C) but is simultaneously bonded by the oil so that it cannot immediately escape to the ambient air. In this way, a type of “vapour baking” takes place. However, the cooking oil used has to be sufficiently fresh, otherwise the deep-fried food would have an unsightly dark brown colouration and substances could be released which are detrimental to flavour and can potentially impact on the health of the consumer. Rapeseed, peanut, or coconut oils, either pure or in mixtures are used as classical cooking substances.

In addition to rancidity through oxidation the quality of the oil is influenced by the effect of heat and by the characteristics of the food being deep-fried in it. This is referred to as the thermal oxidative modification of the cooking oil. Scientific research has shown that the so-called polar components (TPM = Total Polar Materials) are a good indicator of the thermal oxidative load of cooking oil. They are also an indication of how “used” the cooking oil is. A high level of polar components indicates that the cooking oil has been used frequently.

Measuring methods

Classically, the polar components are measured using column chromatography. In many countries, it is the reference method used by government research institutes or food laboratories. The different components of cooking oil are separated in a column (pipe shaped glass body) according to the retention

principle. However, the measurement of polar components according to this method is usually limited to laboratories with trained personnel on account of the complexity involved and the experimental set-up. This method is unsuitable for use in industrial kitchens or restaurants. However, polar components can also be measured using a physical parameter: the dielectric constant.

Increasing polar components in cooking oil has the effect of changing the dielectric constant because the “polar components” are aligned in an electrical alternating field. The change in the dielectric constant is measured on a capacitive basis using a special sensor and is converted to the required percentage TPM display variable. In this way, fast electronic measurement of this reading is possible.

Electronic testo 265 oil tester

testo AG has developed a compact, electronic hand-held instrument for daily use. The main part of the instrument is a sensor developed by Testo, which can be immersed directly in the hot cooking oil. After approximately 25 to 30 seconds, the instrument shows the number of polar components directly in the display. The current cooking oil temperature is shown in a second display line. 2 limits, which trigger a light emitting diode whose colours depend on the oil quality, can be set in the



instrument making operation easy for all kitchen staff. If this light emitting diode is green, the cooking oil is fresh; a yellow display indicates that the oil is slightly used; a red display indicates that the oil should be changed soon. Both limit values



(threshold values from green to yellow or yellow to red) can be defined by the user. In this way, anyone can measure cooking oil quality quickly and efficiently.

The testo 265 does not need to be adapted to the cooking oil used, therefore you can use any standard oils and fats. The tester is easy to clean and can be held under running water due to the "TopSafe" protective case. Since the "TopSafe" is resistant to heat, it can even be cleaned in the dishwasher. This is a very useful hygiene feature.

The testo 265 can measure cooking oils in a range from +40 to +200°C. The device has a temperature display which negates the need for the use of a separate thermometer.

For further information on the testo 265 please contact our dedicated team at www.testo.com ■

FoodQuality news.com

FoodQualityNews.com is a leading daily B2B news online service Food Safety and Quality Control. The site focuses on the areas of HACCP, Food Safety, Food Quality, Food Microbiology and Hygiene, providing professionals every day with the latest breaking news and its implications for the industry. Joining the subscriber base entitles one to the free newsletter.

www.foodqualitynews.com for more details.

FoodQualityNews.com is published by Decision News Media, an international online business-to-business news publisher. The company runs market leading science and business news services in the food, pharmaceuticals, science and cosmetics industries. From its newsrooms in Europe, the USA, Russia and Asia Pacific, Decision News Media serves decision makers in large international companies worldwide. Decision News Media has its head office in Montpellier - France and offices in London and Hoboken - New Jersey.

www.decisionnewsmedia.com

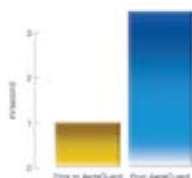
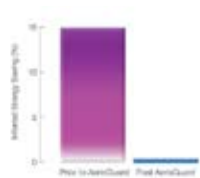
COOL ROOM PERFORMANCE SOLUTIONS

