



# G o v e r n m e n t   C o n s u m e r   S a f e t y   R e s e a r c h

The migration of professional products to the consumer market

**dti**

Department of Trade and Industry

<b>Executive Summary</b>	<b>i</b>
<b>1.0 Purpose of the study</b>	<b>1</b>
<b>2.0 Product migration</b>	<b>2</b>
2.1 What is it?	2
2.2 How does it occur?	2
<b>3.0 What creates the demand for products to migrate?</b>	<b>3</b>
3.1 Professional product availability	3
3.2 Lifestyle changes	3
3.3 Influence of the media	4
<b>4.0 The research methodology</b>	<b>6</b>
<b>5.0 Detailed market study</b>	<b>7</b>
5.1 DIY	7
5.2 Gardening	8
5.3 Leisure	10
5.4 Domestic Electrical Appliances	11
5.5 Cosmetics	11
5.6 Chemicals	12
<b>6.0 Regulatory framework</b>	<b>13</b>
6.1 Information provided at point of sale	13
6.2 The need for better training	14
6.3 What controls are in place	14
6.4 Enforcement	15
<b>7.0 Future trends</b>	<b>16</b>
<b>Appendices</b>	
I: Definitions	17
ii: Contacts - UK	18
iii: Contacts - Europe	19
iv: Contacts - USA	20
v: Questionnaire	21
vi: Risk Assessment	22
<b>Database</b>	<b>23</b>

## Executive Summary

Professional product migration, that is, the supply of products designed for professional use being made available to consumers, is a feature of the modern age. However, whilst in general this process improves consumer choice and enhances business competitiveness, it is a process which requires careful management. Following the migration of powerful fireworks and laser pointers to the consumer market, both of which led to serious and, in some cases fatal, accidents, the DTI commissioned some research in this area. The aim of the study was to investigate the extent to which products designed for professional use move across into the domestic market, and, in doing so, expose the untrained user to risk of injury. The findings should enable the migration of products which could be unsafe in consumers' hands to be anticipated and appropriate action taken.

The most important characteristic of product migration is the ready availability to the ordinary consumer of products previously restricted to professional use, or use in a supervised or controlled environment. Usually, in the course of migrating, products become smaller, cheaper, less powerful and less robust, although this is not always the case.

Consumer demand for products is influenced by a number of factors:

- Consumers are increasingly able to see professional products in retail outlets, as the distinction in the retail market between trade and consumer outlets is becoming blurred.
- An increase in leisure time was identified as a trend throughout Europe. As a result of this and, in some cases, a reduced income, many people are spending more time on DIY, gardening and leisure activities. Demand for products therefore increases. Tasks tackled on a DIY basis are becoming more complex, requiring more elaborate tools.
- Growth in the popularity of DIY and gardening programmes on television has led to greater interest in these activities, and also an increased exposure to what were previously professional tools, as viewers see them in action.
- The growth in Internet shopping also brings a wide range of products into the consumer's home. Uptake varies greatly across Europe, but changes in shopping habits and an increase in distance selling are factors in product migration.

Three key market sectors were identified where product migration could cause risks to users if not properly managed:

DIY

Gardening

Other Leisure Activities

DIY products are a cause for concern as they often use potentially dangerous processes for cutting and heating, and require considerable skill in use. Likewise, gardening products often use potentially hazardous processes for cutting, and considerable skill is needed to use them correctly.

In the leisure area, the growth in exercise equipment in the home gives cause for concern in

## 1. PURPOSE OF THE STUDY

Some products, which are safe in the hands of trained professionals, and indeed designed with such a group in mind, are being supplied to untrained consumers. There have been three significant examples of this in recent years:

- Following 3 consumer deaths in the space of as many years from very powerful fireworks (Aerial Shells), specific national regulations were introduced to ensure that such powerful fireworks were not to be sold to anyone unless they had been fully trained in their safe use.
- Powerful laser pointers produced a Europe-wide problem during 1997. This was controlled in the UK and other Member States by use of the General Product Safety Directive in conjunction with a European Safety Standard (for laser products), to keep such products out of consumers' hands.
- Top-handled chain-saws, which are routinely "CE-marked" as safe under the Machinery Directive, have been identified as migrating to the consumer market where they pose a considerable risk of injury to the untrained user. Whilst producers are generally voluntarily controlling the supply of these products to keep them out of the hands of consumers, this particular problem raises a fundamental concern in the relationship between consumer product safety regulations and work-place regulations.

Following the above, the Department of Trade and Industry commissioned this research study to investigate the extent to which products designed for use by professionals move across ("migrate") into the domestic market, and in doing so expose the user to risk of injury. The concern is that some products are only safe when operated by trained, experienced professionals wearing the appropriate protective equipment. Consumers using the products are unlikely to be experienced or trained in safe use and may not have personal protective equipment (PPE). For definitions of professional and professional use used for this study, please see Appendix 1.

The overall aim of the study is to help the DTI (and those in other European Member States and the European Commission) to anticipate undesirable product migration and work with business to take preventative action, rather than reacting to the problem after injuries have occurred, as was the case with fireworks and laser pointers.

Product migration need not be a hazardous process. Indeed it will often both increase consumer choice and be beneficial to both the consumer and business. It is hoped that the findings from this Europe-wide study will assist interested parties in identifying where product migration is occurring and enable more effective management of the process.

relation to product migration. Exercise equipment used in the home is often accessible to children and can result in accidents. The fact that most exercise equipment is bought via mail order means that the consumer often does not have access to advice at the point of sale.

Domestic electrical appliances were also considered in the initial stages of the study, but research indicated that these areas were relatively low risk. As a result they were not studied in detail.

An additional area of concern identified during the course of the research was that of chemical products. Many commentators in different European countries expressed concern about circumnavigation of local regulations which led to potentially dangerous products getting into consumers' hands.

In the UK, the safety of products intended for use by consumers is controlled either by the General Product Safety Regulations 1994 (which implement the European Directive on General Product Safety), specific European Directives (implemented by national regulations) and, in some cases by specific domestic safety legislation made under the Consumer Protection Act 1987. Where necessary, these regulatory regimes can be used to make a distinction between professional and consumer use when assessing product safety. Indeed, in the case of the General Product Safety Directive, voluntary European safety standards can prove a valuable tool in drawing distinction between professional and consumer users of products. However, a number of European Directives for specific products (or product groups) make no distinction between different users of the product, particularly regarding levels of expertise. In these product areas, regulators and enforcement authorities have a much more difficult task in controlling undesirable product migration with potential for reduced consumer safety. In addition, home users are not covered by any of the checks and inspections carried out in the professional environment that ensure products are used correctly.

A number of suggestions are made in the report that would help reduce the undesirable professional product migration risks to consumers. In the initial safety assessment of a product, it would be beneficial to assess the product according to its target users, to explicitly take usage into account. Better training of retail staff, so that they are aware of the problem areas, is also likely to be beneficial.

