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TECHNICAL REPORT

Child Appealing Research: Research into Child Awareness of Risk: Use of Electrical Equipment

A REPORT BY INTERTEK RESEARCH & TESTING CENTRE
FOR THE DEPARTMENT OF TRADE & INDUSTRY

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REPORT

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Background

Following a number of enforcement disagreements between Member States with regard to child-appealing luminaries there is a need to consider in more detail what features of electrical products, including child-appealing luminaries, children may find appealing. In particular, what constitutes a risk to children and when may an electrical product be considered as a toy.

The DTI commissioned Intertek RTC to study this subject in detail and produce a report with clear recommendations for child safety, for what constitutes a child-appealing electrical product and when an electrical product may be considered as a toy.

This report contains the results of the Intertek RTC research project for this subject area. Essentially, the project has revealed the types of electrical products used by children, where such products are actually responsible for an incident, a risk rating for electrical products and a comparison of such risk and the features of electrical products that appeal to children. The report concludes with a number of recommendations for establishing what features of electrical products appeal to children, when such products may be considered as a toy and child safety in general.

Scope

The project included a review of accident data and an analysis of the risks associated with products causing incidents involving children. This was supported by a survey of school children and their parents. European health professionals were contacted in an attempt to establish the underlying cause of incidents. A representative from the European Commission, responsible for electrical equipment, was also interviewed to obtain the official Commission viewpoint for child safety legislation in the context of the Low Voltage Directive (73/23/EEC), EC guidance documents and EC opinion statements.

Overall Findings of General Child Safety Involving Electrical Products

Overall, the highest number of incidents involving children under 14 are caused by lighting equipment and cooking appliances. Children aged 5-14 account for most of the incidents for lighting equipment where many injuries are a result of touching accessible live parts within the lamp holder. Other injuries include burns from lamps and cuts from broken lamps. Children aged 1-4 seem particularly susceptible to burns from cooking appliances.

Toasters, sandwich toasters, vacuum cleaners and televisions have also been identified as products causing incidents where burns, scalds, abrasion and cuts constitute the injuries. While the research shows that children aged 5-6 use toasters, kettles, sandwich toasters and food processors, it is assumed that these products would normally be out of reach of young children. Although injuries are reported involving televisions, the research suggests that children do not regard a television as an electrical product. A personal computer was also not regarded as an electrical product by children despite a few children saying during interviews that they ‘could not live without the Internet’.

Children aged 5-12 regularly use lighting equipment, kettles, toasters and sandwich toasters and to a lesser degree hair dryers vacuum cleaners, microwaves, hair curling products, bread makers and fan heaters.

Features of electrical appliances that children find appealing are unique to each child. But most children found the following features appealing, in no particular order, which would encourage them to handle and explore the products:

- Bright and contrasting colours
- Shape
- Movement
- Function
- Texture
- Smell
- Noise of on/off switch

Children often mistake the identity of child-appealing products, believing them to be harmless and thereby unaware of the potential hazards.

European Health Professionals Views

European health professionals reported that most accidents involving children occur in the kitchen. A child left unsupervised is reported as the most common reason for an incident. In a few cases the incident was blamed on the product being child appealing. Typical incidents include burns, scalds and electric shocks. Most of the health professionals felt that the number and severity of the injuries were staying about the same.

European Commissions Views

The European Commission believes that children are covered by the Low Voltage Directive 73/23/EEC (LVD) under Article 2 as "all persons" where children are considered less than 14 years of age. The European Commission also believes that when deciding whether an electrical product is either child appealing or a toy, the manufacturer should undertake a risk assessment. The risk assessment should use the definition of a child-appealing luminaire (from EN 60598-2-10) and the definition of a "toy" from the Toys Directive (88/378/EEC) as a basis. 'Reasonable expected use shall prevail over the declaration of intended use by the manufacturer.' This statement is taken from the latest European Commission guidance document number 4 on the application of the Directive on the safety of toys, which is dated 18 February 2003.

Highlights From Recommendations

A number of recommendations and conclusions are provided in Section 7 and are detailed in three distinct areas:

- What constitutes a child appealing product
- When an electrical product may be considered as a toy.
- Child safety and associated legislation.

Some particularly significant recommendations are highlighted below:

Recommendation B

Standards writers should consider broadening the definition of "child-appealing" to include aspects that were revealed by the survey of school children. The following definition and accompanying note is recommended:

> **Child-appealing product** – A product that is constructed such that due to the design, and regardless of materials used, it may induce or encourage handling by a child.
>
> Note – Aspects of such products include representing a model, person, animal (real or character printed), buildings or vehicles; having bright and contrasting colours, and a function, noise or texture consistent with a child's desire to experiment.

Recommendation C

Removing the statement in the scope of the safety standard for household electrical appliances EN 60335-1, which says that 'this standard does not, in general take into account playing with the appliance by young children' and replace with the following:

- 'This standard, in general, takes into account use in play where it is foreseeable that a child will come into contact with the product'

Defining the term "for use in play" in a note to accompany the definition of a toy within the Toys (Safety) Regulations, as follows:

Note: "Use in play" includes a child exploring, experimenting or handling the material or product.

Recommendation D

Expanding the term “for use in play” in the Toys (Safety) Regulations in conjunction with the removal of the “exclusion” statement from the scope of EN 60335-1 will assist in deciding whether an electrical product may be considered a toy.

Recommendation F

Incorporate safety type lamp holders that isolate live parts from accessible parts while the lamp is being removed from its lamp holder and when the lamp has been completely removed from its lamp holder.

Recommendation K

The LVD should make provision for a Standing Committee (SC) that operates under the terms and conditions of a European Commission mandate. The terms and conditions should insist that the SC reviews the part-2 (product specific) standards to ensure that child safety aspects are covered. The SC should make reference to the latest guidance documents in this regard:

- ISO/IEC Guide 50 Safety aspects – Guidelines for child safety
- ISO/IEC Guide 51 Safety aspects – Guidelines for their inclusion in standards
- Child safety – Guidance for its inclusion in standards: Produced by CEN BT WG117 under Mandate M/293

While the above recommendations are considered significant, adoption of all the recommendations in Section 7 should result in a significant improvement in child safety. It is hoped that this will reduce incidents involving children and raise awareness of the potential risks for children when using electrical equipment.

INTRODUCTION

Intertek Research & Testing Centre[1](Intertek RTC) was commissioned by the Department of Trade and Industry to carry out research into child awareness of risk in relation to the use of electrical equipment. (Contract reference IGFI000065 REV/O dated 6 December 2002.)

The aim of this research project was to assist the UK authorities in the European debate about what constitutes a child-appealing product with regard to luminaires operating at over 24 volts. In particular:

- What constitutes a child-appealing product
- To cite professional opinion as to what constitutes a risk to children;
- To determine whether such a risk varies with age;
- To obtain professional opinion as to when a product may be considered a toy within the spirit of the UK Toy Safety Regulations.

Further details of the research brief is given in Appendix I.

The project included:

- Review of existing accident data;
- Risk analysis: review of safety risk of mains power lighting used by children;
- Detailed review of products regarded as being of higher risk;
- Pilot survey of school aged children.
- Data from European health professionals;
- European Commission's official view on present child safety legislation.

This report presents the results of the study and gives recommendations and conclusions in Section 7.

[1] Formerly known as ITS Research & Testing Centre

1 Review of existing accident data

The aim of studying the available accident data for injuries to children involving electrical products was to identify the mechanics behind the incident and determine, if possible, features of the products that appealed to the children.

Intertek RTC decided to research data from the DTI HASS database and the EHLASS database. The HASS statistics contain data that refer to the products *involved* in the incident. However, it was possible to determine where the product was directly responsible for the incident. The EHLASS data generally refer to the products *causing* the incident. The exception is the EHLASS United Kingdom report from 1997, which refers to the products *involved* in the incident.

With the HASS data electrical products were chosen after researching reports, papers and articles from a number of European organisations, indicating usage by children. Overall, the majority of incidents concerned lighting products, followed by food processors and vacuum cleaners. Other electrical products such as toasters and kettles are included but the incidents where product safety is an issue are very low.

With lighting the incidents involved access to live parts, cuts after lamp breakage and burns. Injuries with food processors relate mostly to cuts with the blades unattached from the appliance. Abrasion was the main injury caused by vacuum cleaners. Burns and hot liquids accounted for the injuries caused by kettles, toasters and sandwich toasters.

The EHLASS reports contain aggregated data where product specific data is usually restricted to the twenty most common product groups. Some of these groups cover a broad range of products making it difficult to separate specific electrical products. However, lighting equipment and cooking appliances appear as separate product groups in many of the reports. The exception is the EHLASS United Kingdom 1997 report that is very detailed and contains data for individual products rather than the typical product groups.

The HASS and EHLASS data are listed under separate headings and the relevant data have been summarised which compares and contrasts the risks by age group for different countries. Individual EHLASS country reports are shown in Appendix II.

1.1 HASS Data

Intertek RTC researched HASS data from 1998. The electrical products requested from the DTI HASS database were chosen after researching appropriate reports, papers and articles from the following sources:

British Standards Institution (BSI)
Consumers' Association (CA)
Department of Trade and Industry (DTI)
European Consumer Associations
European association for the co-ordination of consumer representation in standardization (ANEC)
European Consumer Safety Association (ECOSA)
European Child Safety Alliance
European Commission (EC)
Health and Safety Executive (HSE)
Home Office
Royal Society for the Prevention of Accidents (RoSPA)

Most of the data relates to incidents *involving* the product rather than *caused* by the product. However, Intertek RTC was able to determine where the product was directly responsible for the incident.

The HASS data in the following tables and charts is sample data and has not been grossed up to provide national estimates. The sample is based on 18 A&E hospitals meeting specific criteria, selected from around 300 such hospitals in the UK. They are distributed throughout the UK are chosen to be as representative as possible of the group as a whole. They are thought to represent roughly 5% of all accidents in the home, in the United Kingdom, where the victim was treated in an A&E hospital.

Summaries of HASS data for 1998 and 1999 for selected products are included in Table 1 and Table 2.

A bar chart illustrating 1998 HASS data for child accidents where product safety was an issue is provided in Figure 1.

A bar chart illustrating 1999 HASS data for child accidents where product safety was an issue is provided in Figure 2.

Table 1 1998 SUMMARY OF HASS DATA FOR SELECTED PRODUCTS

Product	Total no of accidents	Age			Sex		Is there a safety issue with this product?			Seriousness of injury	
		3 & under	4-9 yrs	10-14 yrs	Male	Female	Yes	No	Not sure	Minor	More serious
Toaster	4	1	2	1	2	2	1		3		4
Sandwich toaster	5	3	2	None	4	1	1	3	1	5	None
Food processor blade	7	4	2	1	5	2	4	None	3	5	2
Electric light or lamp (incl shades)	53	13	23	17	33	20	14	26	13	29	24
Kettles	114	4	65	45	49	65	0	113	1	33	81
Microwave oven	11	2	7	2	2	9	0	10	1	2	9
Television	129	21	66	42	79	50	0	129	0	83	46
Vacuum cleaner	41	6	13	22	17	24	2	37	2	31	10
Total	364	54	180	130	191	173	22	318	24	188	176

Table 2 1999 SUMMARY OF HASS DATA FOR SELECTED PRODUCTS

Product	Total no of accidents	Age			Sex		Is there a safety issue with this product?			Seriousness of injury	
		3 & under	4-9 yrs	10-14 yrs	Male	Female	Yes	No	Not sure	Minor	More serious
Toaster	3	1	2	None	None	3	None	1	2	None	3
Sandwich toaster	1	None	None	1	None	1	None	None	1	1	None
Food processor blade	6	2	2	2	5	1	1	1	4	4	2
Electric light or lamp (incl shades)	44	20	14	10	21	23	6	23	15	27	17
Kettles	130	13	59	58	57	73	0	130	0	33	97
Microwave oven	6	0	2	4	1	5	0	4	2	4	2
Television	158	29	86	43	100	58	2	155	1	104	54
Vacuum cleaner	67	15	28	24	33	34	1	63	3	48	19
Total	415	80	193	142	217	198	10	377	28	221	194

Notes:
Is there a safety issue with this product?