Aeris Hygiene
SERVICES
Cool Room Performance Solutions

RESULTS WHICH SPEAK FOR THEMSELVES

Up to 15% reduction
in Cool Room electricity

Up to 250%
improvement in airflow



Benefits of Aeris Hygiene Services

A complete remediation and preventative treatment by Aeris Hygiene Services can:

1. Reduce electricity usage by up to 15%
2. Improve shelf life of produce and reduce spoilage
3. Improve airflow by up to 250%, resulting in improved temperature control and consistent temperature throughout room
4. Restore the indoor air quality of the refrigerated space

Call +611300 790 895 for a quotation

STARKEYS PRODUCTS

ESTABLISHED 1969

A DIVISION OF E.B. HOLLOWAY PTY LTD ABN 18 008 770 974

**Australia's largest electric fly killers and
insect trap manufacturers**

FLY TRAP 80
PATENT PENDING



DECORE



SHATTERPROOF TUBES



Why take the risk with
your reputation, your
food quality and your
customers safety?



46 Achievement Way "Enterprise Park"
Wangara Western Australia 6065
Telephone: 61 8 9302 2088
Facsimile: 61 8 9302 2138
Email: Starkey@inet.net.au
Website: www.starkey.inet.net.au



Poor practices lead to **DEATH OF 14** and injury to further 36

Inadequate design and poorly managed dust collection causes tragedy in US sugar factory. A lesson to be learnt.

A final draft report released in September by the US Chemical Safety Board gives an insight into the catastrophic dangers to which poor design, housekeeping and manufacturing practices can lead.

CSB investigators said the, 2008, explosion at the Imperial Sugar refinery in Port Wentworth, Georgia USA, resulted from ongoing releases of sugar from inadequately designed and maintained dust collection equipment, conveyors, and sugar handling equipment. Inadequate housekeeping practices allowed highly combustible

sugar dust and granulated sugar to build up throughout the refinery's packing buildings, CSB investigators concluded.

The first explosion – known as a “primary event” – likely occurred inside a sugar conveyor located beneath two large sugar storage silos. The conveyor had recently been enclosed with steel panels creating a confined, unventilated space where sugar dust could accumulate to an explosive concentration. Sugar dust inside the enclosed conveyor was likely ignited by an

“Dust explosions can be among the deadliest of industrial hazards. These explosions are readily prevented through appropriate equipment design and maintenance and rigorous dust-cleaning programs.”



overheated bearing, causing an explosion that traveled into the adjacent packing buildings, dislodging sugar dust accumulations and spilled sugar located on equipment, floors, and other horizontal surfaces. The result was a powerful cascade of secondary dust explosions that fatally injured 14 workers and injured 36 others, many with life-threatening burns. The refinery's packing buildings were largely destroyed by the blasts and ensuing fires.

The final report and proposed safety recommendations will be considered for approval by the CSB board members at a public meeting tonight in Savannah. The meeting begins at 6:30 p.m. at the Hilton Savannah Desoto hotel, located at 15 East Liberty Street. The meeting will include a public comment period. The CSB also today released a four-minute computer animation depicting the sequence of events that led to the accident. The 3-D animation will be included in a CSB Safety Video on the Imperial disaster that will be issued shortly after the final report is approved and will be available on the agency website, www.CSB.gov.

CSB Investigation Supervisor John Vorderbrueggen, P.E., who led the 19-month investigation, said, "Imperial's management as well as the managers at the Port Wentworth refinery did not take effective actions over many years to control dust explosion hazards – even as smaller fires and explosions continued to occur at their plants and other sugar facilities around the country."

The CSB report said that the sugar industry was familiar with dust explosion hazards at least as far back as 1925. Internal correspondence dating from 1967 showed that Port Wentworth refinery managers were seriously concerned about the possibility of a sugar dust explosion that could "travel from one area to another, wrecking large sections of a plant." Precursor events included a 1998 explosion at Imperial's plant in Sugar Land, Texas; an explosion at the Domino Sugar plant in Baltimore in November 2007; and two sugar dust explosions in the 1960's that killed a total of ten workers. However, Imperial management did not correct the underlying causes of the sugar dust problem at the Port Wentworth facility, where

workers testified that spilled sugar was knee-deep in places on the floor, and sugar dust had coated equipment and other elevated surfaces.