The database comprises information on over 100 products identified during the course of the research that have already migrated or are considered likely to migrate in the future, where potential risks to consumers have been identified.

## 2.0 PRODUCT MIGRATION

### 2.1 What is it?

The most important feature of product migration is the ready availability of products, previously restricted to use by professionals, to the home user or ordinary consumer. Usually, in the course of migrating, products become smaller and cheaper to increase their appeal to the consumer market (although this is not always the case). In many cases migrated products are therefore less durable and robust, and often less powerful, than their professional counterparts.

Many people in industry who made an input to this research recognised the characteristics of migration, but rarely considered it as a specific issue to be addressed on all products they supplied. Indeed, it is interesting that many manufacturers do not appear to consider migration in any strategic sense when developing products.

### 2.2 How does it occur?

Product migration usually occurs when products are downsized and/or downpriced to become available to a wider market. The pressure to make products available in this way is usually created by consumers, although it can be supplier-led through promotion.

Almost all products are offered for sale after the manufacturer identifies a market need, so the decision to let a product migrate is generally a reaction to market changes. There are two main channels for identifying this market need:

- It may be initiated by the number of customer enquiries for a product they have seen or heard about and now want to buy.
- Product suppliers will look at the frequency with which certain products are hired out and use the information to spot a potential product opportunity, whilst at the same time maintaining the needs of the hire market.

For those developing countries that do not have an extensive manufacturing platform, the importer or agent may test the market by placing a product, previously used only by professionals, onto it to see if a need develops. For example, in Slovenia an importer responded to an environmental initiative by introducing compost shredders onto the market. Initially very few were sold, but the market grew, as it did for other gardening products also.

## 3.0 WHAT CREATES THE DEMAND FOR PRODUCTS TO MIGRATE?

### 3.1 Availability of professional products

Due to changes in the retail market, consumers are finding it increasingly easy to find and buy products designed for professional use. In the past wholesalers and retailers tended to specialise in either trade or consumer business. As manufacturers usually don't sell direct to consumers, but only through retailers or mail order, this distinction at the retail level created an effective control on consumers' exposure to professional products. The difference between these marketing sectors is slowly disappearing. Some major wholesalers will now sell to the consumer and some retailers are happy to establish a trade account, or are actively repositioning themselves to attract more trade business. The purpose of discussing this point is to demonstrate how consumers are now able to directly compare professional and consumer products alongside each other. In Europe, the growth of DIY hypermarkets where both DIY and professional products are sold under the same roof was identified as a powerful force in growth in availability of products.

During the course of discussions with experts across Europe, two further aspects of product availability were raised which by-pass existing controls and traditional retail routes. A number of European countries expressed concern over the sale of second-hand tools. In some countries, certain shops specialise in second-hand tools. Although not directly related to product migration, this gives cause for similar concerns over untrained consumers buying tools without any advice at the point of sale. In the case of second-hand tools the concern is even greater as the product might have deteriorated, thereby increasing the risk to the user. Concern was also expressed over the increased risk to the consumer when national controls are circumnavigated by a supplier importing goods from another country. Consumers may not realise the implications when buying a product in good faith.

The above discussion gives an account of how a consumer is able to acquire a professional piece of equipment. But we need to understand why the consumer would have such a need. There are a number of factors to consider.

### 3.2 Lifestyle changes

During the course of the study it became apparent that the changing lifestyles of European consumers can play an important part in the migration of professional products. There is a common trend across Europe for an increase in leisure time for the following reasons:

- people are living longer and therefore having a longer retirement
- more people are taking early retirement and voluntary redundancy
- higher levels of unemployment
- the working week is becoming shorter in some countries

This increase in leisure time has led to greater interest in DIY activities or hobbies.

In addition, the financial pressures created by unemployment or early retirement can lead to an increased incentive to do the job oneself rather than hiring a professional. Recession and a slow housing market also have an impact. People aren't moving due to lack of confidence about prospects. This leads to a greater degree of DIY activity as people concentrate on improvements and extensions to their existing home. As a result of these gradual changes, DIY is an extremely popular leisure activity throughout Europe, and people are tackling more and more complex tasks. For example, consumers are now tackling flooring, plumbing, and electrical work far more than in the past. The picture seems to be consistent across Europe although the reasons for this may vary. In Italy DIY is a growth area because consumers feel that professional jobs are too expensive and not of sufficient quality; in Denmark there is an upsurge in direct mail from DIY stores and in Spain consumers are tempted by practical demonstrations in stores. In Slovenia, short working hours and financial pressures have created a situation where DIY is seen as a way of life - many people even go as far as to build their own houses.

Unemployment leads to another area of concern. The loss of a job may encourage the consumer not only to do their own DIY, but also to offer their services to others despite lack of training. A number of commentators across Europe identified this "black market" in hired help as an area of concern, and it was a particular problem in Slovenia.

### **3.3 The influence of the media**

Consumer awareness of product availability is very much influenced by media exposure. There are many magazines covering the target product areas and DIY, gardening and leisure programmes are appearing in increasing numbers on TV. Similarly, but to a varying degree throughout Europe, the Internet allows the consumer to browse through a vast "shop window" without moving away from the comfort of their armchair.

The popularity of TV programmes featuring interior DIY and gardening projects (for instance, Changing Rooms, Home Front, Ground Force in the UK) means that the viewing public receive more exposure to professional products as they see them in action. A good example of the impact of these sorts of programmes is demonstrated by the demand experienced by hire companies for a "power fastening system" after it was seen on Changing Rooms. The same phenomenon was identified in Spain and the Netherlands. Given the influence of such programmes, programme makers have the chance to show professional tools in use, that consumers will pick up on. Indeed there is a valuable opportunity for such programme makers to make a positive contribution to home safety by showing tools being used correctly, with suitable PPE worn. They can also help identify those tools which only trained professionals should use, as well as giving any tips or short cuts to help make safe use simpler.

The increasing coverage of interior decorating and DIY projects in general lifestyle as well as specialist magazines also contributes to this trend.

Although as yet in its infancy, electronic commerce could also bring a wider range of products within easy reach of the consumer. In Italy steam cleaners and compressors sell in large numbers on private TV channels. The development of the Internet and launch of digital television are likely to accelerate this process throughout Europe.

The exposure of professional products to the consumer is very wide for the reasons previously discussed. There are also other occasions where the consumer may be required to use professional equipment, without training and with limited supervision, which are worth flagging up. This occurs in hotels where provision is made for self help commercial catering toasters (multi-slice or conveyer types) bains-marie (large counters for keeping the food hot) and high capacity hot water urns. Apart from the obvious difficulties of use without training, this equipment is often highly exposed and accessible to children. Similar situations exist in holiday apartments, guest-houses and halls of residence in universities, schools and hospitals.