Yes -The product was directly responsible for the accident, and safety measures by the manufacturer may have removed or reduced the risk of injury.

No - The product was not directly responsible for the accident. (Includes dropping product, tripping over product, spilling hot water and general misuse of product)

Not sure - The product was directly responsible for the accident (eg a burn from a hot light bulb) but it is debatable whether the manufacturer or consumer is responsible for inadequate safety measures.

Seriousness of injury: Minor means no further treatment required.
More serious means the patient required further treatment.

SUMMARY OF HASS DATA FOR 1998 & 1999 FOR SELECTED PRODUCTS ALL AGE GROUPS

Figure 1

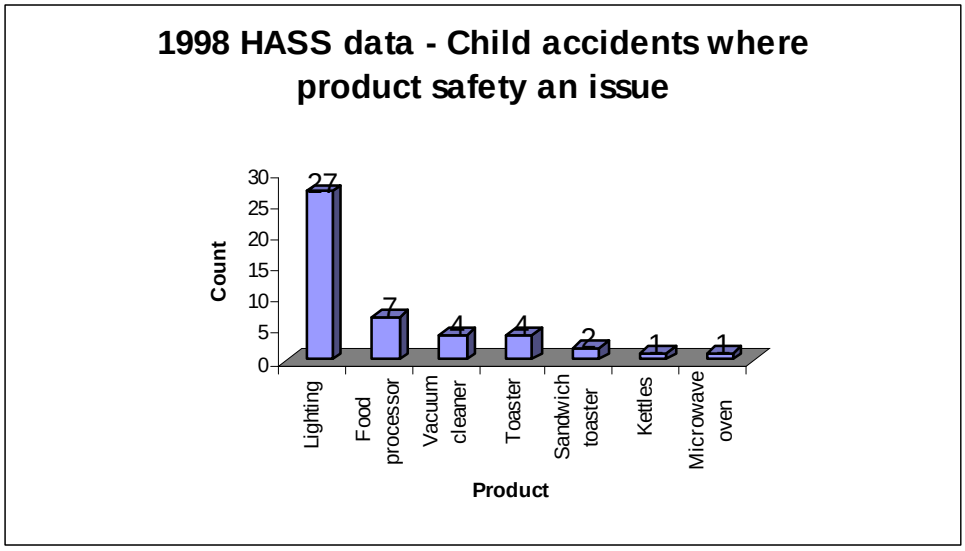
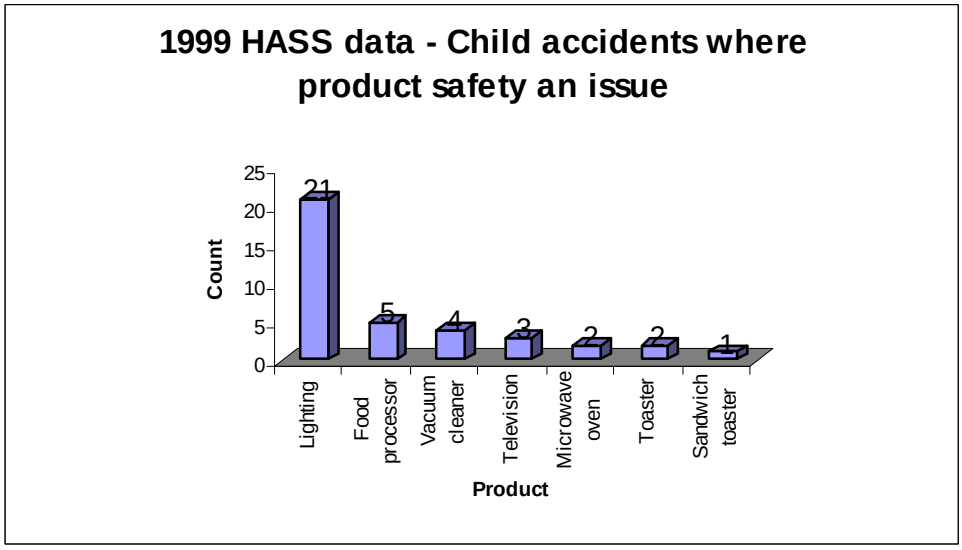


Figure 2



1.2 EHLASS Data

The following EHLASS reports were analysed:

Austria 1997
Belgium 1998
Denmark 1997
Finland 1997
France 1998
Germany 1996
Greece 1998
Ireland 1997, 1998, 1999 and 2000
Italy 1997
Netherlands 1997
Portugal 1997, 1998 and 1999
Spain 1997 and 1998
United Kingdom 1997

Data collection systems were set up for the collection of EHLASS data in the casualty departments of selected hospitals in each of the member states. Each member state produces it's own annual EHLASS report. These are meant to be in a harmonised format specified by the European Commission but they are not always directly comparable and some reports are more detailed than others. It is not possible to produce national estimates from the EHLASS survey data.

Intertek RTC selected lighting equipment and cooking appliances from the aggregated product groups in the above reports. The data refer to the products causing the incident. The exception is a United Kingdom report from 1997, which is very detailed and contains data for individual products rather than the typical product groups.

The 1997 United Kingdom report has been summarised in Table 3.

A bar graph illustrating the products involved in accidents by age group is provided in Figure 3.

EHLASS data for accidents caused by lighting equipment for France, Germany, Greece, Netherlands, Spain and the UK is reported in Table 4.

Pie charts illustrating the number of accidents caused by lighting equipment by age groups for France, Greece, Netherlands and the UK are included in Figure 4, 5, 6 and 7.

EHLASS data for accidents caused by cooking appliances for France, Germany, Greece, Netherlands and Spain is reported in Table 5.

Pie charts illustrating the number of accidents caused by cooking appliances by age groups for France, Germany, Greece and the Netherlands are included in Figure 8, 9, 10 and 11.

Note – Lighting equipment pie charts for reports Germany 1996, Spain 1997 and Spain 1998 have not been produced, as the numbers are too small to illustrate graphically. Similarly, a cooking appliance pie chart has not been produced for the Spain 1998 report.

Table 3 EHLASS Accident Data UK 1997 - Specific Products involved in accident

Product involved in accident	<1yr	1-4yrs	5-14yrs	15yrs +	All age groups
UK 1997					
Lighting equipment:					
Bulb	2	17	10	81	110
Candle	0	3	8	26	37
Candlestick	0	3	2	6	11
Christmas tree lighting	0	0	2	3	5
Fluorescent lighting	0	2	2	8	12
Lamp & oil lamp	1	1	2	14	18
Lamp globe	1	5	4	17	27
Light access. flame unspec.	0	2	1	5	8
Torch	0	8	1	10	19
Wall light	0	1	0	9	10
Other access. with flame	1	8	7	23	39
Other lighting equipment	0	2	2	17	21
Unspec. lighting equipment	0	1	2	21	24
Total lighting equipment	5	53	43	240	341
Total	3878	30335	76256	168611	279080
% of total	0.13%	0.17%	0.06%	0.14%	0.12%

Other products of interest:

Product involved in accident	<1yr	1-4yrs	5-14yrs	15yrs +	All age groups
Cooking equipment:					
Gas cooker	3	45	25	106	179
Cooker, hot plate	0	5	2	3	10
Oven cover	3	10	1	26	40
Cooker, oven	0	6	7	86	99
Cooker, grill	1	11	3	35	50
Cooker other part	2	23	17	104	146
Barbeque grill	0	5	4	20	29
Picnic/primus stove	0	0	1	1	2
Electric/Toaster	0	2	1	9	12
Microwave oven	0	4	8	41	53
Bottle warmer	1	0	0	0	1
Pan - oils, other	0	3	14	65	82
Deep fryer & oils, other	4	7	9	149	169
Pan, all kinds	2	27	18	110	157
Other items:					
Knife, electric	0	3	16	228	247
Mixer & whisk	0	1	1	9	11
Food processor	0	0	1	7	8
Electric iron	0	23	3	22	48
Television	4	52	46	148	250
Video, tv game	1	22	3	26	52
Other tv, radio & telephone	4	28	9	14	55
Record player/stereo	4	33	20	54	111
Radio, tuner, receiver	3	4	1	12	20
Walkman, cd player	0	3	1	4	8
kettle & other hot drink	15	48	53	181	297
washing machine	0	3	5	72	80
vacuum cleaner	4	27	27	221	279
dishwasher	1	2	2	27	32
lawnmower	0	4	20	176	200
hairdryer	0	0	1	16	17
Curling tongs	3	16	2	10	31
Electric shaver & blade	1	27	10	81	119

Table 3 continued EHLASS Accident Data UK 1997 - Specific Products involved in accident

Product involved in accident	<1yr	1-4yrs	5-14yrs	15yrs +	All age groups
Cooker, all parts	7	77	38	256	378
Total lighting equipment	5	53	43	240	341
kettle & other hot drink	15	48	53	181	297
vacuum cleaner	4	27	27	221	279
Television	4	52	46	148	250
Knife, electric	0	3	16	228	247
Lawnmower	0	4	20	176	200
Electric shaver & blade	1	27	10	81	119
Record player/stereo	4	33	20	54	111
washing machine	0	3	5	72	80
Other tv, radio & telephone	4	28	9	14	55
Microwave oven	0	4	8	41	53
Video, tv game	1	22	3	26	52
Electric iron	0	23	3	22	48

Figure 3

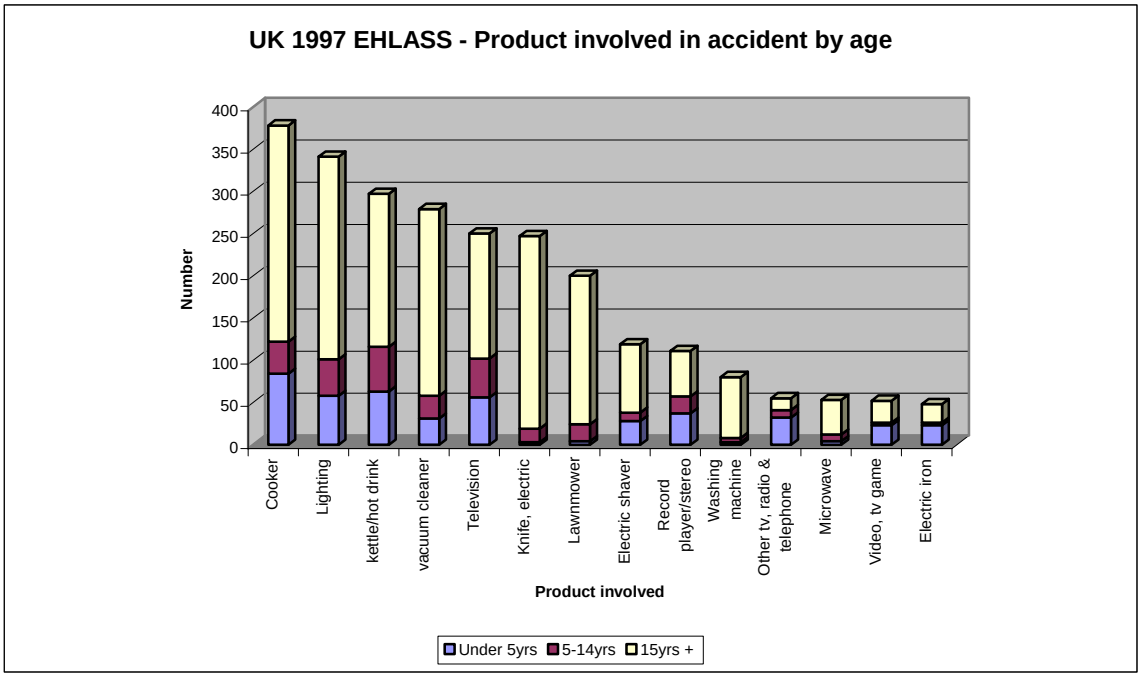


Table 4 EHLASS Accident Data - Available data on accidents caused by lighting equipment (involving for the UK)

