Microgard® pioneered the use of microporous fabric for protective limited life coveralls. Now at the request of our agriculture and local authority customers this fabric technology has been introduced to this vast market.

Although the past few years has seen a decline in the numbers of people working on the land, agriculture still represents a significant industry with 4 million or more people employed across the European Union.

With approval to EN Type 4, 5 & 6, EN1149-1 Anti-static, EN14126 Barrier to infective agents & EN1073-2 Barrier to radioactive particulates; Microgard® 2000 Plus Green offers the wearer the ultimate combination of protection, performance and comfort.

Microgard® 2000 Plus Green fabric has also been tested according to EN14786 (Atomiser Test), which forms part of a new European standard for protective clothing against pesticides.

Microgard 2000 Plus Green has been launched to meet the new European Standard for protection against the harmful effects of working with pesticides!

Now you’ll find Microgard® 2000 Plus Green hard at work down on the farm!

See "HOT TOPIC" for more information on this standard and the performance of Microgard® 2000 Plus Green.

It is widely accepted that to provide the essential balance between comfort and performance limited life protective clothing should combine good breathability and low thermal resistance with good mechanical strength. Microgard® 2000 Plus has been proven to provide protection without compromising comfort, and is on its way to becoming the coverall of choice for agricultural workers around the world.
HOT TOPIC: The risk of exposure to pesticides in a chemical manufacturing plant is low as the environment can be controlled. These controls are not possible outside in a field.

PROTECTIVE CLOTHING FOR PROTECTION WHEN WORKING WITH PESTICIDES

The statistics for European Union employment show that 4 million or more people work in the agricultural sector within its borders. Probably because of its diverse nature, agriculture has not been subject to the level of safety controls experienced by other sectors. Safety in agriculture also has a low profile; yet, it suffers from the worst fatal injury rate of any major employment sector. During the last decade the fatal injury rate has fluctuated between 7.7 and 11.4 per 100,000 workers, approaching nearly ten times the all-industry rate.

Almost on a daily basis, farm workers are exposed to various chemical and biological hazards, and depending on the level and duration of exposure (and specific effects for these hazards) they may be required to wear Personal Protective Equipment. The PPE required may include respirators, gloves and protective clothing.

In the creation of the PPE standards, chemical protective clothing (CPC) performance criteria were designed with the understanding that CPC would be worn for emergency use only (i.e. to provide protection in the event of an incident). This led to the creation of the 6 suit types now familiar within the industry.

It is a widely held opinion by many people in the safety industry that agricultural conditions, for example crop spraying, are not typical to those faced by say a worker in a chemical manufacturing plant, where the risk of exposure is typically low due to highly engineered controls. As a result of this view, Germany has developed a special test method to test textile materials against the penetration of pesticides (EN14786 Atomiser test), and a protective clothing standard for protection from pesticides (DIN 32781). DIN 32781 defines the performance criteria for CPC to be worn during the handling and application of diluted mixtures of pesticide sprays. Owing to the successful introduction of the German standard, many other EU states, including the UK, France & Spain are now considering adopting this national standard. Discussion is ongoing to introduce and harmonise the European standard for protective clothing against pesticides.

Typical applications where agriculture workers are exposed to chemicals include:
- Mixing and loading the undiluted concentrate
- Spraying the highly diluted mixture
- Exposure in the work place to a fine aerosol caused by drift
- Exposure by intensive contact with treated foliage

DIN 32781 Protective clothing - Protective suits against pesticides Test Chemicals & Microgard 2000 Plus Green Fabric Performance

<table>
<thead>
<tr>
<th>Brand name ZA-Nr.</th>
<th>Manufacturer</th>
<th>Test Result (% Penetration)</th>
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<tr>
<td>U46-D-Fluid 0941-00</td>
<td>BASF</td>
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<tr>
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<td>Folicur 4028-00</td>
<td>Bayer CropScience</td>
<td>No Penetration</td>
</tr>
</tbody>
</table>

References:

Product Notes: for full technical details please click www.microgard.com
KEEP COOL... STAY WARM...
THE IMPROVED MICROGARD® COOL VEST UTILISES TECHNOLOGY DEVELOPED FOR ASTRONAUTS AND SALES OF THIS INNOVATIVE PRODUCT ARE READY TO BLAST OFF!

The human body naturally sweats to cool the skin, reducing the ability of clothing, footwear and bedding to keep the body dry and comfortable. Outlast® technology, conversely, will keep individuals comfortable by absorbing body heat when too much is created, thereby diminishing the amount of moisture.