#### 4.0 THE RESEARCH METHODOLOGY

Expert market analysts reviewed relevant markets to determine which products have already migrated, and which are likely candidates for future migration.

The market review involved drawing on existing knowledge acquired through ongoing market research and testing of products for Consumers' Association's activities; scanning catalogues from retail outlets, mail order and hire shops in all major market sectors and visiting trade shows to see what products were coming onto the market.

The Consumers' Association has close contacts with the major European consumer organisations and with the Consumers Union in the US. All carry out product testing in all the areas under scrutiny and maintain considerable market expertise. Relevant experts at these organisations were interviewed to establish their views on product migration in their country.

In-depth discussions were conducted with safety experts in major safety organisations and consumer groups in the UK, Europe and the US. This provides a crucial alternative perspective on information gathered in market reviews and from discussions with manufacturers.

Key manufacturers and retailers in each of the three main market sectors were identified, contacted and visited. A major hire company and the Hire Association of Europe were visited. These meetings were conducted according to a predetermined interview format, to ensure consistency of approach.

The research was conducted between September 1998 and February 1999 and, in all, over 100 organisations were contacted across a dozen different (mainly European) countries. For more information on the research methodology, see Appendices ii, iii, iv, v and vi.

#### 5.0 DETAILED MARKET STUDY

##### 5.1 DIY Market

The DIY market generally has shown significant growth, again in recent years, following a period of relative stagnation. The recent spate of TV programmes on DIY has helped to revive the market. The spread of hypermarkets across Europe has contributed to the growth in DIY activity. Gardening products and power tools have shown particular growth recently, as have security products. In the case of power tools, this growth has been largely on the back of cordless products (especially cordless drills) and product innovation.

High-pressure cleaners and steam cleaners are popular in Holland.

Paint strippers are popular in Slovenia.

There is evidence that, in the past, some companies manufacturing professional tools have decided to down-price their range to enter the consumer market.

A number of pan-European companies have separate ranges for the DIY market and the professional market, although this distinction is becoming blurred as product availability widens.

Opinions differ as to whether DIY-ers are expanding their range of activities into what was once the domain of the professional. Research by NOP/Mintel into DIY activities (The DIY Consumer, January 1999) indicates that painting is still the most popular DIY activity and "serious" DIY remains a minority activity, although the data indicates that there is a greater diversity of DIY activity these days. Other sources believe the DIY-er is now taking on much more complex tasks than previously e.g. plumbing and wiring. The increase in DIY fit security systems is an example of this. DIY burglar alarms and CCTV systems are beginning to take off in the UK and Europe, following the introduction of lower priced, wire free systems which are relatively easy to install.

##### DIY retailing

DIY retailing is perhaps one area where the greatest change is occurring. In the UK, several of the DIY multiples have made conscious decisions in recent years to move into the professional market and encroach on the traditional domain of the builders merchant. Some retailers have set out to capture the trade with the warehouse concept and are stocking a wide range of professional products alongside the DIY products. Builders Merchants, on the other hand, are trying to attract the consumer, but have been less successful than the DIY outlets.

The hire trade stands in the middle - servicing both the trade and, to a lesser extent, the general consumer. While the majority of hire turnover is to the trade, approximately 15% is accounted for by the DIY sector. Products on hire are generally "professional" grade - more powerful and generally more robust and durable than those available to buy in the DIY stores.

## Europe

The range of products available throughout Europe tends to be very similar to the UK. Dominant brands tend to be identical throughout. There are some variations in consumer demand - for example German consumers demand more powerful, higher specification products, partly as a result of differences in house construction.

Many of the major manufacturers are pan-European. Some minor differences in the types of products popular in the individual European countries exist but, in general, the picture is very similar across Europe. In terms of retailing, it is interesting to note that in many European countries (e.g. the Netherlands) retailers sell DIY and professional products under the same roof.

On product hiring, the picture varies across Europe: in Italy and Belgium, DIY shops also have hire sections, but in Belgium these do not hire out professional tools. In Spain, the hire of professional products is very popular, while in Slovenia the hire market does not exist at all.

### General concerns

DIY products are an area of particular concern because:

1. they use potentially hazardous processes for cutting, forming and heating materials that were originally developed for professionals.
2. the processes require considerable skill in their application
3. users should wear appropriate protective equipment
4. consumers can now afford to buy professional products
5. accident statistics suggest that a significant number of accidents in the home involve these tools

Examples of migrating products posing a risk to the untrained consumer

Welding equipment - risk of UV burns to eyes or body

Cement mixer - risk of entrapment when loading or unloading

9" angle grinder - risk of shrapnel

*Further examples can be found in the Database section of this report.*

## 5.2 Gardening Market

In North West Europe, gardens are the norm, whereas in Southern Europe private gardens are unusual, reflecting the greater popularity of flats and the lack of tradition for this feature.

The gardening market, generally, benefits from an ageing population, as people have more money and time to devote to it. Trends in garden retailing are reflecting broader social and demographic changes - in particular demands for convenience and timesaving solutions to

looking after the garden. In recent years, DIY superstores have become a powerful force in the garden market.

In the UK, interest in gardening is at an all-time high, helped by the proliferation of television programmes such as Ground Force and Home Front in the Garden.

The main trend of the 1990s has been an increase in water gardening with ponds and other water features, lower maintenance gardens and more paved areas and decorative features.

## Europe

In Spain, the increase in second homes out of town has led to more people spending time gardening. There is growing interest in gardening in the Netherlands - partly due to an increase in leisure time, and partly due to gardening programmes on television. In Slovenia, gardening has historically been, and remains, a major interest.

In Europe, generally the products available are very similar, although there are fewer owner-occupiers and more flats, so gardens tend to be fewer and smaller, with the exception of Germany where gardens tend to be large.

Cultivators tend to be very popular in France.

Shredders are particularly popular in Germany and France.

Brushcutters are popular in Germany and the Netherlands.

Not surprisingly, lumber products such as chainsaws, log splitters and loaders are popular in Scandinavia.

### General concerns

Gardening products are of concern for similar reasons to DIY products:

1. they use potentially hazardous processes for cutting which were originally developed for professionals
2. the processes require considerable skill in their application
3. users should wear appropriate protective equipment
4. users may be using products in awkward positions (e.g. in trees or up ladders)
5. non-professional users can now afford to buy professional products
6. accident statistics suggest that a significant number of accidents involve these tools

Examples of migrating products posing a risk to the untrained consumer

Chain-saws - risk of serious injury to lower limbs

Cultivators - risk of cuts and bruising to lower limbs

Garden shredders - risk of entrapment with rotating parts

*Further examples can be found in the Database section of this report.*

### 5.3 Leisure Market

The general increase in leisure time that has been outlined in this report has an obvious bearing on the leisure market. This, combined with the fashion for keeping fit and active, has led to growth in the market in recent years. The Leisure Trends Survey (Mintel, 1997) identified a 25% growth in the health and fitness industry between 1990 and 1995. The leisure market is large and fragmented, covering a wide variety of activities. For the purposes of this study, we concentrated on leisure equipment used by a wide variety of consumers and excluded specialist hobby activities.