Product causing the injury	Under 1yr	1-4 yrs	5-14 yrs	15 & over	All age groups
France 1998					
Lighting equipment	2	17	10	13	42
Total	837	6526	12717	21753	41832
% of total	0.24%	0.26%	0.08%	0.06%	0.10%
Germany 1996					
Lighting equipment	0	1	1	4	6
Total	13	485	1082	7313	8893
% of total	0.00%	0.21%	0.09%	0.05%	0.07%
Greece 1998					
Lighting equipment	2	8	8	4	22
Total	756	5972	11307	15271	33306
% of total	0.26%	0.13%	0.07%	0.03%	0.07%
Netherlands 1997					
Lighting equipment	0	7	8	25	40
Total	150	3494	8245	35230	47119
% of total	0.00%	0.20%	0.10%	0.07%	0.08%
Spain 1997					
Lighting equipment	0	0	1	7	7
TOTAL	63	171	670	2819	3724
% of total	0.00%	0.00%	0.10%	0.24%	0.20%
Spain 1998					
Lighting equipment	0	1	2	8	12
TOTAL	71	193	754	3172	4190
% of total	0.00%	0.70%	0.30%	0.26%	0.29%
UK 1997 product involved in accident, not necessarily causing injury					
Total lighting equipment	5	53	43	240	341
Total	3878	30335	76256	168611	279080
% of total	0.13%	0.17%	0.06%	0.14%	0.12%

EHLASS ACCIDENT DATA - PIE CHARTS SHOWING ACCIDENTS CAUSED BY (INVOLVING FOR UK) LIGHTING EQUIPMENT BY AGE GROUP

Figure 4

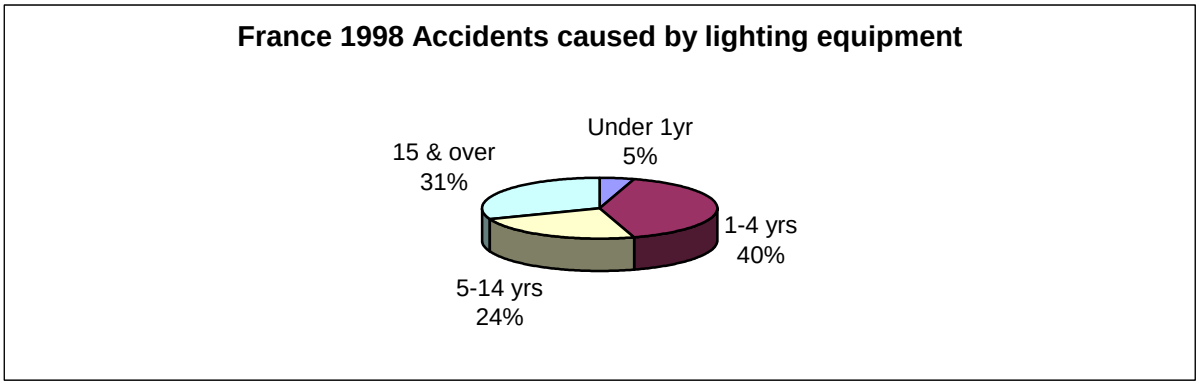


Figure 5

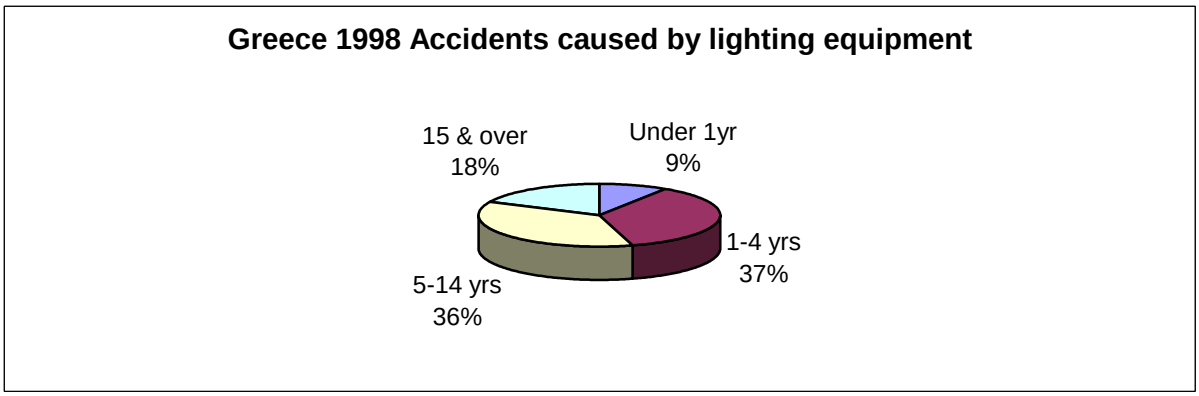


Figure 6

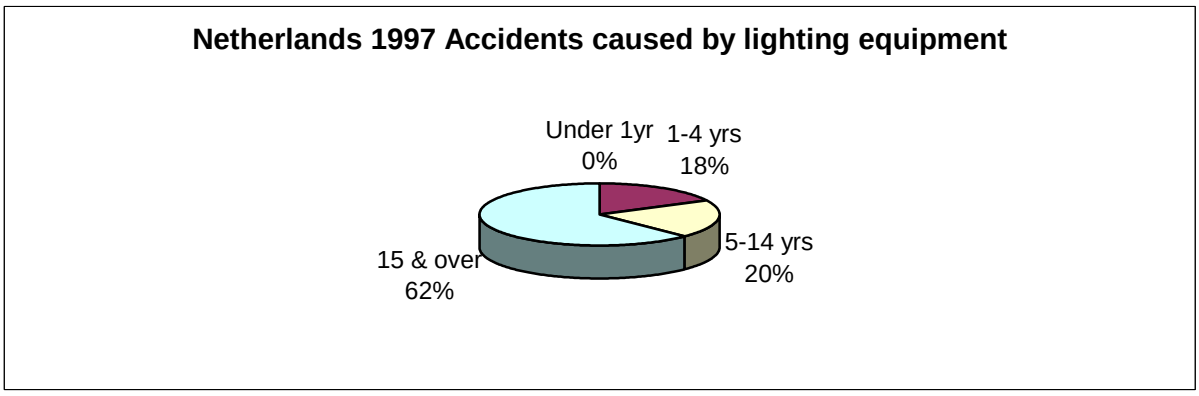


Figure 7

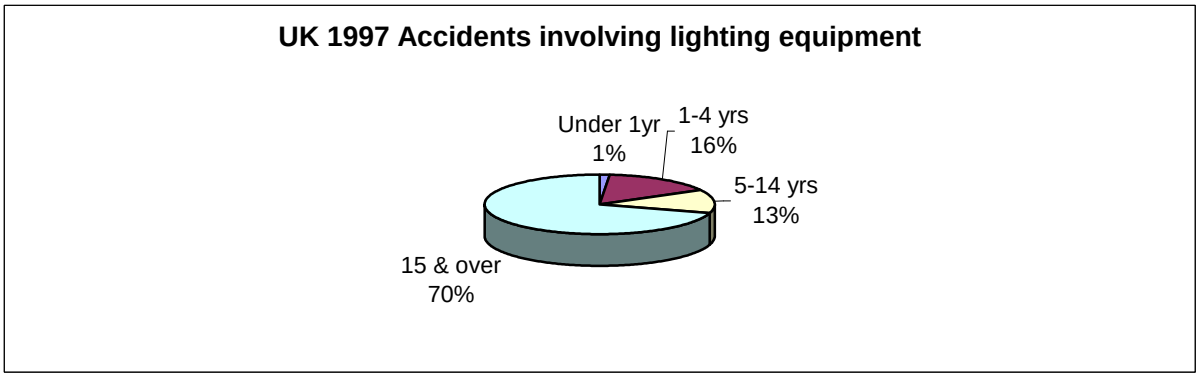


Table 5 EHLASS Accident Data - Available data on accidents caused by cooking appliances.

Product causing the injury	Under 1	1-4 yrs	5-14 yrs	15 & over	All age groups
France 1998					
Cooking equipment	3	39	12	42	96
Total	837	6526	12717	21753	41832
% of total	0.36%	0.60%	0.09%	0.19%	0.23%
Germany 1996					
Cooking equipment	2	10	1	26	39
Total	13	485	1082	7313	8893
% of total	15.38%	2.06%	0.09%	0.36%	0.44%
Greece 1998					
Cooking equipment	10	34	11	36	91
Total	756	5972	11307	15271	33306
% of total	1.32%	0.57%	0.10%	0.24%	0.27%
Netherlands 1997					
Cooking equipment	1	15	15	177	208
Total	150	3494	8245	35230	47119
% of total	0.67%	0.43%	0.18%	0.50%	0.44%
Spain 1998					
Cooking equipment	0	0	0	10	10
TOTAL	71	193	754	3172	4190
% of total	0.00%	0.00%	0.00%	0.32%	0.24%

EHLASS ACCIDENT DATA - PIE CHARTS SHOWING ACCIDENTS CAUSED BY COOKING APPLIANCES BY AGE GROUP.

