

# Food industry hand protection by Ansell Press kit

May 2009

## Contents

<b>Introduction: Food industry hand protection and Ansell</b>	<b>2</b>
<b>I. Ansell in brief</b>	<b>3</b>
<b>II. A Global Leader in Innovative Healthcare Barrier Protection</b>	<b>3</b>
II.1. Continued research through Science and Technology (S&T)	3
II.2. Testing and compliance with international regulations	4
II.3. Good Manufacturing Practice (GMP)	7
II.4. The latest generation gloves	7
<b>III. Specific Barrier Protection issues in the Food industry</b>	<b>11</b>
III.1. Cut injuries, repetitive strain injuries, exposure to cold and burns	11
III.2. Wearing gloves inappropriate to the task at hand	13
III.3. Lack of worker acceptance	14
III.4. Effective allergy and dermatitis management	14
III.5. Exposure to phthalates and other chemicals due to use of incorrect glove choice, poorly manufactured gloves or gloves containing illegal substances	16
<b>IV. Corporate information</b>	
IV.1. Ansell Group Sales	18
IV.2. Locations	18
IV.3. Listings	18
IV.4. Offices	18
IV.5. Press Releases	19
IV.6. List of Annexes/Additional Material	19
<b>V. Media Contact</b>	<b>20</b>

## ***Introduction: Food industry hand protection and Ansell***

The food industry as a whole involves the entire food chain, from the production of raw materials (agriculture & fishing), through to food processing and customer services (food services, hotels, restaurants and catering, and food distribution).

Every day, over 4.3 million Europeans work in the food processing industry. Ansell Healthcare provides them with a dedicated range of gloves that fulfil a twin role: **protecting workers' hands as well as the food products they handle**. This dual approach towards hand protection, now commonplace, was quite innovative ten years ago.

With key recommendations and safety considerations aimed chiefly at the food processing operators (the biggest group of workers in the food industry), Ansell's product offering also promises ideal protection and comfort levels for other roles in the sector.

**Key barrier protection issues** facing food industry workers today include:

1. Cut injuries, repetitive strain injuries, exposure to cold and burns
2. Wearing gloves inappropriate to the task at hand
3. Lack of worker acceptance
4. Exposure to the risk of developing dermatitis and other allergies and consumer pressure to ensure latex-free food preparation environment
5. Exposure to phthalates and other chemicals due to use of incorrect glove choice, poorly manufactured gloves or gloves containing illegal substances

Ansell Healthcare is anticipating and responding to these challenges in key ways:

1. **Continued research** via its global **Science and Technology (S&T) capacity** to develop the next generation of protective barrier solutions and to set the standards for the testing required by ever-higher levels of performance;
2. **Testing and compliance** of all its food contact gloves not only for their technical performance but also for migration and leaching of chemicals, and compliance to EU and national legislation alike;
3. **Good Manufacturing Practice (GMP)**, guaranteeing a thorough quality control system in order to provide further assurance to the food industry's legislative compliance, traceability systems and quality control.
4. **Developing the latest generation** in both natural latex and synthetic **gloves**.



## ***I. Ansell in brief***

Ansell Healthcare is a global leader in the design, development, manufacture and marketing of a wide range of range of surgical, examination, industrial and household gloves, protective clothing and condoms. Some of Ansell's well-known **brands include Ansell HyFlex<sup>®</sup> industrial gloves, Ansell<sup>®</sup> Gammex<sup>®</sup> medical gloves and LifeStyles<sup>®</sup> and Manix<sup>®</sup> condoms.**

Ansell's business is organized around the markets it serves, namely Occupational Healthcare (mainly industrial gloves), Professional Healthcare (mainly medical and surgical gloves) and Consumer Healthcare (mainly condoms and household gloves).

Occupational Healthcare accounts for around 50% of sales, followed by Professional Healthcare (about 34%) and Consumer Healthcare (16%).

Ansell Healthcare is a worldwide leader in hand protection for occupational gloves. The company is the largest manufacturer worldwide of industrial protection gloves, with an offer spanning from highly specialized protection needs to everyday protection gloves used by factory workers.

## ***II. A Global Leader in Innovative Healthcare Barrier Protection***

Ansell's Marketing and Sales activities are organized around three geographic regions; the Americas, Europe and Asia Pacific. Product and market focus is provided by a Global Marketing team that supports the regions.

Global brands, new products, proprietary technology, flexible manufacturing processes, a global supply & logistics infrastructure and global distribution networks drive Ansell's market success.

With 29 facilities, approximately 11,000 employees, and its supply and logistics proficiency, Ansell is able to provide protective barrier products to its customers anywhere in the world.

### ***II.1. Continued research through Science and Technology (S&T)***

Ansell Limited operates two major **Science and Technology (S&T) facilities**, one in Shah Alam (Malaysia) and one in Clemson (US). Malaysia is known for its rubber technology and Clemson has strong affiliations with university groups that conduct research on fibres and yarns. Ansell has also established five **centres of excellence** ("application centers") at production plants, where S&T staff can work closely with manufacturing personnel to transfer technology and start up new product lines.

Ansell's **S&T team** is an industry leader in research and development in barrier protection markets. Ansell employs dozens of PhDs and Masters from renowned universities. Complementary skills and expertise span from rubber chemistry & engineering to polymers science, advanced textiles, analytical chemistry, materials science and mechanical engineering and microbiology.