One area highlighted during the course of this research as having migrated is that of exercise equipment. This was once only available for use in fitness centres, health farms and gyms, under supervision. Now a large consumer market exists for different types of exercise equipment for use in the home. In the fitness market there has always been a basic core of equipment - bicycles, rowing machines and treadmills, being supplemented by muscle toning/building weights and bench presses in the gym. Over the last few years, however, many different types of exercise equipment have entered the market - from US and the Far East, often via the shopping channels on TV. Many of these pieces of equipment take the market by storm for a short while and then fade away.

#### General concerns

There are a number of concerns over exercise equipment:

1. When the equipment is used in the home it can often be left out rather than put away at the end of each session. This means it is accessible to children. The equipment is heavy, and often has unprotected moving parts, which can pose a risk to children.
2. It is a feature of this market that the majority of sales (69%) are through mail order and catalogue shops where there is no facility for face to face advice, user/product training or personal assessment.
3. The market is moving towards products with more sophisticated electronics which inputs the user's body data and then computes a safe, correct work rate. There is also a growth in virtual reality products and interactive machines, electronic muscle stimulation systems (EMS) and heart/pulse monitors. All these could pose risks to the user if not used correctly. In particular, many machines should not be used by people with medical conditions. In the supervised environment of a gym, users are given a fitness assessment and guided in their use of the machines. With home purchase and use, none of these precautions exist.

Examples of migrating products causing risk to the untrained consumer

Exercise bikes	- contact with moving parts, over-exertion, lack of supervision
Treadmills	- contact with moving part, over-exertion, lack of supervision
Solariums	- risk of over-exposure to harmful UV rays

*Further examples can be found in the Database section of this report.*

### 5.4 Domestic Electrical Appliances (White and Brown Goods)

"White goods" refers to washing machines, tumble dryers, cookers, refrigerators, freezers and kitchen machines - so called because in the early life of these products they were all coloured white.

"Brown goods" refers to televisions, video recorders, amplifiers, home cinema systems and were referred to thus because, for the most part, they were brown. These products have been joined by the increasing use of information technology equipment, personal computers, modems and mobile phones.

White and brown goods were not investigated as markets in their own right, as little migration occurs and there have been dedicated safety standards for the domestic product in place for many years. For this reason the risk of injury to consumers is considered low. The existence of safety standards particular to domestic use means that, where products do migrate, there is little chance of risk to the consumer. However, expert opinion was canvassed in these areas and any relevant examples are included in the database.

It may be worth noting that, in the mainstream brown goods market, there are several examples of "reverse" migration, i.e. migration from the domestic to the professional market, e.g. domestic grade digital recording media is becoming commonplace in broadcasting due to its lower price, smaller size and ease of use. On the whole though, in this market, migration often occurs very soon after launch or products are introduced to both markets simultaneously. In the brown goods sector a number of possible areas of concern in terms of safety were mentioned:

1. In the case of computers, unlike most other electrical products, access to the internal workings of the machine is actively encouraged for upgrading and the addition of peripherals. This could potentially expose the user to live parts, and there's a risk of children in particular getting hands caught or injured.
2. Products that transmit radio frequencies are becoming more common in the home (e.g. mobile phones, cordless phones, radio doorbells). It's possible that these devices could interfere with other equipment - particularly pace-makers or alarms.
3. Electronic medical devices are now available to the consumer through mail order, e.g. TENS (transcutaneous electrical nerve stimulation) machines for pain relief, blood pressure meters and breath alcohol meters. The risk here doesn't come so much from the product itself as from the danger that the consumer might use it incorrectly, or use it as a substitute for seeking medical advice.

### 5.5 Cosmetics

The phenomenon of product migration is not confined to the areas of DIY, Gardening and Leisure, although overall these areas look to contain the greatest potential risks. Migration does occur in other product areas, for example cosmetics and, in particular, the field of

## 6.0 REGULATORY FRAMEWORK

hairdressing. This market was not researched in detail for this report. However, we note that consumers can sometimes have access to so called "professional" products via hairdressing salons, and some companies market a range available through supermarkets as a "professional" or "salon" standard. The use of the term professional in this instance is being used in a broad sense in order to imply high quality to consumers. Sales of the more hazardous chemical products designed for professional use only are restricted.

### 5.6 Chemicals

It became apparent during the course of the research that the use of certain chemicals by untrained users, was a cause for concern. A more specific study would be needed to investigate this concern more fully, but we mention it here for the sake of completeness.

In a number of European countries, concerns were raised over national controls being bypassed by suppliers obtaining stocks from countries where controls are more relaxed.

In Spain a concern was raised over floor cleaning machines which can be hired, and which use toxic chemicals purchased separately from the machine. If these chemicals are decanted into smaller containers, and these containers are later used for drinking, poisoning can occur.

Product safety legislation in the UK relating to consumer products allows products to be sold to specific groups of consumers only, as they are considered unsafe in the hands of others. Indeed, the General Product Safety Directive was used in conjunction with a European safety standard to remove powerful laser pointers from sale to the general public. In certain complex cases when national legislation is deemed necessary, and made under the Consumer Protection Act this can also restrict the sale to certain groups - for example, the fireworks regulations do not permit any kinds of fireworks to be sold to under 18s.

European safety standards can be readily used to classify groups of products as they relate to different groups of users, for example, the European standard on lasers features four classes of laser product - the top two appropriate for professional use only, as they require training for safe use. Such standards taken into account for other safety information enables the General Product Safety Directive to help control undesirable product migration. Indeed, the standards arena offers a valuable opportunity for discussions on where the boundaries lie between consumer and professional use on a wide range of products.

However, a number of European Directives such as Machinery, Personal Protective Equipment, Low Voltage and Pressure Vessels adopt a single criteria for safety and, once a product is deemed safe under those criteria, no distinction is made for who the potential users might be. Also, consumer legislation cannot be applied in such areas. This can cause problems in the context of professional products migrating, and raises important question about the relationship between the General Product Safety Directive and the sectoral Directives mentioned above, something which is under discussion within the current review of the General Product Safety Directive.

### 6.1 Information provided at point of sale

During the face to face interviews with the various market sectors it became apparent that the level of help to consumers on the shop floor varied considerably. Some retailers concentrate on selling the product to give best value for money and assume there is no need to advise the consumer on its safe use or to ensure it was suitable for the task. Other factors that contribute to inadequate information are:

- The sales person did not always have a working knowledge of the product;
- The sales staff had not always been given any training themselves and;
- The sales staff did not always have a complete understanding of the tasks the product is capable of carrying out safely.