Figure 8

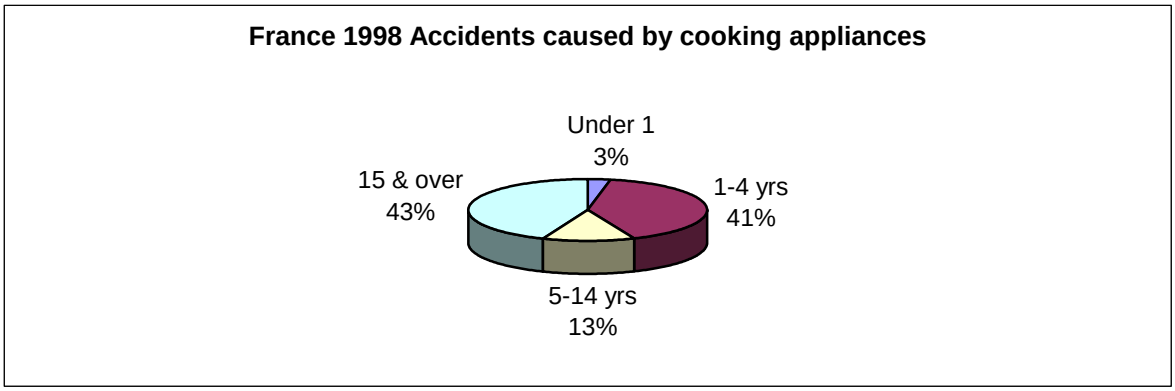


Figure 9

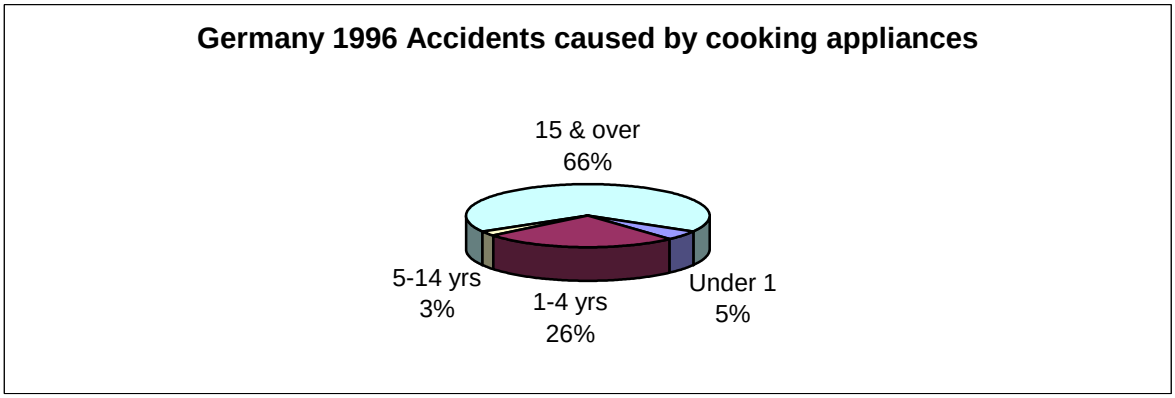


Figure 10

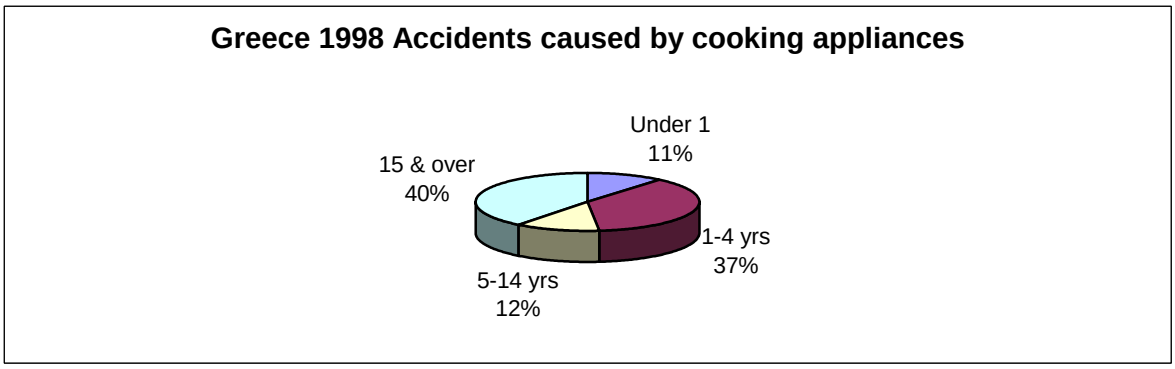
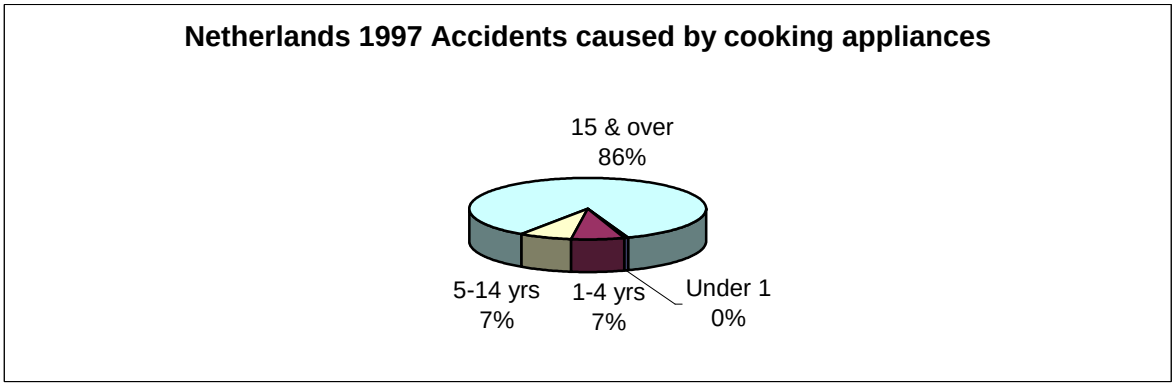


Figure 11



2 Survey of school-aged children and their parents

In order to investigate the types of electrical products used by children and what features of such products are child appealing, Intertek RTC decided to interview school children and send a questionnaire to the children's parents. The questionnaire is included in Appendix III.

Intertek RTC selected the following two schools and interviewed a total of 94 children.

Willen Combined School, Beaufort Drive, Willen, Milton Keynes MK15 9HN

Brooksward Combined School, Tower Drive, Neath Hill, Milton Keynes MK14 6JZ

The children were aged between 4 and 12 years old. Interviews were carried out with children in four age groups 4-5years, 6-7years, 9-10years and 11-12years. Each group was a mixture of boys and girls.

The children were asked to explain their knowledge of electricity before being shown a number of electrical products having features that might be appealing to children. The products were a lava lamp (P1), popcorn maker (P2), plane lamp (P3), frog lamp (P4), football lamp (P5), "Shaggy Dog" sandwich toaster (P6) and a "Penguin" steam cleaner (P7). Photographs of these products are shown in Section 3 under the codes in parenthesis given above. The products were purchased from high street retailers and by mail order.

During the interviews, Intertek RTC asked the children from both schools the same set of questions, the answers are summarised in the Table 6.

Many children admitted to regularly using microwave ovens, cookers and irons unsupervised. The questionnaires given to the children's parents illustrate in more detail the products used by children.

The questionnaire results are summarised in Table 7.

Graphical illustrations of the results of the parents survey are included as Figures 12 to 17.

Table 6 Summary of childrens' comments during school visits

Product	No.owning product (or similar)	No.admitting unsupervised use	Aware of dangers?	Aware of purpose?	Child appealling features				
					Shape	Colour	Switches	Sounds	Other
Popcorn maker	26	8	Knew it gets hot. 1 girl burnt using one. Would ignore warning as it was the same colour as the plastic (embossed)	Hairdryer? Kettle? Liked fact it made popcorn	Liked duck shape Shape of beak	Liked colour of beak Liked red hat Liked colour	NC	Liked noise	NC
Sandwich toaster	41	5	Knew it was hot Knew not to touch Noticed 'caution' warning Thought red led light was hottest part Some knew sides were hot Knew hotplate hazards Some thought underside was hottest part	Looked like a toy	Cute shape	Liked colour	NC	Liked barking noise	NC
Football lamp	28	4	Knew not to touch glass 22 had burnt themselves on lamps generally Knew bulb gets hot	Yes	Liked shape	Liked colour	Liked feel of switches Liked adjustment	Liked noise	Liked adjustment
Plane lamp	11	11	Would play with it when not switched on Knew switch turned it on	Some thought it was a fan 2 thought it was a torch	NC	Liked colour	Liked switch	Liked noise	Loved flexible aspect

Total number of children **94**
NC - No comments recorded

Table 6 continued Summary of childrens' comments during school visits

Product	No.owning product (or similar)	No.admitting unsupervised use	Aware of dangers?	Aware of purpose?	Child appealling features				
					Shape	Colour	Switches	Sounds	Other
Green frog	None	None	Some wouldn't play with it, might be hot Older children thought younger children would love it Would not play with it when switched on Thought it might be hot Might break bulb and cut themselves Might get electric shock	1 girl thought it was a toy	Loved shape	Loved colour Glittery	Liked separate switch	NC	Loved to squeeze and feel it Would like it in their bedroom Soft feel
Lava lamp	36	27	Some were unaware of dangers Would touch it but to turn on only 1 had burnt themselves on one Aware of hot surfaces One younger brother had drunk contents - very ill Most in bedrooms Should not drink fluid 1 boy said glass might break, sharp edges	NC	NC	Liked colour	Liked to turn it on and off	NC	Liked it Liked internal shapes Looks like jelly Thought it was cheese Liked movement of fluid

Total number of children **94**
NC - No comments recorded

Table 6 continued Summary of childrens' comments during school visits

Product	No.owning product (or similar)	No.admitting unsupervised use	Aware of dangers?	Aware of purpose?	Child appealling features				
					Shape	Colour	Switches	Sounds	Other
Steam cleaner	None	None	Some were unsure about steam hazards	Not sure what it was.	Unsure about shape.	NC	NC	NC	Liked handle action
			Looked dangerous	Watering can?	Not many identified it as a penguin.				
			Would investigate but not play with	Gun?	Chicken?				
			Some knew steam is hot and dangerous	Glue gun?	Clanger?				
				Paint gun?	Ant eater?				
				Hot air gun?	Mouse?				
				Kettle?	Duck?				
				Coffee maker?					
				Flame thrower?					
				Water pistol.					

Total number of children **94**
NC - No comments recorded

Table 7

61222 CHILD AWARENESS QUESTIONAIRE - SUMMARY OF RESULTS

1. Age of child by school attended

	Age of child					
School	5 yrs	6 yrs	9 yrs	10 yrs	12 yrs	Total
Brooksward	3	2	10	19	0	34
Willen	4	5	1	3	6	19
Total	7	7	11	22	6	53

2. Who completed the questionnaire?

5 & 6 year olds - completed by parent
Willen 9, 10 & 12 year olds - completed by parent
Brooksward 9 & 10 year olds - completed by child

3. How often did the child use a selected electrical appliance (all ages)

Numbers	Electric appliances used:				
How often used:	Lamp	Kettle	Sandwich maker	Toaster	Food Processor
Every day	18	9	1	7	0
Frequently	11	4	1	8	2
Sometimes	14	15	7	14	3
Rarely	3	11	12	8	8
Never	7	14	32	16	40
Total	53	53	53	53	53

Percentages	Electric appliances used:				
How often used:	Lamp	Kettle	Sandwich maker	Toaster	Food Processor
Every day	34%	17%	2%	13%	0%
Frequently	21%	8%	2%	15%	4%
Sometimes	26%	28%	13%	26%	6%
Rarely	6%	21%	23%	15%	15%
Never	13%	26%	60%	30%	75%
Total	100%	100%	100%	100%	100%

Table 7 continued

4. How often did the child use a selected electrical appliance (5 & 6 year olds)

Numbers	Electric appliances used:				
How often used:	Lamp	Kettle	Sandwich maker	Toaster	Food Processor
Every day	4	2	1	2	0
Frequently	2	0	0	1	2
Sometimes	6	0	1	1	0
Rarely	0	4	3	4	3
Never	2	8	9	6	9
Total	14	14	14	14	14

Percentages	Electric appliances used:				
How often used:	Lamp	Kettle	Sandwich maker	Toaster	Food Processor
Every day	29%	14%	7%	14%	0%
Frequently	14%	0%	0%	7%	14%
Sometimes	43%	0%	7%	7%	0%
Rarely	0%	29%	21%	29%	21%
Never	14%	57%	64%	43%	64%
Total	100%	100%	100%	100%	100%

5. How often did the child use a selected electrical appliance (9, 10 & 12 year olds)

Numbers	Electric appliances used:				
How often used:	Lamp	Kettle	Sandwich maker	Toaster	Food Processor
Every day	14	7	0	5	0
Frequently	9	4	1	7	0
Sometimes	8	15	6	13	3
Rarely	3	7	9	4	5
Never	5	6	23	10	31
Total	39	39	39	39	39

Percentages	Electric appliances used:				
How often used:	Lamp	Kettle	Sandwich maker	Toaster	Food Processor
Every day	36%	18%	0%	13%	0%
Frequently	23%	10%	3%	18%	0%
Sometimes	21%	38%	15%	33%	8%
Rarely	8%	18%	23%	10%	13%
Never	13%	15%	59%	26%	79%
Total	100%	100%	100%	100%	100%

Table 7 continued

6. Do your children use any other electrical products in your home regularly?

	Age of child					
Response	5	6	9	10	12	Total
Yes	5	2	8	18	5	38
No	2	3	3	4	0	12
No response	0	2	0	0	1	3
Total	7	7	11	22	6	53

Numbers	Age of child		
Response	5 or 6	9,10 or 12	Total
Yes	7	31	38
No	5	7	12
No response	2	1	3
Total	14	39	53

Percentages	Age of child		
Response	5 or 6	9,10 or 12	Total
Yes	50%	79%	72%
No	36%	18%	23%
No response	14%	3%	6%
Total	100%	100%	100%

7. List of other products used

Product	Count
CD player	27
Hair dryer	21
Vacuum cleaner	17
Microwave	15
Stereo/radio	11
Battery charger	10
Hair curlers/ crimpers	4
Popcorn maker	2
Electric fan	2
Play Station	1
Oven/cooker	1
Fan heater	1
Computer	1
Luminated globe	1
Elec. Toothbrush	1
Breadmaker	1
Iron	1
Keyboard	1
Piano modem	1
Gameboy	1

Table 7 continued

8. Do you have any gimmicky electrical products

	Age of child					
Response	5	6	9	10	12	Total
Yes	1	2	7	10	3	23
No	6	4	4	10	3	27
No response	0	1	0	2	0	3
Total	7	7	11	22	6	53

Numbers	Age of child		
Response	5 or 6	9,10 or 12	Total
Yes	3	20	23
No	10	17	27
No response	1	2	3
Total	14	39	53

Percentages	Age of child		
Response	5 or 6	9,10 or 12	Total
Yes	21%	51%	43%
No	71%	44%	51%
No response	7%	5%	6%
Total	100%	100%	100%

9. List of gimmicky products

Product	Count
Lava lamp	11
Popcorn Maker	3
Disco ball	2
Football lamp	2
Lamp with feet	2
Duck shaped popcorn maker	2
Illum globe	1
Teddy bear shaped lamp	1
Egyptian lamp	1
Frog lamp	1
Karaoke machine	1

No-one had any safety concerns with any of these products.