Ansell's laboratories around the world focus on developing products for optimal protection in terms of barrier protection. Through superior glove design, innovative materials and extensive research, Ansell Healthcare provides unique solutions combining safety with skin care considerations.

Cross-functional teamwork with Manufacturing, Marketing & Regulatory is an integral part of the way Ansell functions. **Feedback from end-user groups and associations** contribute valuable perspectives to this cycle. Collaboration with key associations in the building trades, operating theatre nursing and many other professional specialties permit an ideal forum to gauge end-users' experiences and opinions - as a starting-point for further enhancements and innovations to Ansell's solutions.

The company regularly **partners with leading universities**, world-leading technology suppliers and experts to develop protection solutions which anticipate future needs. One recent example is the Ansell Chemical Permeation Program (ACPP), which was developed in collaboration with the University of Louvain, Belgium. Grip, movement and ergonomic considerations are used to test glove materials and finishes in the University of Birmingham's Sensory Motor Neuroscience Laboratory.

## ***II.2. Testing and compliance***

### **Food contact legislation**

In 2004 the European Union launched the 1935/2004 framework, which was a milestone setting standards and regrouping already existing regulations. Commonly described as "food packaging legislation", work gloves reside under the same Directive. In spite of regular revisions, the basic principle of the regulation remains unchanged: as chemicals from packaging or glove materials might migrate with food ingredients, thereby contaminating the food, they have to be controlled tightly. (Commission Directive 2002/72/EC was the first of a series of amendments such as Commission Directive 2007/19/EC of 2 April 2007 to which a corrigenda dated 30 March 2007 was issued and by Commission Directive 2008/39/EC of 6 March 2008).

**Ansell Healthcare is dedicated to offering the market solutions which precede and surpass the limits set by government regulation.** In addition to a strict policy of compliance with EU and national regulations, regular testing is undertaken in:

- Permeation to chemicals
- Migration of substances
- Viral penetration and spread of contagious diseases, including HIV and Hepatitis
- Grip and reducing exertion force for manual workers and healthcare workers
- NRL and latex manufacturing processes which reduce the possibility of contracting allergies

In April 2009 Ansell Healthcare issued safety recommendations for gloves used in the food and beverage industries in view of new EU legislation in effect on 1 May 2009.

Concerned that still too many of Europe's 4.3 million food industry workers continue to be issued unsafe imports or vinyl gloves from which phthalates or other substances migrate into skin and food, Ansell Healthcare has issued a series of safety recommendations (summarised below) and an updated glove selection guideline.

**Ansell Healthcare's food and beverage industry glove safety recommendations:**

- 1) **The food and beverage industry should only select gloves manufactured and marketed in compliance with EU food safety and plastics Directives\***, and demand the additional safety assurance provided by the adoption of Good Manufacturing Practices as per Commission Regulation 2023/2006.
- 2) The right glove should be selected for each food contact task for maximum safety:
  - a. **PVC or vinyl gloves should be avoided when handling fatty foodstuffs**, due to the risk of leaching by potentially dangerous such as phthalate plasticisers which are then absorbed through workers' skin or contaminate food.
  - b. **Premium quality nitrile is the material of choice for gloves in contact with foods containing fats** or oils, even in low concentrations.
  - c. **The industry should use latex gloves with caution**, given the potential risks of exacerbating dermatitis or exposing workers and end-consumers to potentially allergenic substances.
- 3) **Procedures for hand washing as well as glove donning, changing, and disposal must be respected** to ensure the effectiveness of gloves, protect worker health and safety and preserve security in the food chain.

### **New EU legislation in force**

All of the “food contact” gloves commercialized by Ansell Healthcare in the EEA are already in compliance with the European and National legislation. The food and beverage industry is encouraged to verify whether the gloves they buy, stock and use today are compliant.

As from 1 May 2009, it is prohibited to manufacture and import into the Community gloves for food contact which do not comply with Commission Directive 2007/19/EC. The main phthalate plasticizers, which can migrate into food from PVC or vinyl gloves, for use in contact with food with fat content, are prohibited since 1 July 2008.

### **Legislation regarding phthalates (concerns vinyl gloves)**

Commonly used in the food industry today, [vinyl or PVC gloves permit the migration of phthalates](#) when in contact with food containing fats or oils. It is estimated that **some 90% of foodstuffs contain some level of lipids (fats)**.

Food service gloves containing PVC has shown migration results between 300 and 600 mg/dm<sup>2</sup>. The European Commission “plastics” Directive 2002/72 limited overall migration of *all* substances to 10 mg/dm<sup>2</sup>. Commission Directive 2007/19 completely prohibited the use of some phthalates or plasticizers in contact with fatty food, whatever the specific migration value.

Japan outlawed the use of vinyl gloves for food contact in 2001 following a study of migration levels into food.

Three phthalates, including the [controversial DEHP](#), have been included in the EU's REACH list of Substances of Very High Concern. Many vinyl gloves leach dangerous levels of DEHP and other plasticizers; gloves are also a key source of indirect exposure to this chemical.