This not only applies to retailers, but also some hire shops. In the case of DIY shops that also hire out more powerful equipment, if staff on the hire desk are not fully trained to give appropriate advice to consumers, this can lead to accidents.

An additional problem identified during the research was the lack of information given about personal protective equipment. In some countries, it can be almost impossible for consumers to obtain the right equipment. In other countries the equipment is available, but shop staff do not always give the right advice about its use and importance.

Elsewhere in the study, reference has been made to changing lifestyles, and one of these has been the use of "loyalty cards". This phenomenon is mentioned here as the vendor often offers goods that they do not retail themselves in exchange for the loyalty points. So a shop may be selling groceries and offering an electrical product as a loyalty item. This carries a risk that staff may not be trained in the safety of the product being given to the consumer, as it is outside their normal business.

## **6.2 Need for better training**

The value of training was mentioned repeatedly during the research. It is remarkable that in comparison to professional users, who are covered by Health and Safety at Work legislation and subject to supervision and external checks, the home user has no such protection. The point of sale is usually the only opportunity for safety-related advice to be given. The role of sales staff who have face to face contact with consumers is considerably enhanced by comprehensive training on how a product works and what it can do. In addition, a working knowledge of when personal protective equipment is required and that it is suitable for the particular job clearly enhances consumer safety.

However, with the spread of distance selling via mail order, television and the Internet, we must recognise that training by shop staff will not in isolation lead to better advice for consumers in every case. In addition, a need for better consumer education in general safety issues was identified.

## **6.3 What controls are in place?**

Professional product migration is clearly best controlled at the point of product design. In the initial safety assessment of a product, it would be valuable to make a clear assessment on the precise target population for the product, and also any spin-offs from the product.

The safety net of regulations is there to ensure that when such assessments are not done, or unscrupulous suppliers allow products to migrate which raise unreasonable safety risks to consumers, action can be taken. Although as discussed above, in some current areas controlled by European Directives, such as Machinery, there are difficulties for member states to apply this safety net.

## **6.4 Enforcement**

There are government agencies throughout Europe who work with industry to assist, support and advise on product safety. These agencies also have responsibility for scanning the market place and carrying out spot checks on products to check for conformity to national regulations/law. In the UK, the Health and Safety Executive oversees the professional and has the power to restrict or remove dangerous products from the workplace. Consumer interests are largely dealt with by regional Trading Standards Offices. These operate independently but within the overall guidelines set up by the controlling authority of "LACOTS".

## 7.0 FUTURE TRENDS

During the course of the research, particular attention was paid to developing technologies and trends that might lead to product migration in the future. At present, we are not aware of the immediate hazards associated with these products/technologies, but business should consider them and the whole concept of product migration when developing new products. Specific examples include:

Robotics - semi-intelligent appliances such as vacuum cleaners and lawnmowers.

Cordless technology will improve and expand, especially with the new Ni-MH battery technology

Remote control on appliances - local, land line, cable, satellite

The use of lasers in power tools - concrete cutters

The use of high pressure water in power tools

Tools generally becoming more powerful, smaller and lighter.

Digital technology - will expand into new areas

Water decalcifying systems

Virtual Reality - limited availability through up market amusements centres.

## APPENDIX 1: DEFINITIONS

### **Professional**

A professional person will in many instances work under supervision and/or will have undergone comprehensive training to use the particular product, appliance or equipment safely, as appropriate. For some trades the training can span a number of years and for others there is a need to be trained more frequently as the products used can vary. A professional person will know of and use Personal Protective Equipment (PPE) and know that in the event of accidents the place of work will be overseen by a government authority, subject to Health & Safety at Work requirements.

### **Professional product**

To carry out this study, we had to fully understand what makes a professional product. Clearly the professional product will experience much heavier use than a product designed and built for the domestic market place. It therefore follows that the professional product must be built to be robust, reliable and durable in order to meet the demands of a normal working day. It will probably be more powerful than its domestic counterpart. Inevitably, the cost of the product will be significantly higher. This is an important factor as this is often used by industry as a control means to prevent the product migrating.

### **Hazard**

A source of possible injury or damage to health.

### **Risk**

A combination of the probability and degree of possible injury or damage to health in a hazardous situation.

## APPENDIX II: CONTACTS - UK

### Approvals Bodies

ASTA  
BEAB  
Underwriters Laboratories International (UK) Ltd

### Retailers

John Lewis  
Wickes  
HSS

### Manufacturers

Draper Tools Ltd  
Robert Bosch Ltd  
Black & Decker  
Makita  
Atco Qualcast  
York Barbell (UK) Ltd  
B H Fitness

### Trade Associations

Hire Association Europe  
GIMA - Peter Marsh  
Safety Organisations  
RoSPA

### Exhibitions attended

DIY & Tools Show - Manchester  
GLEE - NEC  
International Hardware Show - NEC  
DIY & Home Improvements Show - Olympia  
Hirex - NEC

## APPENDIX III: CONTACTS - EUROPE

### Approval Bodies

Instituto Italiano del Marchio di Qualità - Italy  
Verbraucher-Zentrale - Germany  
FGR/DIN - Germany

### Consumer Organisations

Ecosa  
Consumentenbond (Dutch Consumers' Association)  
Slovene Consumers' Association  
Verbruikersunie (Belgian Consumers' Association)  
Union Fédérale des Consommateurs (French Consumers' Association)  
OCU/Edocusa (Spanish Consumers' Association)  
Australian Consumers' Association  
National Consumer Agency of Denmark  
Consumer Standards Institute - Netherlands  
Konsumentverket - Sweden

### Government Organisations

Instituto Nacional del Consumo - Spain  
Ministerio de Industria y Energía - Spain  
Ministry of Labour - SIQ Approvals Authority - Slovenia  
Danish "HSE"  
Swedish Consumer Agency  
National Board of Occupational Safety & Health - Sweden

### Trade Associations

Associazione Industrie Apparecchi Domestici - Italy  
Landtechnik Tore Motorgeräte - Germany  
Industrievereinigung Gartenbedarf (IVG) - Germany

## APPENDIX IV

### CONTACTS - USA

Consumer Protection Safety Commission - US

Consumers' Union (American Consumers' Association)

Underwriters' Laboratories

## APPENDIX V: Questionnaire used during research

### PRODUCT MIGRATION STANDARD QUESTIONS

ORGANISATION \_\_\_\_\_

1. What do you understand by "professional equipment"?
2. What products have already migrated in each of the three main market sectors?
3. Why do you think they migrated (changing lifestyles, deliberate marketing decisions)?
4. How did these products migrate (down-sized, down-priced etc)?
5. What controls are put in place to ensure safe usage of these products?
6. Are there any products currently available only to professionals that could be down-sized or down-priced for the consumer market?
7. What products are currently available only to professionals that you would be concerned about if they migrated to the consumer market?
8. What about the more distant future?