Products incorporating Outlast® technology continuously interact with the unique microclimate of the human body and the environment to moderate temperature from being too hot or too cold to being just right.

The new Microgard® Outlast® Cool Vest has been developed to help reduce the discomfort and heat stress that can be brought on by working in protective equipment.

A single style vest with adjustable Velcro side fastenings when worn under protective coveralls the Microgard® Outlast® Vest adapts to the thermal needs of the wearer, balances the temperature to reduce overheating, chill and perspiration.

Outlast® Thermocules™ continually absorb, store and release excess body heat to balance temperature and humidity build-up.

How Outlast® Adaptive Comfort® works

1. Outlast® Thermocules® absorb the excess heat.
2. Stored heat is released to the body as needed.
3. The result is a constant microclimate.

A report published in France during 2007 claims that the green product that has dominated this market for a number of years does not give significant protection to the users from chemical pesticide spray. The findings of this report are a surprise as there are a number of European standards currently in place. Our research shows that in Germany a DIN standard has been created [DIN 32781] for protective suites against pesticides and in fact there is an EN for determining the resistance of chemical protective clothing materials against pesticides [EN 14786]. There is also an ISO version of this standard under draft review at the moment (ISO/CD 27065). Needless to say our new Green Microgard® 2000 Plus product meets all the standards and since the publication of the French report we have seen major sales growth.

The situation in France is the perfect demonstration of a competitor dominating the market with a product that has not kept pace with the requirements of the market, and more worryingly is not adequately protecting wearers.

To help customers make the correct choice Green Microgard® 2000 Plus will have symbols added to both neck and chest label and garment insert.

BEING GREEN IS JUST NOT GOOD ENOUGH!

Widely used by the French agricultural market, the classic green chemical protective coverall widely used for pesticide spraying has been called into question.

Product Notes:
Microgard® Outlast® Cool Vest
Part Number: WH80-B-00-218-00
Size: One size

Basic Description: Singlet style with adjustable side Velcro fastening.

Fabric Details: Outlast® 340 Clinton coated (Acrylat with PCM capsules) 100% PES fabric

Product Notes:
for full technical details please click www.microgard.com
**THE MICROGARD TEAM PLAN THEIR KARTING COMEBACK!**

After suffering from what can only be described as some dubious “Black Flag” disqualifications, the Microgard team climbed out of their Karts after a gruelling 2 hour endurance race and vowed to do better next time. The race, organised by Gary Cartwright, Branch Manager of the Arco Ellesmere Port was a fantastic team building exercise and featured key Arco suppliers along with the branch staff.

“We’ll be back” said Richard Simmonds as he watched the victorious 3M team take the prize.

Pictured at the Ellesmere Port kart track are from left to right Diana LePoidevin, Jeanette Manning, Danny Nicholson, Gary Cartwright, Richard Simmonds.

**FEEL THE POWER!**

Supplying 70% of Lithuania’s electrical demand Ignalina Nuclear power station dominates the nearby town it is named after and is the location for another significant sales win for Microgard® 2000 Plus. Buying protective overalls from a competitor for the last two years this order was won on tender through UAB Sabelijos Prekba. “As a condition of entry into the European Union, it was agreed that a great deal of work would be needed on the site and this has given Ignalina a high profile in the power sector” says Microgards local Business Development Manager Andre Porritt who added “and to win an order for 7,000 garments in the face of fierce competition from a supplier who had been in place for a number of years is especially pleasing”

**RICHARD SPENDS HIS LIFE ON THE RUN!**

Covering the Microgard Central Sales region Richard Simmonds gets about a bit supporting Arco customers and branches but it’s in his free time that you’ll still find him running for pleasure. Having just completed the Humber Bridge Half Marathon he is in training for the Yorkshireman off road trail run in Haworth.

Having left Arco after 13 years Richard joined Microgard then part of Orvec in May 2003 as their technical sales specialist with the role of supporting Arco across the UK, transferring to Northern and then Central business development manager as the Microgard Company developed. Now well established in his area that also includes Northern and Southern Ireland, Richard enjoys his role working with the Arco team and has recorded a number of significant sales gains since he took over his current area.

**PRODUCT KNOWLEDGE NOTEBOOK**

EN14605: 2005 Protective clothing against liquid chemicals

Performance requirements for clothing with liquid-tight (type 3) or spray-tight (type 4) connections, including items providing protection to parts of the body only (types PB(3) and PB (4))

Microgard products which achieve Type 3 (Liquid-tight protection): [List of products]

Microgard products which achieve Type 4 (Spray-tight protection): [List of products]

Visit www.microgard.com for full details on EN14605: 2005