In 2005, the European Food Safety Authority examined [DEHP for use in the manufacture of food contact materials](#), confirming drastic restriction of exposure levels. The European Food Safety Authority adopted its Opinion of the Scientific Panel on food additives, flavourings, processing aids and materials in contact with food (AFC) related to Bis(2-ethylhexyl)phthalate (DEHP) for use in food contact materials. (source: [http://www.efsa.europa.eu/cs/BlobServer/Scientific\\_Opinion/afc\\_op\\_ej243\\_dehp\\_en2.pdf?ssbinary=true](http://www.efsa.europa.eu/cs/BlobServer/Scientific_Opinion/afc_op_ej243_dehp_en2.pdf?ssbinary=true))

### **Ansell's approach to chemicals**

The migration values of Ansell's food contact gloves have all been tested by the Laboratoire National d'Essais in Trappes, France.

After a thorough review and analysis of its glove materials and manufacturing processes in 2007, Ansell successfully pre-registered 28 chemicals in accordance with the EU REACH Directives. Ansell initiated a programme to replace any substances of very high concern with alternative materials; the company maintains its commitment to the highest standards of safety and consumer protection.

Ansell maintains a pro-active and responsible approach to Substances of Concern (SOCs), monitoring them and striving to minimize them throughout the production cycle. Specific attention is paid to Dimethylformamide (DMF) and other solvents. Additional washing cycles have been installed at the production level to ensure that all Ansell finished PU products contain minimal levels of DMF and all Ansell products are appreciably low with regard to the minimal allowable limits of other substances of concern. Ansell is able to provide test data on total and/or maximum-release DMF content for all its PU gloves. (Although there are no agreed-upon test methods to measure DMF skin exposure from a glove, Ansell had its gloves externally tested by simulating 8-hour wear in a heated artificial sweat solution.)

### ***II. 3. Good Manufacturing Practice (GMP)***

In order to avoid endangering human health or causing unacceptable changes in the composition of food, it is essential that all materials which come into contact with food comply not only with Framework Regulation 1935/2004, but also with Commission Regulation 2023/2006, in force in all Member States since 1 August 2008.

Ansell Healthcare applies Good Manufacturing Practice (GMP), guaranteeing a thorough quality control system throughout all stages of its manufacturing, processing and materials sourcing and in its finished articles through to distribution.

Ansell's compliance to Commission Regulation 2023/2006 on GMP provides an additional assurance of quality to the food industry where controls of ingredient and product quality have shown to be key areas for potential legal liability in terms of consumer protection. Many unbranded manufacturers offering competitively-priced gloves do not provide this additional layer of controls.

### ***II. 4. The latest generation gloves***

#### **Key Ansell milestones in food handling gloves**

It was not until the end of the 90s that food legislation started to play a role in the selection of gloves. At that time, Ansell has identified a need for improved hand protection for workers in this sector, so following an extensive exchange with industry experts to gauge the sector's requirements and an in-depth study of food legislation a new approach was born. This approach revolutionized the sector, as no glove manufacturer had developed a targeted solution for the industry that took the stringent legislation into account.

The result of Ansell's commitment was a brand-new set of dedicated gloves for workers in food processing companies: **Ansell's proFood®** range. The gloves were launched in 1999 with an innovative marketing campaign that not only presented the range but also raised awareness of food-processing companies about the guidelines they had to follow, thereby underlining key safety aspects for the industry. Ansell has since set the pace in terms of research, technical expertise and innovation for food-handling gloves. The proFood® range was expanded and complemented with other Ansell gloves that are food-compatible and in full compliance with the toughest EU standards on food contact and food hygiene.

All these achievements have contributed to Ansell Healthcare's solid reputation as a manufacturer and supplier of high-quality, innovative food handling gloves.

#### **Leading Brands**

Today, Ansell provides a solution for every application in the food chain. Its main concern is that every worker selects the right glove for the right application. Meat cutters performing boning and breakdown work with knives, for example, need extremely cut-resistant gloves, such as the **proFood® Safe-Knit®** or the **new Vantage® proFood®**. People handling slippery objects, like poultry, fish or red meat, might want the support of gloves with some extra grip. As it's not always simple to choose the right glove, in a sector with ever-changing regulations and a wide offering to choose from, Ansell helps its distributors and end-users make the right choice and keeps them informed about food legislation. When using the right gloves, both worker safety and productivity rises, whilst food safety is guaranteed.

These market leading positions have been accomplished by building upon a 114-year history of developing, manufacturing and marketing the finest quality barrier products to customers around the world.

### **A step ahead of legal requirements**

Ansell has developed specific services and guidelines to comply with EU legislation on barrier protection, and in some cases, initiatives have been undertaken with the express intent to take worker health and safety further than legislation requires.

Some examples include:

- **Chemical resistance guidelines** available on the Ansell website, including the EN Chemical Recommendation Guide and the ASTM Chemical Recommendation Guide (ASTM stands for 'American Society for Testing and Materials')
- **Ansell Chemical Permeation Program (ACPP)**, a new protocol for assessing glove resistance to chemical permeation involving a unique test device for permeation level testing which simulates real-life, dynamic situations. Specifically, the new test machine simulates rubbing, stress, exposure and the tension which gloves endure in daily work manipulations.
- **Ansell Grip Technology™**, resulting in an outer coating for gloves which requires from 34-69% less grip force to lift an oily 4.5 kilo object.
- **Ansell Moisture Management Technology™**, or Aquadri™: an ultra-thin polymer composite inner lining that absorbs up to four times more moisture than standard cotton-flock gloves.

Results from a number of these programmes have been incorporated into product development, and into gloves offered for the food industry.