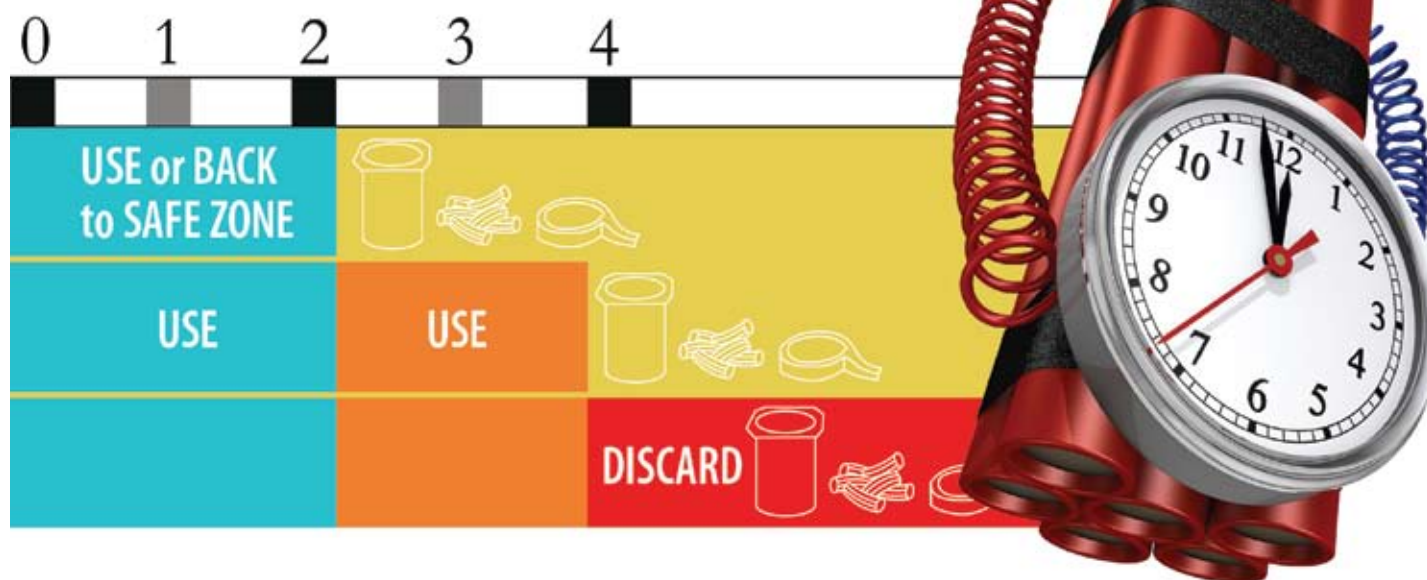
CSB Chairman John Bresland said, "Dust explosions can be among the deadliest of industrial hazards, particularly inside heavily occupied buildings. But these explosions are readily prevented through appropriate equipment design and maintenance and rigorous dust-cleaning programs. I call upon the sugar industry and other industries to be alert to this serious danger."

The report said the company had not conducted evacuation drills for its employees and that the explosions and fires disabled most of the emergency lighting, making it difficult for workers to escape from the labyrinth of explosion-damaged buildings as the fires continued to spread.

The final report proposed a series of safety recommendations for Board consideration. Imperial Sugar was urged to comply with National Fire Protection Association (NFPA) recommended practices for preventing dust fires and explosions, develop dust training and housekeeping programs, and improve its evacuation procedures. The report also called on industry groups AIB International and the American Bakers Association to develop combustible dust training and auditing materials. Imperial's insurer, Zurich Services, and an insurance industry trade association should improve their insurance audit procedures for dust hazards and share their dust hazard training materials with clients, investigators concluded.