## APPENDIX VI: RISK ASSESSMENT

A simple risk assessment was conducted against all the products, equipment and machinery listed in the Product Database.

The assessment is structured from EN 1050 : 1997 Safety of machinery - Principles for risk assessment. Because a risk assessment process involves product design, hazards and risk, reference was also made to EN 292 : Part 1 : 1991 safety of machinery - Basic concepts, general principles for design. Part 1. Basic terminology, methodology.

For the market sectors targeted, the risk assessment took account of the use of the tool, product, apparatus by the untrained user and bystanders - for instance children. This is important for equipment such as leisure - fitness, where the user is not always aware of children nearby, particularly if the child is not within the line of sight of the person using it.

Although the risk assessment has been simplified, severity, frequency of use, probability of occurrence and avoidance have been considered as follows:-

SEVERITY	FREQUENCY/PROBABILITY/AVOIDANCE				
<b>Very Serious</b> (death, loss of limb, loss of eye)	Most likely	Likely	Unlikely		
<b>Serious</b> (irreversible damage to limbs, limb extremities or the eyes)		Most likely	Likely	Unlikely	
<b>Slight</b> (normally reversible, small cuts, bruises, slight burn)			Most likely	Likely	Unlikely
<b>RISK ASSESSMENT</b>	<b>Very high</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>Very Low</b>

## DATABASE

### Database Structure

Information for the database was derived by Consumers' Association Research & Testing Centre researchers from a variety of sources as described below.

**Product types:** Initially it was important to determine what products were most likely to put the consumer at risk of injury. These were selected from catalogues from manufacturers, suppliers and hirers, where the product could be available to non-professional consumers. Generally, selection was limited to appliances which, in the opinion of the researchers, could present a hazard to the user. Chemical and pharmaceutical products were not considered to be within the scope of the project.

**Typical price:** price ranges have been taken from the same catalogues.

**Availability:** the country/ies in which the tools are available.

**Possible hazards to untrained users:** a brief description of the hazards which, in the opinion of the researcher, a non-professional user might be subject to.

**Precautions taken by professional users:** those which an employer would have to take in order to ensure the safety of employees using such products.

**Hire (yes/no):** indicates whether the product is available from a major hire company in the UK.

**Hire - precautions by supplier:** the precautions taken by a responsible hirer (such as offering protective clothing, instructions or training) to ensure the safety of someone hiring the product.

**Have, will, may migrate:** the migration status in the opinion of the researcher. Products are considered to have migrated if they are easily available to the non-professional user from catalogues or easily accessible outlets.

### Database Content

In some areas (particularly brown goods) products have been included even though there are no known/identifiable hazards to the user. These have been included for completeness and to illustrate that this phenomenon is not just confined to DIY and Gardening markets - it happens in all market sectors.

DIY

Product Type	Typical Price	Availability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (W)ill (M)ay migrate
Jig saw (mains)	£22 - £160	EU	Cuts to fingers	Training, Protective equipment. Supervision	Low	y	Eye protection, breathing mask RCD	H
Jig saw (cordless)	£100 - £200	EU	Cuts to fingers, dust	Training, Protective equipment. Supervision	Low	y	Eye protection, breathing mask	H
Bandsaw	£95 - £500	EU	Cuts to fingers, dust	Training, Protective equipment. Supervision	Medium	y	Gloves, eye protection, mask, ear defenders.	H
Circular saw (portable)	£80 - £350	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Medium	y	Eye protection, breathing mask, ear defenders	H
Circular saw (portable, cordless)	£360 - £420	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Medium	y	Eye protection, breathing mask, ear defenders	H
Crosscut/Mitre Saw	£150 - £680	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Medium	y	Eye protection, breathing mask, ear defenders, RCD	H
Radial arm saw	£690 - £1100	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Medium		Eye protection, breathing mask, ear defenders, RCD	H
Table/Bench circular saw	£60 - £1000	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Medium	y	Eye protection, breathing mask, ear defenders, RCD	H
Alligator (double bladed) saw	£160	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Low		Eye protection, breathing mask, ear defenders, RCD	H
Sabre (reciprocating) saw mains	£186 - £300	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Eye protection, breathing mask, ear defenders, RCD	H
Reciprocating Saw (cordless)	£300	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Eye protection, breathing mask, ear defenders	H
Reciprocating Saw (air)	£30 - £90	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Low	n	-	H
Tile Saw (bench) with abrasive blade	£80 - £90	EU	Hand abrasion, dust	Training, Protective equipment. Supervision	Low	y	Eye protection, breathing mask, ear defenders	H
Angle grinder (9") mains	£100	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Gloves, eye protection, breathing mask, ear defenders, RCD	H
Angle grinder (air)	£65	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Eye protection, breathing mask, ear defenders	H
Mini grinder(41/2" angle grinder)	£23 - £90	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Gloves, eye protection, breathing mask, ear defenders, RCD	H
Bench grinder	£18 - £55	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Low	n	-	H
Portable cut off tool (mains)	£100	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Medium	y	Gloves, boots, eye protection, breathing mask, ear defenders, RCD	M

DIY (cont)

Product Type	Typical Price	Availability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (W)ill (M)ay migrate
Portable cut off tool (air)	£40	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Medium	y	Gloves, boots, eye protection, breathing mask, ear defenders, RCD	H
Portable cut off tool (petrol)	£460	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Medium	y	Gloves, boots, eye protection, breathing mask, ear defenders, RCD	H
Portable drill (mains)	£60 - £500	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Eye protection, mask	H
Portable drill (cordless)	£110 - £360	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Eye protection	H
Drill (air)	£28 - £90	EU	Cuts to hand/arm, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Eye protection	H
Chipping Hammer (mains)	£150 - £250	EU	Eye damage, noise	Training, Protective equipment. Supervision	Low	y	Gloves, eye protection, breathing mask, ear defenders, RCD	H
Chipping Hammer (air)	£28	EU	Eye damage, noise	Training, Protective equipment. Supervision	Low	y	Gloves, eye protection, breathing mask, ear defenders, RCD	H
Drill press	£60 - £450	EU	Entrapment(clothes), eye damage	Training, Protective equipment. Supervision	Low	n	-	H
Planer/thicknesser	£420 - £800	EU	Cuts to hand, noise, dust	Training, supervision	Medium	y	Gloves, eye protection, RCD	H
Planer (portable)	£36 - £170	EU	Cuts to hand, noise, dust	Training, supervision	Medium	y	Eye protection, RCD	H
Router	£75 - £330	EU	Cuts to hand, noise, dust	Training, Protective equipment. Supervision	Medium	y	Eye protection, RCD	H
Belt sander	£50 - £230	EU	Skin abrasion, Noise, Dust	Training, supervision	Low	y	Gloves, eye protection, breathing mask, ear defenders, RCD	H
Orbital sander	£23 - £160	EU	Skin abrasion, Noise, Dust	Training, supervision	Low	y	Eye protection, RCD	H
Rotary/disc sander	£200	EU	Skin abrasion, Noise, Dust	Training, Protective equipment. Supervision	Low	y	Gloves, eye protection, breathing mask, ear defenders, RCD	H
Pressure washer (electric)	£95 - £800	EU	Eye damage	Training.	Low	y	Gloves, eye protection, RCD	H
Pressure washer (petrol)	£440 - £1600	EU	Eye damage	Training, Protective equipment. Supervision	Low	y	Gloves, eye protection, ear defenders	H
Steam cleaners (high pressure)	£560 - £1400	EU	Skin burns, steam jet and hot surfaces	Training, Protective equipment. Supervision	Medium	y	Gloves, eye protection, RCD	H
Small MIG welder	£107 - £200	EU	Electric shock, intense heat and light	Training, Protective equipment. Supervision	High	y	Gloves, boots, eye protection, breathing mask	H