### **Glove selection/ recommendation chart for the food industry**

The food industry has a wide range of jobs and applications. To respond to this complexity, Ansell has determined a concentrated range of products that are adapted to the majority and therefore make things simple. Sixteen gloves have been selected for their ability to protect from the major risks linked to this market.

It is expected that more glove recommendations will be added over time, addressing developments in the food industry, and taking into account technology advances enhancing or extending glove performance. The current range of recommendations has been integrated in a selection guideline.

**Selected gloves for the food industry**

**Dedicated hand protection for food workers**

			Meat cutting/slicing	Fish filleting	Fruits & vegetables processing	Prepared meats	Packaging	Bread preparation	Beverage industry	Lorry drivers	Cleaning	Maintenance
Get dirty (see daily)	<b>Taskage® proflex® 78-886</b>	Out resistance level 5 - Excellent cold insulation - Medium dexterity	☞	☞	☞							
	<b>proflex® Solo-Knit® 72-286 &amp; 72-290</b>	Out resistance level 5 - Medium dexterity	☞	☞	☞							
	<b>proflex® Solo-Knit® 72-282</b>	Out resistance level 4 - High dexterity for optimal productivity	☞	☞	☞	☞	☞	☞				☞
Cold	<b>proflex® Isolated 78-110</b>	Underglove - High dexterity Stretchable - Cold or heat protection				☞	☞	☞				
	<b>Fiberflex® 78-360</b>	Underglove - High dexterity Cold insulation				☞	☞	☞		☞		☞
	<b>PowerFlex® 1" Bi Fit Yellow™ 88-408</b>	Out resistance level 2 - High comfort and grip Excellent cold insulation						☞		☞		
Barrier gloves re-usable	<b>Alpha-Tec™ 38-338 &amp; 38-333</b>	Ansell Grip Technology™ - Medium dexterity Cold insulation			☞			☞	☞	☞	☞	☞
	<b>proflex® re-usable nitrile 38-358</b>	Medium dexterity - Cold insulation Chemical resistant	☞		☞			☞	☞	☞	☞	☞
	<b>Sol-Net® 37-683 &amp; 37-182</b>	Medium dexterity - Up to 45 cm length Chemical resistant	☞		☞			☞			☞	☞
	<b>proflex® re-usable nitrile 37-333</b>	Good dexterity Chemical Resistant	☞		☞	☞		☞			☞	☞
	<b>Wristex™ 78-788</b>	High dexterity - High resistance to animal fats	☞	☞	☞	☞	☞	☞	☞	☞	☞	☞
Barrier gloves high cut	<b>Touch N Grip® 82-308 &amp; 82-308 &amp; 82-303</b>	High dexterity - High resistance to animal fats - Green	☞	☞	☞	☞	☞	☞	☞		☞	☞
	<b>TW® Blue 82-478 &amp; 82-483</b>	High dexterity - High resistance to animal fats - Blue	☞	☞	☞	☞	☞	☞	☞		☞	☞
Barrier gloves	<b>Ryflex® 11-829</b>	Ansell Grip Technology™ - Good dexterity						☞	☞	☞	☞	☞
	<b>Ryflex® 11-823, 11-827 &amp; 11-829</b>	Dexterity with superb cut level 3 resistance for optimal productivity						☞	☞	☞	☞	☞
Food	<b>Crusader Flex® &amp; Neox® 42-443, 42-474 &amp; 88-022</b>	High heat insulation - Crusader Flex® for dry applications and Neox® for wet or fatty ones				☞						

☞ OK ☞ Recommended ☞ Optimal

**Ansell**

Ansell glove selection tool

Selections are made easy because there are gloves proposed for each set of tasks: butchers, fruit and vegetable packers, catering workers, etc.

This approach is linked to Ansell's constant implication in educating its end-users. Small and medium-sized companies and independent workers are less able to access educational materials, and less likely to benefit from training. This is why Ansell feels that particular attention needs to be paid to reach them through various means.

Besides holding end-user seminars at fairs and expos, safety messages are further multiplied through training of distributors' sales forces, and direct participation by Ansell staff in distributors' "open door" events. Specific educational posters and leaflets are also distributed.

# Userguide

## Washing procedure for Ansell's knife handling gloves: Vantage® proFood® & proFood® Safe-Knit®



### Preliminary note:

for hygiene reasons we recommend changing gloves at each break, every 2 to 4 hours, or, if not feasible, not exceeding a working shift (8 hours) as the maximum time of usage.

### 1 Before washing:



- Immediately after use ensure the gloves are not left inside out
- Remove as much meat and fat residues as possible from the glove by rinsing with cold water (maximum 40°C) at low pressure



- If gloves are not washed immediately after use, immerse in a solution of water and calcium citrate to slow blood coagulation

### 2 Wash with chemicals suitable for food contact items

- Water must be of potable quality
- Gloves must be washed separately from chain mesh gloves or other metal items
- Pre-wash above 40°C cause proteins to coagulate in the glove material, making it stiff and unusable



- Pre-wash at maximum 40°C
- Wash at 80°C
- Rinse between 40°C to 60°C

### 3 Avoid contamination after washing!

- After washing, gloves are considered sanitized
- Workers must wash their hands before handling the washed gloves
- It is recommended to wear disposable powder-free gloves to handle the washed gloves



- Dry at maximum 40°C, ensuring the air quality in the drying machine is free of any dust or other contamination
- Remove the gloves from the drying machine and pack in food grade plastic bags



size	Colour overaging for the glove size	
	Vantage® proFood® (identical to chain mesh colour coding)	proFood® Safe-Knit®
7	Green	Red
8	White	Yellow
9	Red	Brown
10	Blue	Black

Note: The amount of time required for each step of the prewash and wash cycles, as well as the quantity of detergent used, must be adjusted according to the degree of soiling. It is also important to mention that Vantage® proFood® may require different settings for the same degree of soiling compared with proFood® Safe-Knit®.