A 2006 CSB study identified 281 combustible dust fires and explosions between 1980 and 2005 that killed 119 workers and injured 718, and extensively damaged industrial facilities. The CSB recommended in November 2006 to the U.S. Occupational Safety and Health Administration (OSHA) to develop a comprehensive regulatory standard for combustible dust, based on existing NFPA consensus standards, and improve requirements for dust hazard communication to workers. In April 2009, OSHA announced it would commence the development of a standard. ■

The 2 Hour-4 Hour Rule EXPLAINED



You may ask, "What is the 2 hour-4 hour rule and how has it come about?"

Well, firstly the rationale; The rule is all about potentially hazardous foods, bacteria, temperature and time.

In a worst case scenario, food which will support the growth of bacteria, when held at the 'wrong' temperature for a period of time, will allow dangerous pathogens to grow and multiply causing food poisoning when the food is consumed.

Let's briefly look at each of these factors;

Foods which will support the growth of bacteria are considered to be potentially hazardous. They are the ones which you would normally store in a refrigerator including meats, dairy, cooked rice and pasta etc etc. They support the growth of bacteria because their composition is 'friendly' to these micro-organisms in terms of moisture, nutrients and other environmental conditions such as acidity.

Bacteria are single-celled micro-organisms and different species can survive in a variety of extreme conditions. They are literally everywhere. Most are harmless, but some cause food poisoning if allowed to grow and multiply. These are called pathogens.

Temperature is important to the growth of bacteria and although some extreme species can live and grow at temperatures below freezing and above boiling, most pathogens growth is slowed or stopped at temperatures below 5 deg C and above 60 deg C...between these two temperatures is what is known as 'the danger zone'.

Time is the final factor. When bacteria enter a temperature zone which is favorable to them (the danger zone), they actually take

a little time before they start to grow and multiply. They enter what is called a 'lag phase' where they start to get ready to multiply. This lag phase is the basis of the 2 hour-4 hour rule. After the lag phase is completed, the bacteria will then multiply rapidly to a point where food poisoning can occur.

So putting all this together and introducing the 2 hour-4 hour rule, there are three key stages or time periods;

Below 2 hours in the danger zone for potentially hazardous foods; Most bacteria remain in the lag phase and are not really growing rapidly. Therefore, the food is safe to consume/use or return the food to the 'safe zone' (below 5 or above 60).

Above 2 hours but less than 4 hours in the danger zone for potentially hazardous foods; Bacteria are now starting to grow and multiply....whilst yet not at dangerous levels, the food cannot be returned to the safe zone and must be used/ consumed from this point.

Above 4 hours in the danger zone for potentially hazardous foods; At this stage, bacteria may have multiplied to dangerous levels and there is no alternative but to discard the food. It should not be returned to the safe zone or consumed.

Now, there are a couple of exceptions and issues with cumulative time etc, but let's keep it simple;

Less than 2 hours; Use or return to safe zone

2 – 4 hours; Use

More than 4 hours; Discard.

Use the 2 hour-4 hour rule, where appropriate, to ensure potentially hazardous foods are safe to consume. ■



DESTROYS BACTERIA

Fast facts.

Baxx is an environmental pathogen and air-borne pollutant removal system.

Baxx is not an Ion, UV or Ozone generator. Its cold plasma technology kills Bacteria, Virus, Moulds & Fungus by disrupting the metabolism of their cell walls – no toxins, no chemicals, no radiation.

There are neither filters to replace nor consumables – no servicing and requiring only an occasional clean. Install it and let it do the work. Ceiling or wall mounted. 220v -240v.

3 year 24/7 warranty - continuous running.

Unique cold plasma technology to create Hydroxyl Clusters which naturally kill all airborne pathogens. These groups also react with odour causing chemicals such as ammonia and methane gas to produce neutral compounds such as Co₂, Nitrogen and Water. The harmless way to create a safer and cleaner environment.



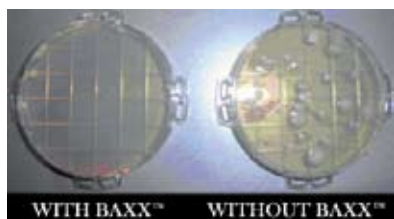
As used in UK and European hospitals, and now fast being adopted in stainless steel versions with resin fan motor for the food manufacturing industry as well.