Table 7 continued

10. Do you have any imitation electrical appliances as toys?

	Age of child					
Response	5	6	9	10	12	Total
Yes	5	3	1	5	0	14
No	0	1	4	9	6	20
No response	1	2	6	8	0	17
Total	6	6	11	22	6	51

Numbers	Age of child		
Response	5 or 6	9,10 or 12	Total
Yes	8	6	14
No	1	19	20
No response	3	14	17
Total	12	39	51

Percentages	Age of child		
Response	5 or 6	9,10 or 12	Total
Yes	67%	15%	27%
No	8%	49%	39%
No response	25%	36%	33%
Total	100%	100%	100%

11. List of imitation products

Product	Count
Vacuum cleaner	9
Lawnmower	5
Iron	3
Drill	3
Oven/cooker	3
Washing machine	2
Microwave	1
Tools	1
Hairdryer	1
Curling tongs	1
Chainsaw	1

Figure 12

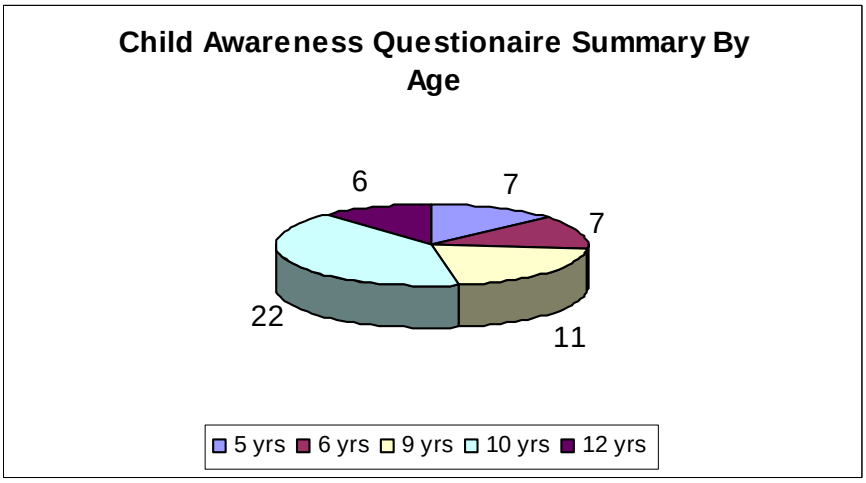


Figure 13

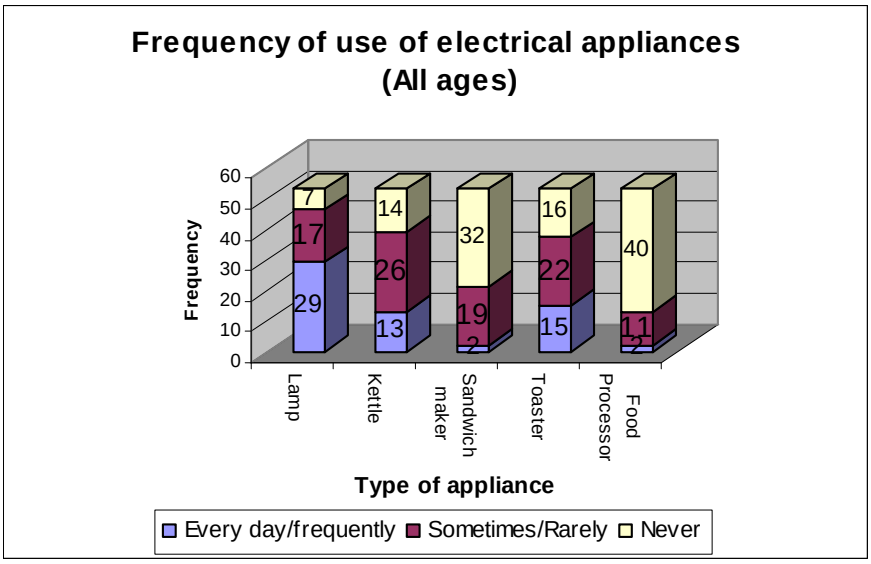


Figure 14

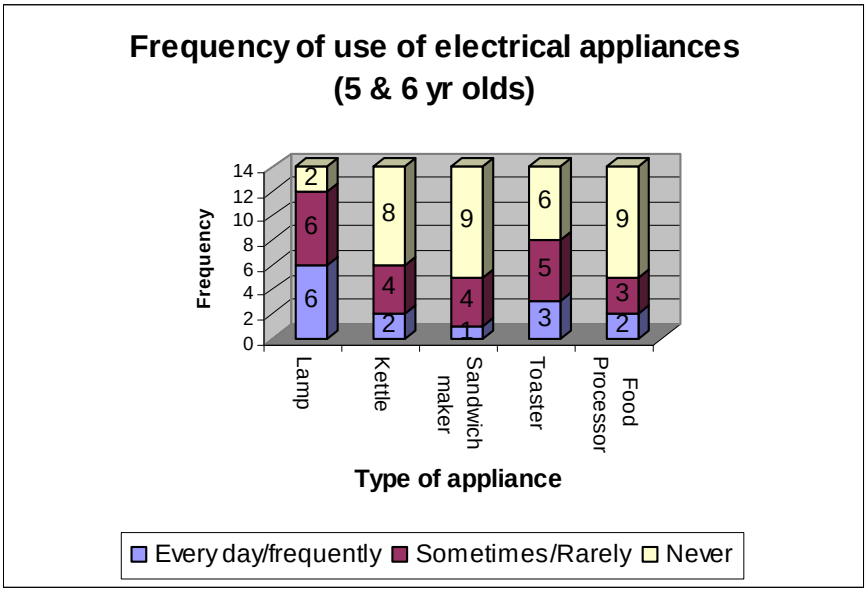


Figure 15

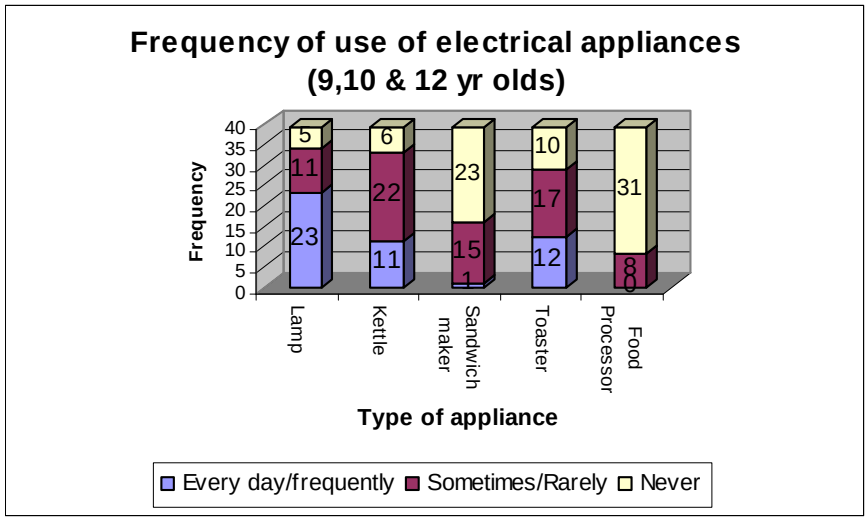


Figure 16

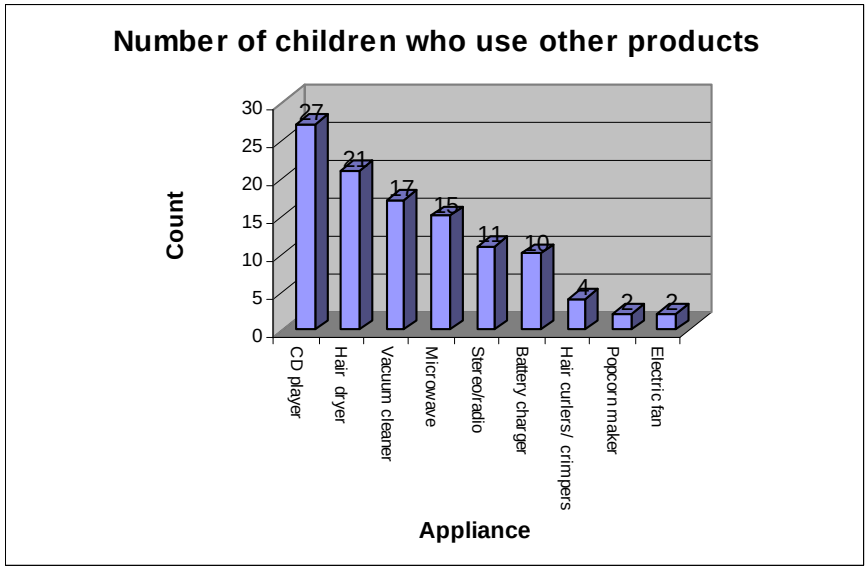
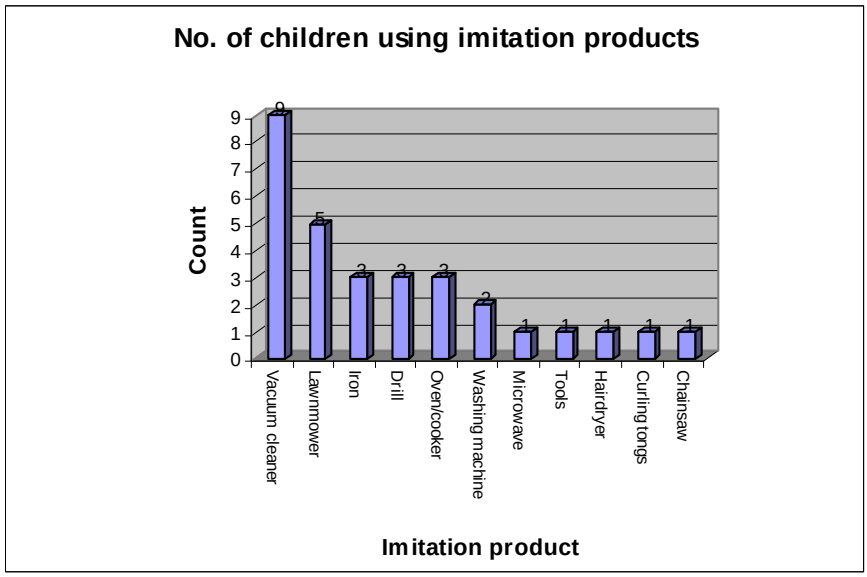


Figure 17



3 Detailed review of products identified as being of a higher risk to children

The review of accident data identified a number of products as being of a higher risk to children, in no particular order:

- Lighting products
- Kettles
- Microwave ovens
- Food processors
- Televisions
- Toaster
- Vacuum cleaner
- Ovens

To identify what aspects of these products constitute a risk to children, each product was subjected to a detailed risk assessment. Particular emphasis was given to child-appealing and non child-appealing lighting products. Consideration was given to the location of the light switch on portable lighting products.