### **III. Specific Barrier Protection issues in the Food industry**

Today an increasing number of employers understand that protecting their workers against falls, cuts, musculoskeletal strain, harmful chemicals and harsh environmental conditions is essential to productivity and well-being.

Sharp-edged tools, material and surfaces; temperature extremes; grease; bacteria and the harsh solutions and chemicals used to clean and sanitize work surfaces. These are only a few of the hazards workers in a food-processing environment face. **The number of hand injuries in the industry is high**, with musculoskeletal disorders due to repetitive hand and wrist exertions (often in cold temperatures) the number one occupational risk. Appropriate hand protection is therefore indispensable. But unlike in most other industries, safety hazards in the food sector go beyond the protection of employees. Any barrier protection used has a potential impact on the food being handled, and therefore consumer health and safety.

**Key barrier protection issues facing food industry workers** today include:

1. Cut injuries, repetitive strain injuries, exposure to cold and burns
2. Wearing gloves inappropriate to the task at hand
3. Lack of worker acceptance
4. Exposure to the risk of developing dermatitis and other allergies & consumer pressure to ensure latex-free food preparation environment
5. Exposure to phthalates and other chemicals due to use of incorrect glove choice, poorly manufactured gloves or gloves containing illegal substances

#### **III.1. Cut injuries, repetitive strain injuries, exposure to cold and burns**

##### **Cut injuries**

According to Eurostat- European Statistics on Accidents at Work (ESAW), the "upper extremities" are the parts of the body most injured, accounting for 43.2% of all non-fatal accidents at work. Food industry workers are not spared, with some 30% of food service work accidents in France composed of cuts to the hands.

To make their gloves more cut-resistant, manufacturers are developing solutions made of new technology fibres more and more resistant to cut (Kevlar®, Dyneema®, glass fibre, etc.). But these new developments need to be associated to the understanding of needs and of the applications themselves. The adjunct of such fibers often results in compromised wearer comfort or poses a threat to the integrity of the food being handled.



Ansell's special knitting techniques isolate potentially irritating steel or glass fibers in the yarn core; cotton is carefully added to maximize softness and comfort against the skin. Better-designed cut-resistant gloves translate to increased worker acceptance. Education remains critical as workers tend to use inadequate hand protection in a high proportion of cases.

Ansell been a long-time pioneer of improving cut resistance in gloves, and has also published extensively on the subject).

**Ansell brings cut-resistant solutions to food industry workers' needs: the Vantage® proFood and proFood® Safe-Knit® models as well as selected HyFlex® models.**

### **Musculoskeletal Disorders and repetitive strain injuries**

Musculoskeletal Disorders (MSD) the most frequent reasons for absence from work. Born of repetitive hand/wrist exertions, and exacerbated by the use of force as a risk factor, Carpal Tunnel Syndrome (CTS) is the second-most prevalent musculoskeletal disorder after sprains and strains.

Gripping tools and heavy raw materials can be physically demanding, repetitive work. It may injure the muscles, tendons, and cartilage of the hand, wrist, and elbow. Damage to the nerves and blood vessels can also occur.

Food industry workers usually spend a lot of time gripping knives or foodstuffs with one or both hands. This work can put stress on the hand, wrist, and/or elbow, causing discomfort and pain. Eventually workers may develop a serious muscle or joint injury. The ability to use hands and wrists may be reduced, and may even cause permanent disabilities.

Below are some of the injuries which may develop with hand-intensive or repetitive work:

- **Tendinitis.** Tendons in the wrist can be strained if frequently exerting strong force with hands, bending the wrist while working, or repeating the same wrist movements over and over. If this strain continues over time, tendinitis may develop. Tendinitis makes it painful to use one's hands, especially to grasp things.
- **Carpal tunnel syndrome.** The carpal tunnel is an area in the wrist that is surrounded by bone and tissue. A nerve and several tendons pass through this tunnel. With tendinitis, tendons swell, and there is less room in the tunnel for the nerve. When the nerve is squeezed this way, the condition is called carpal tunnel syndrome. It often leads to pain, tingling, or numbness in hand, wrist, or arm. These symptoms are often felt at night. If left untreated, carpal tunnel syndrome can weaken the hand and make it very difficult to grasp things or even use that hand at all.
- **Trigger finger.** Repeated pressure on a finger (such as when using the trigger on a power tool or electric knife or saw) may strain the tendon running to that finger, as well as the tendon covering This may cause discomfort or pain.
- **Epicondylitis.** Forceful twisting motions may cause strain on elbow tendons, causing discomfort or pain. This condition is called epicondylitis, also known as tennis elbow. (source: NIOSH Publication No. 2007-122, CDC, US)

**Wearing adequate barrier protection in the form of gloves which fit well, allow for maximum dexterity (without tension or unnecessary flexion of the hand) and provide optimal grip and cushioning all contribute to preventing the onset of these disorders.**

**The thinness and elasticity offered by many of Ansell's disposable food gloves, coupled with patented grip surfaces featured in some of the gloves, mean that manipulation and workstation tasks are less tiring for workers' overtaxed hands.**

### **Exposure to cold and burns**

Very cold temperatures pose specific health and safety risks, among which hypothermia and frostbite, reduced muscle flexibility and stiffened joints. Productivity is also affected as reduced blood flow to the extremities reduces the dexterity and the sensitivity of the fingers and hand. This causes workers to apply more grip force to handle tools and objects. The result is that fatigue sets in faster and accident rates are often higher.