## DIY (cont)

Product Type	Typical Price	Avail-ability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (M)ay migrate
Oxy acetylene welder	£180	EU	Explosion, intense heat and light.	Training, Protective equipment. Supervision	High	y	Gloves, boots, eye protection, breathing mask	H
Staple Gun (Electric)	£25 - £50	EU	Impact, eyes,body parts	Training, Protective equipment. Supervision	Medium	y	Eye protection, gloves	H
Staple Gun (air)	£70 - £247	EU	Impact, eyes,body parts	Training, Protective equipment. Supervision	Medium	y	Eye protection, gloves	H
Nail Gun	£136	EU	Impact, eyes,body parts	Training, Protective equipment. Supervision	Medium	y	Eye protection, ear defenders	H
Wallpaper stripper	£28 - £40	EU	Skin burns, steam jet and hot surfaces	Protective equipment. Supervision Training	Low	y	Gloves, RCD	H
Hot air gun	£15 - £23	EU	Skin Burns, poison surface finish fumes	Training, Protective equipment. Supervision	Low	y	Gloves, eye protection, breathing mask, RCD	H
Cement mixer (electric)	£170 - £210	EU	Hand or arm fracture	Training, Protective equipment. Supervision	Medium	y	gloves, mask, ear defenders, RCD	H
Cement mixer (petrol)	-	EU	Hand or arm fracture	Training, Protective equipment. Supervision	Medium	y	gloves, mask, ear defenders	H
Access Tower	£180 - £380	EU	Impact, cutting, crushing during use erecting the tower	Training, supervision	Low	Y	Gloves, protective footwear	H

## Gardening

Product Type	Typical Price	Avail-ability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (M)ay migrate
Chain saw - traditional (petrol)	£130 - £260	EU	Serious lacerations, upper legs	Training, Protective equipment, supervision	High	y	Controlled hiring. Some hire companies supply safety kit within hire price, others at an additional cost	H
Chain saw - traditional (mains)	£90 - £110	EU	Serious lacerations, upper legs, electric shock through cut cable	Training, Protective equipment, supervision	High	y	Controlled hiring. Some hire companies supply safety kit within hire price, others at an additional cost, RCD	H
Chain saw - one handed (cordless)	£230	EU	Serious lacerations, arm, hand, upper leg, Falls	Training, Protective equipment, supervision	High	n	-	H
Post hole borer(one man)	£330 - £460	EU	High torque impact, arms	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Post hole borer(two man)	£1,200	EU	Crushing while manoeuvring	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Grass trimmers (mains)	£17 - £50	EU	Abrasion, lower limbs and eyes (dust)	Training, Protective equipment, supervision	Low	n	-	H
Grass trimmers (cordless)	£70	EU	Abrasion, lower limbs ) and eyes (dust)	Training, Protective equipment, supervision	Low	n	-	H
Grass trimmers (petrol)	£78 - £320	EU	Abrasion, lower limbs and eyes (dust), burns, hot surfaces	Training, Protective equipment, supervision	Low	n	-	H
Brushcutter with metal blade (petrol)	£130 - £320	EU	Lacerations to legs, burns, hot surfaces	Training, Protective equipment, supervision	Medium	y	Some hire companies supply safety kit within hire price, others at an additional cost	H
Brushcutter with metal blade (mains)	£140	EU	Lacerations to legs		Medium	n	-	H
Wheeled strimmer (petrol)	£400	EU	Abrasion, lower limbs and eyes (dust)	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Cultivator (light)	£150	EU	Laceration and bruising to legs, for petrol driven cultivators (rotovators) hot surfaces	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	H
Cultivator (medium)	£380 - £450	EU	Laceration and bruising to legs	Training, Protective equipment, supervision	Medium	y	Some hire companies supply safety kit within hire price, others at an additional cost	H
Cultivator (heavy)	-	EU	Laceration and bruising to legs	Training, Protective equipment, supervision	Medium	y	Some hire companies supply safety kit within hire price, others at an additional cost	M

### Gardening (cont)

Product Type	Typical Price	Availability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (M)ill, (M)ay migrate
Hedge trimmer (petrol)	£120 - £240	EU	Cuts to fingers legs etc	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	H
Hedge trimmer (mains)	£40 - £110	EU	Cuts to fingers legs etc, hot surfaces	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost, RCD	H
Hedge trimmer (cordless)	£70	EU	Cuts to fingers legs etc	-		y		H
Hedge trimmer - long handled (petrol)	£400	EU	Cuts to fingers legs etc, hot surfaces	Training, Protective equipment, supervision	Medium	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Hedge trimmer - long handled (mains)	£100	EU	Cuts to fingers legs etc	Training, Protective equipment, supervision	Medium	n	-	H
Scrub cutter (petrol)	£500	EU	Cuts to fingers, legs etc	Training, Protective equipment, supervision	Medium	n	-	M
Garden shredder (petrol)	£650	EU	Hand/wrist impact, eye abrasion (dust/debris) hot surfaces	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Garden shredder (mains)	£180 - £290	EU	Hand/wrist impact, eye abrasion(dust/debris)	Protective equipment	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost, RCD	H
Garden vac and blower (petrol)	£125	EU	Eye abrasion(dust/debris), hot surfaces	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	H
Garden vac and blower (mains)	£60 - £90	EU	Eye abrasion(dust/debris)	Protective equipment	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost, RCD	H
Mower (ride-on)	£760 - £1500	EU	Cuts/loss of finger	Training, Protective equipment, supervision	Medium	n	Some hire companies supply safety kit within hire price, others at an additional cost	H
Power scythe	-	EU	Cuts lacerations to lower leg	Training, Protective equipment, supervision	Medium	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Lawn scarifier (petrol)	£470 - £500	EU	Eye abrasion(dust/debris)	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Lawn scarifier (mains)	£70	EU	Eye abrasion(dust/debris)	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	H