BACTERIA : testing on air-borne pathogens found the Baxx to be up to 99.9% effective in removing pathogens after 90 minutes.

VIRUSES : in controlled environments viral traces were reduced by 88.96% after 90 minutes.

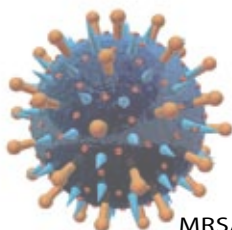
FUNGI : test's on rice placed in a high humidity environment for one week, found that mould growth and spore production completely arrested in a Baxx environment as opposed to complete inundation of the rice in a non-Baxx controlled environment.

AMMONIA : Ammonia concentrations were reduced from 100% to 0% within 30 minutes as compared to 48% by natural reduction.



TESTS INDICATE EFFECTIVE ELIMINATION OF THE FOLLOWING -

ESCHERICHIA COLI (E COLI)
STAPHYLOCOCCUS AUREUS
LISTERIA MONOCYTOGENES
PSEUDOMONAS and ASPERGILLUS NIGER
CAMPYLOBACTER
BACILLUS SUBTILIS SPORE
SALMONELLA
SACCHAROMYCES CEREVISIAE
MRSA, C.DIFF(SPORE FORM) AND NOROVIRUS



BAXX™

AUSTRALIAN TECHNOLOGY PATENT NO.2006100345 AUS
SPECIALLY DESIGNED FOR BACTERIA ELIMINATION

www.baxx.com.au

www.baxx.biz (Singapore)

www.baxxuk.com



FACT

“These products are food safe”



www.haccp-international.com

The HACCP International certification process supports organisations that demonstrate food safety excellence in non-food products that are designed for, or commonly used, in the food industry. The HACCP international mark is particularly aimed at those products that are required to be 'food safe', compliant or HACCP approved in order to meet the food safety demands of their quality conscious customers. The independent assessment and verification process offers assurances to the buyer that such products are fit for purpose, and, used correctly, will not compromise food safety protocols.

Certified products are rigorously reviewed by HACCP International's food technologists and in their estimation both contribute to food safety in their use and demonstrate appropriate standards of food safety in their design, manufacture and technical application.

Only products that are certified by HACCP International can carry the HACCP International mark or its regional equivalent. Quite often, certification requires manufacturers or service providers to make modifications to a product, be it in terms of design, material selection or claims about the product in order to comply. The process is particularly useful for products which have many industrial applications of which the food industry is one important segment.

The companies listed below have a range of products which carry the HACCP International mark or a regional equivalent for more local application. Please call one of our regional offices for further information or if you are looking for a food safe product.

CATERING AND FOOD SERVICE EQUIPMENT

SEMAK
MACKIES ASIA PACIFIC (I)
TOMKIN
AACLAIM
FOOD SERVICE EQUIPMENT (FSE)
KENCAN LTD

CLEANING EQUIPMENT

AUSSIE RED EQUIPMENT
GOLDSTEIN ESWOOD
OATES CLEAN
SABCO
STEAMASTER AUSTRALIA

CLEANING CHEMICALS KITCHEN MATERIALS AND SANITATION PRODUCTS

3M
AVANTI CHEMICALS
BIOTECH-OZONE
CLOROX
CONCEPT LABORATORIES
DEB GROUP
GREEN MOUNTAIN SOLUTIONS
LALAN SAFETY CARE
OATES CLEANING
PASCOES
PROARMA
SCA HYGIENE

CLEANING & MAINTENANCE SERVICES TO THE FOOD INDUSTRY

ACE FILTERS
AERIS HYGIENE SERVICES
BORG CLEANING
CHALLENGER CLEANING SERVICES
ICE CLEAN INDUSTRIES
INTEGRATED PREMISES SERVICES
ISS HYGIENE SERVICES
METROPOLITAN FILTERS