Food industry workers have to face very cold work conditions in cold storage rooms, slaughterhouses and meat processing facilities. Temperatures as low as minus 10°C are common; these workers need gloves that can protect them from cold but still give them enough dexterity to work. Some jobs require thermal protection because of the freezing of materials such as steel.

**In response to low temperature needs, Ansell has developed the PowerFlex® T° Hi Viz Yellow™ 80-400 which is a general-purpose glove that is designed for handling and carrying in cold temperatures as low as -30°C. This glove is ideal for those who work in cold storage or those transporting food. Two undergloves provide thermal protection: proFood® Insulated and FiberTuf®.**

**Where heat insulation is required in industrial bakeries or other processes exposed to high machine temperatures, the Crusader Flex® is suited to dry applications and the Neox® to wet or fatty ones. Both gloves are not suitable for direct contact with food.**

### ***III.2. Wearing gloves inappropriate to the task at hand***

Effective hand protection in the form of safety gloves constitutes a key component of Personal Protection Equipment (PPE) for the food industry. Along with aprons and sometimes cuffs, gloves complete the panoply of PPE.

According to Commission Directive 89/656 setting out minimum requirements for the use of PPE at the workplace:

- PPE is the solution to adopt as the last means and it must be appropriate to:
  - the risk involved
  - the worker
  - the work
- Employers are obliged to supply PPE for personal use at work, free of charge
- Employers are obliged to train the worker to use the PPE
- Employers should ensure participation of the workers in the selection process

While it cannot be said that the food industry is failing to provide PPE, there are **significant shortcomings when it comes to matching the risks and the tasks to the worker's protection needs**. Although mostly unintentional, these mismatches can have serious consequences in terms of safety and productivity.

The Ansell sales force was regularly confronted with world-class industrial production facilities that were **using the wrong glove for a given application in 8 out of 10 cases**. These and other conclusive results emerged from 250 assessments carried out in 50 large European companies active in automotive, OEM, chemical, and metal fabrication. Assessments included analysis of each workstation, covering 1) comfort, which impacts worker acceptance, 2) grip, 3) mechanical performance, 4) chemical performance, and 5) heat requirements. The workstation requirements were also recorded and objectively analysed. It was found that glove mismatches in any area directly impacted shop floor productivity, with reduced injury frequency rates resulting almost immediately after the adoption of Ansell's recommendations.

It is expected that the food industry does not differ greatly from the automotive industry in this sense; **wearing unsuited gloves puts food industry workers and finished products at risk each day in Europe. Ansell recommends that all food industry employers seek professional advice in selecting PPE for their employees.**

### ***III.3. Lack of worker acceptance***

Worker acceptance of protective gloves is a key impediment to the food and beverage industry's compliance to local, national and European rules for health and safety.

Ansell's extensive experience of over 100 years in both the healthcare sector and the industrial gloves industry comes in the balance when it comes to understanding why workers actually do not wear their gloves as they should. Lack of comfort, an imperfect fit, poor dexterity and a slippery grip on objects have been identified as the key barriers to 100% compliance in workers who have been educated about the purpose of the barrier. Quality gloves which satisfy workers requirements and are well-adapted to their tasks make all the difference.

### ***III.4. Effective allergy and dermatitis management***

Gloves protect food industry workers from physical risks, allergens, parasites, viruses, bacteria, chemicals, detergents, and other products encountered in food and beverage processing facilities.

Extended glove wearing and hyperhydration (resulting from skin being bathed in perspiration for long periods) render skin soggy and easily eroded. The combined action of scrubbing with soaps and antiseptics, and continued glove use contribute to attacking the protective barrier constituted by healthy skin. This in turn enables allergy by affording a portal of entry for allergens. (source: Taylor and Campbell, both Ansell Healthcare, as cited in "Experts Address Glove-Related Latex Allergies", Kelly M. Pyrek, 10/20/2008, *Infection Control Today*)

Frequent hand-washing and the use of alcohol-based disinfectants can attack the natural moisturizers present in the skin. In many cases, this barrier breakdown results in Irritant Contact Dermatitis, with redness and swelling of the skin and associated itching or burning.

With chronic exposure, symptoms may worsen, with the skin thickening, drying or cracking. The resulting dry, cracked skin opens a migration path for irritants, allergens and micro-organisms.

#### **The powerful effects of powder**

Powdered gloves are used widely in the food service industry, despite rising awareness of their drawbacks. Historically, powder has been used as a lubricant in the manufacture of medical gloves in order to facilitate donning and to avoid sticking of the glove together. At present, the more widely used dusting powders are cornstarch, and calcium carbonate (CaCO<sub>3</sub>).

#### **Allergenicity of powdered gloves**

Exposure to starch powder can cause a number of **undesirable reactions**, which vary from well known allergy symptoms and upper respiratory-tract disorders to pleuritis, myocarditis, irritation of the central nervous system or even carcinoma or tuberculosis misdiagnosis.