### Gardening (cont)

Product Type	Typical Price	Availability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (M)ill, (M)ay migrate
Pole pruner (cordless)	£120	EU	Impact, arms, upper body	Protective equipment	Low	n	-	H
Pole pruner (mains)	£120	EU	Impact, arms, upper body	Protective equipment	Low	n	-	H
Lawn aerator (petrol)	-		Impact, lower leg	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Lawn aerator (mains)	-	EU	Impact, lower leg	-	Low	n		M
Flame gun	£18	EU	Fire, hot surfaces	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M/H (just)
Stump chipper	-	EU	Eye abrasion(dust/debris)	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Log splitter	£300	EU	Crushing, hands, lower arm	Training, Protective equipment, supervision	Low	n		H
Mini excavator	-	EU	Crushing, shearing, impact, limbs, whole body	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M
Mini dumper	-	EU	Crushing, shearing, impact, limbs, whole body	Training, Protective equipment, supervision	Low	y	Some hire companies supply safety kit within hire price, others at an additional cost	M

### White Goods

Product Type	Typical Price	Availability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (W)ill, (M)ay migrate
Iron - with separate steam generator	£120 - £170	EU	Burns, steam ejection, high surface temperatures	Training, Protective equipment, supervision	Medium	n	-	H
Iron - with separate steam injector	£90 - £100	EU	Burns, steam ejection, high surface temperatures	Training, Protective equipment, supervision	Medium	n	-	H
Ironing board - fan assisted	£100 - £180	EU	Impact, friction, abrasion through contact with moving parts (childs small size test finger access)	Training, supervision	Low	n	-	H
Vacuum cleaner - wet and dry	£49 - £66	EU	Poisoning, accidental ingestion of cleansing agents	Training, supervision	Low	y	Training, supervision	H
Vacuum cleaner - 3 in1	£85 - £198	EU	Poisoning, accidental ingestion of cleansing agents	Training, supervision	Low	y	-	H
Carpet shampooer	£150	EU	Poisoning, accidental ingestion of cleansing agents	Training, supervision	Low	y	Training, supervision	H
Steam cleaner - low pressure	£118 - £550	EU	Burns, steam ejection, high surface temperatures	Training, supervision	Low	n	-	H
Tumble drier(gas)	£300	EU	Poisoning, gas fumes	Training, supervision, registered installer	Low	n	-	H
Cooks Blowtorch Goods	£28	EU	Fire, hot surfaces	Training, supervision	Medium	n	-	H

### Leisure

Product Type	Typical Price	Availability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(H)ave, (W)ill, (M)ay migrate
Multi-gym	£99 - £1600	EU	Crushing, shearing, impact, limb extremities, limbs, whole body, exceeding physical capability	Supervision, training, maintained equipment	High	n	-	H
Exercise bicycle	£99 - £1299	EU	Crushing, entanglement, abrasion, limb extremities, exceeding physical capability	Supervision, training, maintained equipment	Low	n	-	H
Ab toner	£30 - £70	EU	Crushing, limb extremities, exceeding physical capability	Supervision, training	Low	n	-	H
Weight bench	£30 - £400	EU	Crushing, impact, limb extremities, limbs, exceeding physical capability	Supervision, training	Low	n	-	H
Weight set	£80 - £155	EU	Crushing, impact, limb extremities, limbs, exceeding physical capability	Supervision, training	Low	n	-	H
Treadmill (manual)	£119 - £200	EU	Trapping, friction or abrasion, limb extremities, limbs exceeding physical capability	Supervision, training, maintained equipment	Medium	n	-	H
Treadmill (motorised)	£499 - £4000	EU	Trapping, friction or abrasion, limb extremities, limbs exceeding physical capability	Supervision, training, maintained equipment	Medium	n	-	H
Riders	£99 - £400	EU	Crushing, impact, limb extremities, exceeding physical capability	Supervision, training, maintained equipment	Low	n	-	H
Elliptical trainer	£185 - £899	EU	Crushing, trapping, abrasion, limb extremities, limbs, exceeding physical capability	Supervision, training, maintained equipment	Medium	n	-	H
Rowers	£119 - £599	EU	Crushing, impact, limb extremities, exceeding physical capability	Supervision, training, maintained equipment	Medium	n	-	H
Steppers	£129 - £500	EU	Crushing, impact, limb extremities, exceeding physical capability	Supervision, training, maintained equipment	Medium	n	-	H
Skiers	£119 - £500	EU	Crushing, impact, limb extremities, exceeding physical capability	Supervision, training, maintained equipment	Medium	n	-	H
Walkers	£99 - £200	EU	Crushing, impact, limb extremities, exceeding physical capability	Supervision, training, maintained equipment	Medium	n	-	H
Solarium	£289 - £999	EU	Radiation, over exposure to UV	Personal protection for the eyes, supervision, training, maintained equipment	Low	y	Training, supervision, personal protective goggles	H

## Brown Goods

Product Type	Typical Price	Availability	Possible Hazards to Untrained Users or Bystanders	Precautions taken by professional	Risk Assessment	Hire - Yes/No	Hire - Precautions by supplier	(Have, Will, May migrate)
Digital camera	£380 - £580	EU	-	-	-	y	-	H
Facsimile machine (thermal, with and without answering machine)	£129 - £229	EU	Electrical, shock hazard unauthorised mains supply	Trained installers, approved machines, regular maintenance connection, fire, irregular maintenance to clear ventilation slots	Low	n	-	H
Facsimile machine (plain paper, with and without answering machine)	£249 - £399	EU	Electrical, shock hazard unauthorised mains supply connection, fire, irregular maintenance to clear ventilation slots	Trained installers, approved machines, regular maintenance	Low	n	-	H
Telephone answering machine	£15 - £40	EU	-	-	-	n	-	H
Telephone answering machine with telephone	£25 - £99	EU	-	-	-	n	-	H
Recordable optical storage eg. Compact disc, Minidisc, Digital versatile disc, CD rom	£300 - £1000	EU	-	-	-	n	-	H
Computer hardware	£800 - £2000	EU	Electrical, shock hazard unauthorised mains supply	Trained installers, approved machines, regular maintenance connection, fire, irregular maintenance to clear ventilation slots	Low	n	-	H
Computer software	£10 - £500	EU	-	-	-	n	-	H
Printer	£100 - £400	EU	Poison, ingestion proper installation of inking cartridge and disposal	Trained installers, approved machines, regular maintenance	Low	n	-	H
Scanner	£175 - £500	EU	-	-	-	n	-	H
Laser pen (pointing device)	£50 - £75	EU	Radiation, over exposure of eyes to laser light	Trained users such as lecturers	Medium	n	-	H
Mobile telephone	£76 - £150 (comp. pack.)	EU	-	-	-	n	-	H
Modem	£70 - £160	EU	Electric shock, unauthorised connection installation	Trained installers, approved modems	Low	n	-	H
Global positioning system (GPS)	£130	EU	-	-	-	n	-	H

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