Photographs have been included for a selection of electrical products having features that might be appealing to children. Other products that may not have been designed for use by children have not been photographed, as they were typical examples with no features child appealing aspects.

The risk assessment includes the product's user instructions and whether foreseeable misuse is covered in the design of the product and in the user instructions. The comments from the survey of school children have also been included in the risk assessment. A risk rating is given to each product, which should be understood in the context of the risk assessment methodology given in Appendix IV.

The risk rating refers to what is considered the main hazards, e.g. electric shock, burns, cuts and scalds. The categories of risk are very low, low, moderate, high and very high risk.

Overall, none of the products had a risk rating above moderate in any category. Generally, the lighting products were given moderate risks only for electric shock. Other household electrical products were given a low risk, with the exception of the kettle and food processor, which had a moderate risk rating for scalds and burns and cuts respectively. Foreseeable misuse is covered in many of the user instructions but is not adequately addressed by the products themselves, especially given the children that may be expected to come into contact with them.

A total of twenty-one products were assessed. The risk assessment results for each product are contained in pages 32 to 59 Page 60 contains a section covering the safety risks to children when using basic lighting products.

Sample P1 – Lava lamp

Model:	The Groovy tube (product marked 'Oozy glow lamp' Model number EH-968E)
Distributor:	Spencer gifts Inc.
Rating:	240v, 50Hz, Max 30w
Marking:	CE marked, Class II symbol, 'F' Mark – may be mounted on flammable surfaces, Packaging marked to indicate not for children aged 0-3 (very small mark), Warning text on cord replacement.

Child appealing aspects:

Bright green oil in glass tube, yellow wax. Wax bubbles and moves up and down tube. Children watch movement, and touch the glass tube.

Safety issues

Tube can be removed and bulb surface touched.
With bulb removed, live parts in bulb holder are accessible.

Instructions

Instructions states "The metal base gets hot and has a higher temperature than the globe" and "To avoid shock hazard, make sure the power cord is unplugged from the outlet prior to bulb replacement or cleaning…. Allow several minutes for the bulb to cool down prior to replacement of bulb". There were no specific children related warnings.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – no
In instructions – no

Summary of children's comments

Willen, Aged 4-5	All the children liked it but most were unaware of the dangers.
Willen, Aged 6-7	All the children liked it. Some thought it was cheese inside. They would touch it but only to turn it on.
Willan, Aged 9-10	Five of the children had lava lamps and liked to turn it on and off. One said they had burnt themselves on one.
Willen, Aged 11-12	Four children had similar lamps. They were aware of hot surfaces. Most were placed in bedrooms. One younger brother had drunk contents and was very ill.
Brooksward, Aged 5-6	Eighteen children have one at home and liked to turn it on and off. Fourteen of the lamps were located in bedrooms and four were situated in living rooms. They liked the movement of fluid. Didn't play with it because most of them were aware that it was hot. One boy said the glass might break and there may be a danger of sharp edges. The children thought it looked like jelly.

Brooksward, Aged 9-10	Nine children have lava lamps in their bedrooms. They were aware of that the lamp was hot. They knew not to drink the fluid. The children liked the colours and the internal shapes and they would touch it but only to turn it on.

Risk rating:

Low for electric shock
Low for burns
Low for cuts on broken glass

Sample P2 – Popcorn Maker

Model	PDP100
Manufacturer	Prima
Rating	230v 50Hz, 850w
Marking	CAUTION, Please allow the unit to cool for 10 minutes after 2 consecutive users. This is NOT a toy (on product, box and instructions).

Child appealing aspects

Shaped to look like a toy duck and decorated to look like a toy duck. Sounds like a hair dryer.

Safety issues

Hot surfaces on the outside of the appliance, especially around the handle area.

Temperatures:	Air temperature emitted = 100°C
measured	Body (in vicinity of handle) = 80°C
	Head (just above the neck) = 115°C
	Beak (on right-hand side) = 100°C

Instructions

Specific child related warnings:
“This appliance is not a toy. Close supervision is necessary when used by or near children”.
“Keep children away from the popcorn chute when in operation”
“Never leave the unit unattended when in use”
“…always keep children away from the chute during the popping process”

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – no
In instructions - yes

Summary of children’s comments

Willen, Aged 4-5	The children recognised it was a duck and they liked the colour. The children were aware it could get hot and that electrical appliances have plugs. They would not play with it.
Willen, Aged 6-7	Three children had one at home. They liked colour and that it was duck shaped.
Willen, Aged 9-10	The children were aware that the popcorn maker would get hot. Some children thought it was hairdryer.
Willen, Aged 11-12	Two children had one at home. The children liked the mouth and the colour and would want to touch it. The warning is the same colour as case and would be better in a different colour. They liked the fact that it makes popcorn.

Brooksward, Aged 5-6	Only one child knew it was a popcorn maker and others thought it was a kettle. The children liked the colours especially the red hat and thought it looked fun. Three children were aware it could get hot and cause burns. Eight children liked the duck shape and nine children had one at home but only one was an identical model.
Brooksward, Aged 9-10	Ten children recognised it was a duck and two of them thought it was a hairdryer. Six had popcorn makers at home and four of them used them unsupervised. The children liked the shape of the beak, the colour, the noise and that it was duck-shaped. The children were aware it could get hot and that electrical appliances had plugs. Warning labels were read and understood and the children said they wouldn't play with it.

Risk rating*:*

Moderate for burns

Product P3 – Plane lamp

Model:	G658
Manufacturer:	GG (lamp), Areo (box), TDCpower (plug-in transformer)
Rating:	240v, 50Hz, 15VA
Marking:	Lamp: CE Marking, suitable for flammable surfaces, double insulated, indoor use only, place at a minimum of 0.1m from lighted surface. Transformer: CE marked, Class II symbol, For indoor use only, safety isolating transformer.

Child appealing aspects

Shaped decorated and sized like a toy plane. On articulated stand so can be moved.

Safety issues

Surface temperature of the halogen bulb assembly reaches 98°C.

Instructions

There are no child specific warnings but the instructions do include the following warnings:

“The plastic ring fitted to the front of the aeroplane is for heat protection – DO NOT REMOVE”
“The temperature of the ornamental ring rises very quickly. Be sure not to touch it with fingers when adjusting the luminaire.”
“Always unplug the lamp before replacing bulb”

Does the manufacturer appear to have considered foreseeable misuse by children?

For Product - Yes
In instructions - Yes

Summary of children’s comments

Willen, Aged 4-5	One girl had similar lamp but with the on/off switch on the base.
Willen, Aged 6-7	The children liked the on/off switch of plane lamp.
Willen, Aged 9-10	The children thought plane lamp was a fan and they liked the on/off switch.
Willen, Aged 11-12	The children liked the Plane lamp and loved the flexible aspect. They also liked the on/off switch.
Brooksward, Aged 5-6	The children knew the switch turned it on and they all liked the button and the moving aspect. One girl and one boy said they would play with it and four said they liked to move the plane. Only two children had seen a lamp like this before so real a real novelty to the rest. Two thought it was a torch. They all liked the switch, the noise and the action. Four children had similar novelty lamps at home.

Brooksward, Aged 9-10 The children liked switch, the colour, the adjustment and the moving stem of plane lamp. Six children had similar novelty lamps such as Flying dogs and Bart Simpson. All the children had lamps in their bedrooms. Six children said they would buy one and admitted they would play with it when not switched on. The children felt it might break if it was bent to far.

Risk rating:

Low for burns

Product P4 – Frog lamp

Model	65697K (on box only)
Manufacturer	Matscot (on box only)
Rating	230v, 7w bulb fitted. (on box only)
Markings	CE marking (on box only), “Not intended as a toy” and “Keep out of reach of children under the age of 14” on label attached to cord near plug.

Child appealing aspects

Shaped and decorated to look like a frog. Surface texture has an appealing feel and is pliable.

Safety issues

The lamp holder can easily be removed from the base of the lamp giving access to the bulb. With the bulb removed access to live parts in the holder is possible. There is no marking of the maximum power of bulb to be fitted therefore higher wattage bulbs could easily be fitted, and hence surface temperatures could be higher.

Instructions

No instructions supplied.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children’s comments

Willen, Aged 4-5	Loved the frog shape and the colour, but would not play with it. The children were aware that it might get hot.
Willen, Aged 6-7	The children liked the frog-like shape and colour although they said they would not play with it as it might electrocute them and it might break. The children were aware that it might get hot after a while.
Willen, Aged 9-10	The children loved the frog lamp and all of them would like one in their bedroom but thought it was fragile. The children felt they might cut themselves if the bulb smashed or get a burn from the hot bulb.
Willen, Aged 11-12	Nine children liked the frog lamp and only one child did not like the shape. The children were aware that it might get hot. They said they would buy it for a younger brother or sister but felt it would get sat on. They all thought younger children would love it.

Brooksward, Aged 5-6 All the children liked the shape, the glittery effect and wanted to squeeze and feel it. One girl liked to play with switch and four other children liked the fact that the switch was separate. All of the children would like one in their bedroom. One girl thought it was a toy and half of the children said they would play with it. The children were aware that the switch or bulb might break and the product may get hot or they might get an electric shock.

Brooksward, Aged 9-10 The children loved the frog shape and the colour. Some of the children said they would not play with it as it might electrocute them and it might break although most of the children would play with it but not when it is switched on. They were aware that the lamp might be hot .

Risk rating:

Moderate for electric shock
Low for burns
Low for cuts

Product P5 – Football lamp

Model	M3 4JU 11063
Manufacturer	Not stated
Rating	240v, 50Hz, Halogen MAX 20W 12v
Markings	CE marked, Can be used on flammable surfaces, Class II mark, “Keep lamp 10cm from your skin” and “CAUTION - Do not put any objects on the two metal rods as this will cause the low wattage lamp to short out”.

Child appealing aspects

Has football shaped switch, with tactile feel and clicking noise. Brightly coloured. Rods are adjustable.

Safety issues

Surface of plastic transparent bulb cover reaches 140°C.

Instructions

No child specific warnings

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – Yes
In instructions – No

Summary of children’s comments

Willen, Aged 4-5	All the children liked the noise and feel of the football switch. All of the children would like one (including the girls). The children were aware that they shouldn’t touch the glass. One child had incurred a burn.
Willen, Aged 6-7	All the children liked the lamp (including the girls). The children particularly liked the football switch. They were aware that the bulb would get hot.
Willen, Aged 9-10	Two children had similar lamps and all the children they were aware that the bulb would get hot. Some children admitted to having burnt themselves on light bulbs in the past. All the children liked the sound and look of the football switch.
Willen, Aged 11-12	Six children had similar lamps and all the children liked the football switch. Half of the children admitted to having burnt themselves on light bulbs or covers in the past.
Brooksward, Aged 5-6	Four of the children have a novelty lamp of some kind in their bedroom, for example Barbie or horse shaped. Five had one at home in red or blue. They liked the colour, the noise and the adjustment and the feel of the football switch. Three of those five had touched the lamp and injured themselves. Two other children had similar lamps.