A well documented consequence of the use of starch powder in gloves is its capacity to bind with natural rubber latex (NRL) protein antigens. These allergen/protein coated powder particles can be released into the air when the gloves are donned or removed, thus **contaminating the food preparation environment and the food itself**. Inhalation or ingestion of these powders can lead to the sensitisation and diverse allergic reactions to NRL (i.e. upper respiratory tract symptoms or eye irritation).

Over the past few years, hospitals with a strict policy to stick to powder-free NRL gloves have experienced a sharp drop in the prevalence of type I allergic reactions to NRL.

#### **Glove powder as an infection vehicle**

Glove powder can act not only as a vehicle for latex antigens but also for opportunistic and pathogenic micro-organisms, which increase the occupational risks to both food industry workers and consumers. Researchers have also shown powdered gloves to be a risk factor for allergic persons consuming food prepared with powdered gloves.

#### **Latex gloves may increase dermatitis risk in the food industry**

A 2005 [report](#) by the UK Food Standards Agency found that 47% of UK food industry companies surveyed used latex gloves. Found to some degree in the majority of food industry workers engaged in 'wet work', dermatitis can be exacerbated by use of latex gloves. Contact dermatitis in food workers includes irritant contact dermatitis (ICD) caused by chemicals and 'wet work' and allergic contact dermatitis (ACD) caused by sensitising chemicals (and foodstuffs). Prevalence is exceptionally high among catering and hotel food service workers.

#### **Consumer pressure to ensure latex-free food preparation environment**

In a growing number of states in the USA, the use of latex gloves has been outlawed following lobbying and legal action by persons suffering from latex allergies.

Individual restaurants are in some cases publishing information about food preparation.

Though only a small percentage of the population is effectively concerned by latex allergies, legislation seems to tend toward the banning of latex in favour of limiting consumer risk in this matter.

**Research has shown that gloves with low allergen contents had a reduced capacity to induce the release of allergens. Ansell Healthcare recommends that food industry companies assess all risks and worker needs before selecting gloves.**

Glove material choices include natural rubber latex (NRL) powder and powder-free gloves, as well as vinyl, nitrile and other synthetic gloves. Ansell has optimised its NRL gloves to reduce water-soluble chemical residues, proteins and allergens. The choice between latex and synthetic is, dependent upon the application for which the glove is used and the possible allergenicity of the food workers donning the glove, as well as the final consumer.

### **Choosing the right synthetic glove**

**Ansell Healthcare offer a full range of non-latex glove choices including nitrile, and neoprene.**

**Ansell's disposable nitrile gloves certified for contact with food include proFood<sup>®</sup>, proFood<sup>®</sup> Premium, Touch N Tuff<sup>®</sup> and TNT<sup>®</sup> blue.**

### ***III.5. Exposure to phthalates and other chemicals due to use of incorrect glove choice, poorly manufactured gloves or gloves containing illegal substances***

(For further information about exposure to phthalates, see page 6)

#### **Chemicals and toxicity**

It is no secret that today's food and beverage industry utilises a wide panoply of chemicals and additives in concentrations which can be considered dangerous to workers handling them. Adequate skin protection against liquid chemicals can help to avoid the local effects engendered by an accidental chemical splash, as well as the ensuing systemic or acute effects. (Source: European Agency for Safety and Health at Work, Fact No. 33, "An introduction to dangerous substances in the Workplace", 2003)

In Europe, chemical resistance of gloves is described in the EN374 standard, the most recent version being EN374:2003. These standards describe the test method to be used to determine the time it takes for chemicals to permeate the glove.

Ansell Europe has carried out intensive laboratory testing based on the EN374:1994 and more recently the EN374:2003 standards. The EN Chemical Recommendation tables list all test results, for compatible and non-compatible gloves alike. The lower the breakthrough time, the quicker the chemical will permeate the glove. The results of the ASTM tests (Chemical Recommendations based on US ASTM standards) can be used as information supplementing the EN374 test results.



The Ansell website provides extensive information surrounding its Chemical resistance guidelines; including the EN Chemical Recommendation Guide and the ASTM Chemical Recommendation Guide (ASTM stands for 'American Society for Testing and Materials')

**Ansell has issued recommendations concerning specific risks related to chemical exposures. Chemicals** are best handled with the **Sol-Vex® 37-695** (reusable and abrasion resistant, its exceptionally tough nitrile film coating offers comfort combined with exceptional chemical resistance. The reversed lozenge finish further enhances levels of grip in wet or dry environments. The Sol-Vex® (37-695) glove is longer (38 cm) than standard, extending protection further to the wrist and lower forearm area). Sol-Vex® 37-185 for extra length ( 45 cm ) All Sol-Vex® (except Sol-Vex® 37-00) styles are food contact approved without any restriction with even a dedicated proFood® style 37-355.

**The Alpha-Tec™, proFood® re-usable nitrile, Touch N Tuff® and TNT® Blue, all provide chemical resistance in combination with other key features.** Chemical splash resistant Touch N Tuff® nitrile gloves were extensively tested by an independent laboratory against a wide variety of hazardous industrial chemicals. When compared to ten competing products, the single use Touch N Tuff® ranked first or second for eight out of nine key chemicals from the principal chemical families. These included xylene, acetic acid, ethanol, perchloroethylene, triethylene, isopropanol, hydrochloric acid, ammonium hydroxide and cyclohexanone.