CLOTHING, DISPOSABLE

GLOVES AND PROTECTIVE WEAR

MOBILE TRUCK WASH COMPANY
OZ TANK
PINK HYGIENE SOLUTIONS
POWERTANK

LALAN GLOVES SAFETY CARE

LIVINGSTONE INTERNATIONAL
PARAMOUNT SAFETY PRODUCTS
RCR INTERNATIONAL
STEELDRILL WORKWEAR & GLOVES
SCA HYGIENE

FACILITY FIXTURES, FLOORING AND FIT OUT

ALBANY DOORS (I)
ALTRO FLOORING
BASF CONSTRUCTION - UCRETE
BLUE SCOPE STEEL (I)
BREMA - ICE MASTER SYSTEMS
CARONA GROUP
DMF INTERNATIONAL DOORS (I)
DEFLECTA CRETE
DYNAMIC COMPOSITE TECHNOLOGIES
DYSON AIRBLADE (I)
GENERAL MAT COMPANY
HOSHIZAKI LANCER
LAMAL GROUP
PHILIPS LIGHTING
RAMVEK
ROXSET
THORN LIGHTING (I)

FOREIGN BODY IDENTIFICATION

SMITH HEINMANN AUSTRALIA
WJB ENGINEERING

LABELS - FOOD GRADE

OMEGA LABELS
PURBRICK HEALTHPRINT
W W WEDDERBURN

MANUFACTURING

BSC MOTION TECHNOLOGY

EQUIPMENT COMPONENTS & CONSUMABLES

ENMIN (I)
FCR MOTION
FESTO (I)
HARRINGTON ELECTRICAL MOTORS (I)
LANOTEC (I)
SICK
SMC PNEUMATICS (I)
SPECIALTY AIR

STORAGE EQUIPMENT & PACKING MATERIAL

ARMACEL (I)
CONFOIL
CROWLE INDUSTRIES
DALTON PACKAGING
HILLS INDUSTRIES
MICROPAK
NETPAK
SCHUETZ DSL

PEST CONTROL EQUIPMENT AND MATERIALS

BASF
BELL LABORATORIES INC (I)
EKO SOLUTIONS
PEST FREE AUSTRALIA (I)
STARKEY PRODUCTS (I)
WEBBOT
WEEPA PRODUCTS

PEST CONTROLLERS SERVICES

AEROBEAM
AMALGAMATED PEST CONTROL
ANT-EATER ENVIRONMENTAL
ARREST-A-PEST
CPM PEST & HYGIENE SERVICES
CORPORATE PEST MANAGEMENT
ECOLAB
GOODE PEST CONTROL
HACCP PEST MANAGEMENT
ISS PEST CONTROL
PROTECH PEST CONTROL
PESTAWAY AUSTRALIA
RENTOKIL
SCIENTIFIC PEST MANAGEMENT

REFRIGERATION GOVERNORS, EQUIPMENT DATA SYSTEMS AND DIGINOL MAINTENANCE

AERIS HYGIENE SERVICES (I)
CAREL
DANFOSS
DIGINOL (I)
HEATCRAFT
PHASEFALE

FOOD INDUSTRY SERVICES

SHADOW GROUP
SKILLED GROUP
SPECIALTY AIR

THERMOMETERS, PH METERS AND DATA LOGGERS

3M
FLUKE
TESTO
TRIPLE POINT CALIBRATION



Hygiene

Thorn Hygiene offers unrivalled industry specific lighting solutions. It's the only lighting range to be endorsed by leading food safety organisation HACCP.

This widely recognised accreditation gives assurance and peace of mind that Thorn Hygiene luminaries meet the stringent requirements for food and food related applications - whether retail, service or manufacturing.

Hygiene is a range of robust high grade stainless steel, 316 stainless steel, luminaries. They are available in a variety of mounting styles, shapes and sizes.



THORN

Lighting people and places

www.thornlighting.com

1300 139 965

(I) indicates that the company offers products or services with global compliance or registration. Others have a national registration in one or more countries



FOOD SAFE PRODUCTS AND SERVICES

- Are your non-food products, equipment and materials FOOD SAFE?
- Are your service suppliers FOOD SAFE and HACCP compliant?

Be sure, be FOOD SAFE

Look for the food safety mark



www.haccp-international.com

Looking for food safe products or services? Call us on +852 2824 8601
or visit the 'Endorsed Suppliers' page on our website.

HACCP INTERNATIONAL