Brooksward, Aged 9-10	Nine of the children and the teacher had one. All the children would like one (including the girls). They liked the colour, the noise, the adjustment and the feel of the football switch. Three children admitted to having touched halogen lamps and burnt themselves and twelve children had burnt themselves on lamps generally. The children were aware that the bulb might get hot and not to touch the glass.

Risk rating:

Low for burns

Product P6 – Shaggy Dog sandwichmaker

Model	DOG1S
Manufacturer	Breville
Rating	230v, 50Hz, 500w
Marking	CE marked, “Do not immerse in any liquid, Household use only”, on the back near the hinge “CAUTION HOT! This is not a toy. Close supervision is necessary when using near children. Do not place hands on or near cooking surface or housing”

Child appealing aspects

Sandwich toaster is decorated and partially shaped to look like a dog. The handle catch (resembling the dogs head) contains a sounder which when pressed emits the sound of a dog barking.

Safety issues

Temperatures Measured	Dogs head (handle catch) = 40°C
	Top surface (side edge) = 75°C
	Dogs tail (hinge) = 135°C
	Side (where two plates join)= 128°C
	Front (adjacent to handle)= 75°C

Instructions

Warning instructions include the following child specific warnings “Ensure close supervision when the appliance is near children”, “Never allow children to use this product. This product is not a toy”. A separate leaflet states “This product is not a toy and should not be left unattended in the presence of children”.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children’s comments

Willen, Aged 4-5	Most of the children knew it was sandwich toaster. They were aware that it might get hot and not to touch it.
Willen, Aged 6-7	Six children had a sandwich toaster at home. Four of the children use one without parental supervision. The children were aware that might get hot and not to touch it.
Willen, Aged 9-10	The children all recognised that it was a sandwich maker. Four of the children had normal sandwich makers at home and one had a Percy Pig Sandwich Toaster. The children liked the noise of the dog barking. The children were aware that might get hot and not to touch it.

Willen, Aged 11-12 The children all recognised that it was a sandwich maker and thought the noise was great (cool!). Four children believed it looked like a toy and one child could not see the point of having it shaped like a dog. They were generally unsure about where the hot surfaces were, some thought it was particularly hot at the sides and others thought underside would be hottest part.

Brooksward, Aged 5-6 The children all recognised it was a sandwich toaster and thought the shape, colour and noise were great (cool!). Fifteen of the children had sandwich toasters at home three of which were animal shaped. Not all the children were aware that it might get hot. All the children thought the red light was the hottest part. One girl said it might burn them. Two children knew the side was hot.

Brooksward, Aged 9-10 Six of the children recognised it was a sandwich toaster, nine children liked the barking noise, cute shape and the name. Eight children had a sandwich toaster at home seven of which had animal-shaped models. Seven children noticed the caution. Three children knew the sides were hot and the rest thought the red light was the hottest part. All the children were aware that it might be hot and shouldn't touch or play with it. One girl admitted using the sandwich toaster at home unsupervised.

Risk rating:

Moderate for burns

Product P7 – Penguin Steam cleaner

Model	HT881
Manufacturer	Home-tek
Rating	230v, 50Hz, 1550w
Marking	CE marking, IPX4, ‘Not to be used in bath or shower’ symbol

Child appealing aspects

Shaped vaguely like an animal, i.e. has feet, long nose, red eye (one side only).

Safety issues

Produces jet of steam from ‘Nose’ when pump button is pressed several times. Temperature of the emitted steam is 97°C. Maximum surface temperature is 60°C near neck.

Instructions

Instructions include the following child specific warnings: “Close supervision is necessary when appliance is used near children or pets”

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children’s comments

Willen, Aged 4-5	The children were unsure what it was but most thought it was a watering can. All of the children were unsure about the hazards of steam.
Willen, Aged 6-7	The children were unsure what it was, suggestions included a gun, an ant eater, a penguin, a glue gun, a paint gun. The shape and function of this appliance are unclear. The children thought it looked dangerous and would investigate but would not play with it.
Willen, Aged 9-10	The children were unsure what it was, suggestions included a glue or hot air gun. Only one child identified it as a penguin. The children were aware that steam is hot and dangerous and said they liked the look if it but would not play with it.
Willen, Aged 11-12	The children recognised penguin shape but thought it was a kettle or hot air gun. Most of the children thought younger brothers or sisters would play with it.
Brooksward, Aged 5-6	Most of the children were unsure what it was, some of the children thought it was kettle, one child thought it was a watering can. Eleven children recognised it as a penguin but other suggestions included a duck or mouse. The children thought it might be made of metal or wood. The children were aware that steam was dangerous.

Brooksward, Aged 9-10	The children were unsure what it was, suggestions included a flame thrower, coffee maker, water pistol or kettle. Some children recognised it as a penguin but other thought it was a chicken, mouse or a clanger. The children said they would investigate but would not play with it. The children did like the action of the handle. The children were aware that steam was dangerous.

Risk rating:

Moderate for scalds

Product P8 – Cow Lamp

Model	16470, Daisy cow table lamp (on box)
Manufacturer	Phillips presentation products
Rating	40w max
Marking	Double insulated symbol.

Child appealing aspects

Shaped and decorated to look like a cow. Whole cow lights up when switched on.

Safety issues

The lamp is not very stable (due to lightweight construction) and is likely to be accidentally knocked over. The whole body acts as the shade and lamp-holder mounting which is of a flexible sheet plastic material, therefore the lamp-holder may com into contact with body if knocked over or lamp-holder is not positioned correctly after bulb replacement. The plastic body melts in contact with a 40w bulb.

The maximum surface temperature of the body reaches 47°C (with 40w bulb fitted).

Instructions

Box had sticker that states: “This is not a toy. Not suitable for children under 14 years of age”

No specific child related warnings in instructions.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes (on box only)

Summary of children’s comments – Not chosen for survey

Risk rating:

Moderate for electric shock
Low for burns
Low for cuts

Product P9 – Star lamp

Model	700-108-78, Smila
Manufacturer	Ikea
Rating	Max 25w
Marking	CE marking, class II symbol

Child appealing aspects

Shaped like a star

Safety issues

Surface temperatures of lamp body is 62°C (centre of star)

Instructions

No warning instructions

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – No

Summary of children's comments – Not chosen for survey

Risk rating:

Low for electric shock
Very low for burns
Very low for cuts

Product P10 – Ladybird plug-in nightlight

Model	BN85
Manufacturer	Roomer Products Ltd
Rating	240v, 50Hz, 0.5w
Marking	CE Marking, Class II symbol

Child appeal aspects

Shaped and decorated to look like ladybird. Whole body lights up.

Safety issues

Attracts children towards socket outlet.

Instructions

Instructions are on the packaging. “This unit is not a toy. Where young children are concerned take care with all your electrical items”.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children’s comments – Not chosen for survey

Risk rating:

Very low no safety issues

Product P11 – Panda light

Model	GF215L-UK
Manufacturer	Great Art
Rating	230-240v
Marking	CE marking, Class II symbol

Child appealing aspects

Lamp stand is decorated with three model panders centred around a tree trunk with forms the lamp holder support.

Safety issues

Bulb is exposed to touch (60w). Live parts accessible once bulb is removed.

Instructions

The instructions contain safety warnings, but none are child specific.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – No

Summary of children's comments – Not chosen for survey

Risk rating:

Moderate for electric shock
Low for burns
Low for cuts

Product P12 – Badger's House light

Model	None
Manufacturer	Piggery pottery
Rating	15w MAX
Marking	CE Marking

Child appealing aspects

Shaped like a wooden house with a badger standing at the door. Light emitted through doors and windows. Attractive decoration.

Safety issues

Bulb exposed to touch, No switch in the circuit (if plug is located in an inaccessible place, disconnection can only be achieved by unscrewing the bulb from the holder)

Instructions - None

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – No instructions

Summary of children's comments – Not chosen for survey

Risk rating:

Moderate for electric shock
Low for burns
Low for cuts

Product P13 – Mini oven

Model	317 - Mini oven (transformer: T66219-23)
Manufacturer	Character options Ltd.
Rating	Oven -12v 50Hz, 36VA Transformer – 230v 50Hz 0.3A
Marking	Oven – CE marking, Indoor use only, Safety isolating transformer for toys. Transformer – CE marking, Indoor use only, Safety isolating transformer for toys symbol, Class II symbol, IP40, Box marked with Not to be used by children aged 0 to 3 years symbol.

Child appealing aspects

Brightly coloured red with yellow knobs, looks like a small microwave oven. Lights up when turned on. Designed to be a toy.

Safety issues

Maximum surface temperature on casing is 30°C. Temperature of cooking grid 38°C. (once door interlock has released)

Instructions

Specifically designed for children aged 5 and over. Pre-amble to parents/guidance about risks of using oven. “To be used under direct supervision of an adult”. Comprehensive warnings and instructions are included. Further warnings on box about use by younger children and small parts.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – Yes
In instructions – Yes

Summary of children’s comments – Not chosen for survey

Risk rating:

Very low no safety issues

Adults Appliances also used by children

Product P14 – Microwave Oven

Model	EM-S103
Manufacturer	Sanyo
Rating	230v, 50Hz, 1.25kW
Marking	CE Marking, BEAB approved

Child appealing aspects

Movement of items on turntable, oven cavity lights up when cooking. Humming and fan noise. Viewing window in door looks a bit like TV screen. Beeping of control panel.

Safety issues

Hot food and utensils in microwave after cooking period, including boiling liquids.

Instructions

Instructions include the following child specific warning "…a child hanging on a opened door may cause the oven to fall forward resulting in injury. "

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes (minimal)

Summary of children's comments – Not chosen for survey

Risk rating:

Low for burns and scalds

Product P15 (CKS1K 61474) – Cordless Kettle

Model	K501
Manufacturer	Cookworks
Rating	230-240v, 50Hz, 2200-2400w
Marking	CE marking, Do Not immerse in any liquid

Child appealing aspects

Shiny-mirrored finish reflects a distorted image. Red ‘on’ light.

Safety issues

Boiling hot water, portable stand in wet environment.

Instructions

Instructions include the following child specific warnings: “Ensure that the kettle and its mains cable are kept well out of reach of children and pets. Close supervision is necessary when this appliance is used near children”.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children’s comments - Not chosen for survey

Risk rating:

Moderate for burns and scalds

Low for electric shock

Product P16 (WE1 61333) – Television

Model	Aventos 3981 ZW
Manufacturer	Loewe
Rating	220-240v 50/60 Hz 135w
Marking	CE marking, Class II symbol

Child appealing aspects

Television programmes, DVDs, videos etc aimed specifically at children. Remote control units are appealing due to size, shape and response of TV when activating remote control buttons.

Safety issues

Widescreen televisions are front heavy. If not securely attached to the stand, there is a risk of TV toppling forward onto child, especially if surface is not level.

Instructions

Instructions contain warnings the following of which are specific to children; “Do not allow children to play close to the TV set, they could knock, push or pull it from the stand and injure someone” and “Do not leave the TV on unsupervised.”

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – yes (child lock all or individual channels with password)
In instructions – Yes

Summary of children’s comments – Not chosen for survey

Risk rating:

Low for crushing

Product P17 (CKS1T 61474) – Toaster

Model	TL103C
Manufacturer	Cookworks
Rating	230-240V, 50Hz, 920-2100W
Marking	CE Marking, On the bottom of the toaster:"WARNING: This Appliance Becomes hot when operational. Please read instructions. To prevent electric shock unplug before cleaning. Household only. Do not immerse in water. The temperature of the outer shell may cause burning. When hot be careful to carry toaster by handles and keep toaster away from children." On a sticker on top of the toaster: "Toaster must not be left unattended when in use. Refer to the instruction book for additional information."

Child appealing aspects

Shiny-mirrored finish reflects a distorted image.

Safety issues

Maximum surface temperature measured is 65℃ on the side of the casing. Risk of fire if the toast ignites.