## IV. Corporate Information

### IV.1. Ansell Group Sales

– 2008 Sales (Group): \$US 1,116.0 m  
Fiscal Year: June 30

– 2008 Sales (Europe, Middle East and Africa): \$US 461.3 m  
Fiscal Year: June 30

#### Sales by Business Segment

	2007 US\$M	2006 US\$M	Movement %
Occupational Healthcare	478.9	424.6	+12.8
Professional Healthcare	320.3	289.0	+10.8
Consumer Healthcare	176.2	135.5	+30.0
Total Sales	975.4	849.1	+14.9

#### Sales by Region

	2007 US\$M	2006 US\$M	Movement %
Americas	434.9	402.2	+8.1
Europe, Middle East & Africa	378.5	313.7	+20.7
Asia Pacific	162.0	133.2	+21.6

### IV.2. Locations

- 28 facilities in 33 countries
- Manufacturing (and packaging) in the US, UK, Germany, Poland, Malaysia, Thailand, Brazil, Sri Lanka, Mexico and India

### IV.3. Listings

Ansell Ltd. is an Australian Company listed on the Australian Stock Exchange.

### IV.4. Offices

#### Statutory Head Office Ansell Limited

3/678 Victoria Street  
Richmond, Victoria, 3121, Australia



**Operational Head Office Ansell Limited**

200 Schulz Dr.  
Red Bank, NJ 07701, USA

**EMEA HQ - Ansell Healthcare Europe Head Office N.V.**

Riverside Business Park, Spey House  
55, Boulevard International  
B-1070 Brussels, Belgium

**IV.5. Press Releases**

Ansell Healthcare press releases concerning medical product news, alliances and other news are available in the "Occupational" section of the Ansell Healthcare EMEA internet site, [www.ansell.eu](http://www.ansell.eu).

Company news and investor information is made public through the [www.ansell.com](http://www.ansell.com) website.

**IV.6. List of Annexes/Additional Material**

1. "Dedicated Hand Protection for Food Workers", Ansell Healthcare leaflet
2. Complete Ansell Healthcare food industry **glove selection** guidelines can be accessed on [http://www.anselleurope.com/industrial/index.cfm?lang=EN&pages=markets\\_Food\\_Processing](http://www.anselleurope.com/industrial/index.cfm?lang=EN&pages=markets_Food_Processing)
3. [Vinyl Gloves: Causes for Concern](#), Ansell position paper under construction.
4. Ansell Healthcare online **Chemical Recommendation Guide** [http://www.anselleurope.com/industrial/index.cfm?pages=chemical\\_intro&lang=EN](http://www.anselleurope.com/industrial/index.cfm?pages=chemical_intro&lang=EN)

**Videos**

1. HyFlex® 11-920 video, describing HyFlex range, Ansell Grip Technology™ [http://ehstoday.com/video/ansell\\_hyflex\\_11920/](http://ehstoday.com/video/ansell_hyflex_11920/)
2. [Ansell Cytostatics Permeation Program video](#)



## Photos- Occupational Healthcare

proFood<sup>®</sup>, proFood<sup>®</sup> Premium, Touch N Tuff<sup>®</sup> and TNT<sup>®</sup> blue

## Legislation

Legislation and additives lists published by the Commission can be consulted on [http://ec.europa.eu/food/food/chemicalsafety/foodcontact/index\\_en.htm](http://ec.europa.eu/food/food/chemicalsafety/foodcontact/index_en.htm)

Main directives applicable to food contact gloves include (non exhaustive)

1. COMMISSION DIRECTIVE 2002/72/EC of 6 August 2002 relating to plastic materials and articles intended to come into contact with foodstuffs
2. COMMISSION DIRECTIVE 2008/39/EC of 6 March 2008 amending Directive 2002/72/EC relating to plastic materials and articles intended to come into contact with food
3. COMMISSION DIRECTIVE 2007/19/EC of 2 April 2007 amending Directive 2002/72/EC relating to plastic materials and articles intended to come into contact with food and Council Directive 85/572/EEC laying down the list of simulants to be used for testing migration of constituents of plastic materials and articles intended to come into contact with foodstuffs
4. Corrigendum to Commission Directive 2007/19/EC of 30 March 2007 amending Directive 2002/72/EC relating to plastic materials and articles intended to come into contact with food and Council Directive 85/572/EEC laying down the list of simulants to be used for testing migration of constituents of plastic materials and articles intended to come into contact with foodstuffs
5. COMMISSION REGULATION (EC) No 2023/2006 of 22 December 2006 on good manufacturing practice for materials and articles intended to come into contact with food

## In Touch

Newsletter published three times a year by Ansell including the latest information on developments in hand protection, details of European and local events in this field as well as information about Ansell Healthcare

<http://www.anselleurope.com/ansell/ansell-healthcare-news/newsletter/>

## Logos

1. Ansell logo colour (high resolution EPS)
2. Ansell logo colour LR (low resolution JPEG)
3. AnsellCares logo

## *V. Media Contact*

Wouter Piepers,  
Director Communications, Ansell Healthcare  
Tel: + 32(0) 2 528 75 68  
Cell. + 32(0) 478 33 56 32  
e-mail: [wpiepers@eu.ansell.com](mailto:wpiepers@eu.ansell.com)