Instructions

Instructions include the following child specific warnings: "Close supervision is necessary when the toaster is used by or near children".

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children's comments – Not chosen for survey

Risk rating:

Low for burns

Product P18 – Vacuum Cleaner

Model	V-2620DE
Manufacturer	LG
Rating	230v, 50Hz, 1300W
Marking	CE Marking, Class II symbol.

Child appealing aspects

Can be used as a ride on toy (cylinder type), suction at hose end is of interest.

Safety issues

Rotating parts of brush head (upright type or powered heads). Trailing lead over floor could cause trip hazard

Instructions

Instructions include the following child specific warning: “Never allow children to use the appliance unsupervised.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children’s comments – Not chosen for survey

Risk rating:

Low for abrasion

Product P19 (EJ1 61261)– Oven

Model: FCEM6
Manufacturer Whirlpool
Rating 230v, 2.8kW, 50Hz
Marking CE Marking

Child appealing aspects

Oven cavity lights up when cooking. Humming and fan noise. Viewing window in door looks a bit like TV screen.

Safety issues

Hot food and utensils in oven after cooking period, including boiling liquids. The metal Door temperature was measured 75℃.

Instructions

Instructions include the following child specific warning "Keep children away from the oven when it is in use and when it has just been switched off "

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children's comments – Not chosen for survey

Risk rating:

Low for burns

Product P20 – Food Processor

Model	FP570
Manufacturer	Kenwood
Rating	220-240V, 50Hz, 450W
Marking	CE Marking, Class II symbol.

Child Appealing aspects

Moving / rotating parts. Food changing shape and colour. Noise maybe unattractive to younger children

Safety issues

Very sharp rotating parts accessible in blender attachment. Other sharp blades are accessible when cleaning. Rotating shaft for blender attachment accessible to touch when blender is not in use.

Instructions

Instructions include the following child specific warnings: “This appliance is not intended for use by young children or infirm persons without supervision”, “Don’t let children play with the machine.” and “Do not leave the appliance when in operation”.

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – Yes

Summary of children’s comments – Not chosen for survey

Risk rating*:*

Moderate for cuts

Product P21 – Desk lamp

Model	971018/1899
Manufacturer	BHS
Rating	None
Marking	CE Marking, Class II symbol, “Caution: the placing of metallic objects e.g. Hair grips, paper clips, etc, across the two arms of this product will cause the internal fuse to activate, rendering the product unusable. Replace any cracked protective shield”

Child appealing aspects

Moveable arms, clicking switch and metallic colour.

Safety issues

Surface temperature of glass bulb guard is 129℃

Instructions

Instructions contain no specific child related warnings

Does the manufacturer appear to have considered foreseeable misuse by children?

For product – No
In instructions – No

Summary of children’s comments – Not chosen for survey

Risk rating*:*

Low for burns

4 Safety risks to children when using basic lighting products

There are a number of potential risks to children when they are using basic portable lighting products that are supplied direct from the domestic socket outlet and easily moved while still connected to the electricity supply.

The primary risk is electric shock. Other risks include hazardous surface temperatures of lamps and lamp covers and cuts from broken lamps. Halogen desk lamp guards produce hazardous surface temperatures, typically above 129℃. Breakage of th e lamp is very much dependent upon the design of the product and the mechanical strength of the materials used in its assembly.

Accessible live contacts within the lamp holder when the lamp is removed have been accepted industry practice for many years. Indeed, the safety standards for these products test for access to live parts only with the lamp in its holder. However, the risk of children incurring an electric shock by this accepted practice is borne from the accident data where approximately half of the incidents relate to electric shocks from exposed contacts. Children are simply not always aware of the dangers of exposed live contacts within the lamp holder.

While contrary to warnings in user instructions, it is foreseeable that a lamp will be replaced when the product is still connected to the electricity supply. A child when coming into contact with or playing with the product may contact the lamp holder connections where a lamp is not fitted, particularly if the switch is located in the lamp holder. It is clear from the children's comment in the school survey that switches are particularly appealing.

All lighting products may be pulled from a work surface but the likelihood is increased where the switch is an in-line cord type. Again, the children's comments from the school survey indicate that switches are particularly appealing to children. An easily accessible in-line cord type is therefore likely to increase the risk of the product being pulled off its work surface. A broken lamp might result from the ensuing drop leaving a child at risk of injury.

The user instructions provided do not give adequate instruction to the parents about the potential hazards and their consequences for children.

The hazards described above may be minimised by the following design considerations:

- There are safety type lamp holders that disconnect the exposed contacts from the electricity supply after the lamp has been removed.
- Having a rated voltage that does not exceed 24 volts (safety extra low voltage, SELV). This practice is already accepted in the safety standard for portable child-appealing luminaries.
- Improving the mechanical strength of the lampshade and its fixings would minimise access to the lamp and prevent lamp breakage.
- Additional protective means for the lamp would minimise access to hazardous surface temperatures.
- Improving the instructions to educate parents about the potential hazards and their consequence for children should help to minimise injuries to children.

5 Data from European Health Professionals

Intertek RTC proposed to include a survey of health professionals in up to 10 European countries as part of the project. The aim of the survey was to identify the underlying cause of the incident from a child's perspective by contacting health professionals who diagnose and treat injured children. This was done using questionnaires. The countries were selected to match those where HASS and EHLASS accident data had been studied: UK, France, Germany, Greece, Netherlands, Spain, Ireland, Belgium, Austria, Finland and Italy.

The questionnaire was designed for completion by a doctor or nurse to give details relating to incidents, involving children (aged 0-15 years) using electrical products, which have resulted in burns, scalding or electric shocks. A copy of the questionnaire and covering letter is given in Appendix IV.

The following sources shown in the table were consulted to identifying the relevant health professionals.

Internet	General – using range of search engines and country information to cover: Austria, Belgium, Denmark, France, Greece, Ireland, Italy, Portugal, Spain, Sweden
European Child Safety Alliance	Austria, Belgium, Denmark, France, Greece, Italy, Portugal, Spain, Sweden
EURORISC	Contacted representatives in Netherlands, Italy, Greece, France and Republic of Ireland
European consumer agencies	Consafe, Consumentenbond, VU, European Consumer Safety Alliance (ECOSA).
ANEC	Contacted members throughout Europe on our behalf
Intertek	Contacted Intertek European offices in Germany, Italy, France, Sweden
European Commission - DG SANCO	Helmut Friza of EC Directorate General Health & Consumer Affairs
Austrian Institute for Home and Leisure Safety	Contacted appropriate representatives
Vienna Paediatric Clinic	Contacted appropriate representatives
RAM Consultants	Contacted appropriate representatives

Unfortunately this consultation process yielded only limited findings. Intertek RTC therefore concentrated this aspect of the project on the UK. United Kingdom surgeries and clinics were selected mainly from the internet and the Yellow Pages. The number of questionnaires sent to UK surgeries and clinics was increased to 250. The number of completed questionnaires returned was unexpectedly low.

Summary of Results from Health Professionals Questionnaire

Completed questionnaires were returned by 24 surgeries in the UK. Nineteen were completed by doctors, four by nurses and one by a practice manager.

In total, the respondents reported 48 child accidents: 24 aged between 0-4, 13 aged between 5-9 and 11 aged between10-15. Sixteen respondents felt that the number and severity of these kinds of injury were staying about the same and four felt that they were decreasing.

In general, about 75% of injuries were to the upper body and about 25% to the lower body (based on the medians).

The respondents felt that the major cause of injury was hot liquids. Some were caused by hot surfaces and live parts caused very few injuries.

Electric kettles seemed to cause the most injuries, followed by small electrical products. Hobs and ovens were responsible for some of the injuries, but lighting products caused very few of the injuries.

The most common reason for the accident was that the child was left unsupervised. Some accidents were put down to carelessness. In a few cases the accident was blamed on the product being child-appealing.

Most accidents occurred in the kitchen. Some happened in the living room and very few in other locations.

A detailed breakdown of the health professional responses is shown in Table 8.

Table 8 Health Professionals Questionnaire

					No of patients				Part of body (%)		
No.	Country	Type	Profession	Nature of work	0-4	5-9	10-15	Trend	Upper	Lower	Don't know
1	UK	Su	D	A	1	2	2	DK	60	40	-
2	UK	Su	D	A	0	0	0	S	-	-	Y
3	UK	Su	D	A	0	0	0	S	-	-	Y
4	UK	Su	D	A	2	0	0	S	-	-	Y
5	UK	Su	D	A	3	1	3	S	40	20	40
6	UK	Su	D	A	Y	-	-	D	60	-	-
7	UK	Su	PN	A	0	0	0	DK	-	-	Y
8	UK	Su	D	A	0	0	0	S	90	-	10
9	UK	Su	N	A	0	0	0	-	-	-	-
10	UK	Su	PM	M	1	0	0	S	-	-	Y
11	UK	Su	D	A	0	0	0	-	-	-	-
12	UK	Su	N	A	6	6	4	S	50	40	-
13	UK	Su	D	A	1	1	1	D	80	10	10
14	UK	Su	D	A	0	0	0	S	90	10	-
15	UK	Su	D	A	1	0	0	D	90	10	-
16	UK	Su	D	A	2	0	0	S	100	-	-
17	UK	Su	D	A	0	0	0	S	100	-	-
18	UK	Su	D	A	0	0	0	S	45	55	-
19	UK	Su	D	A	2	1	1	S	-	-	Y
20	UK	Su	D	A	1	0	0	S	80	20	-
21	UK	Su	N	A	0	0	0	D	-	-	Y
22	UK	Su	D	A	0	0	0	S	-	-	-
23	UK	Su	D	A	2	1	0	S	60	30	10
24	UK	Su	D	A	2	1	0	S	60	40	-

Su - Surgery
D - Doctor
PN - Practice nurse
PM - Practice manager
N - Nurse

A - Active treatment
M - Management
DK - Don't know
S - Staying the same
D - Decreasing

Y - Yes
- - Information unavailable

Table 8 continued Health Professionals Questionnaire

	Cause of injury (%)				Product causing injury (%)					
No.	Hot liquids	Hot surfaces	Live parts	Don't know	Hobs	Ovens	Electric kettles	Small electrical	Lighting	Other
1	-	-	-	Y	-	-	-	-	-	DK
2	-	-	-	Y	-	-	-	-	-	DK
3	-	-	-	Y	-	-	-	-	-	DK
4	100	-	-	-	-	-	100	-	-	-
5	-	-	-	-	-	-	-	-	-	-
6	-	100	-	-	-	-	-	100	-	-
7	-	-	-	Y	-	-	-	-	-	-
8	50	50	-	-	Y	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-
12	90	10	-	-	40	40	10	-	-	-
13	40	40	10	10	30	20	FEW	30	FEW	-
14	-	-	-	-	-	-	-	-	-	-
15	100	-	-	-	-	-	100	-	-	-
16	100	-	-	-	-	-	-	-	-	DK
17	100	-	-	-	-	-	100	-	-	-
18	-	-	-	Y	-	-	-	-	-	-
19	100	-	-	-	-	-	-	100	-	-
20	75	25	-	-	20	FEW	FEW	75	FEW	-
21	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-
23	70	20	-	-	0	0	30	50	20	-
24	60	-	-	-	10	10	50	20	10	-

Y - Yes
DK - Don’t know
- - Information unavailable

Table 8 continued Health Professionals Questionnaire

	Reason for accident (%)					Place where accident occurs (%)						
No.	Child appealing	Faulty product	Child unsupervised	Carelessness	Other (%)	Bedroom	Kitchen	Living room	School	Shop	Café	Other
1	-	-	-	-	DK	-	-	-	-	-	-	DK
2	-	-	-	-	DK	-	-	-	-	-	-	DK
3	-	-	-	-	DK	-	-	-	-	-	-	DK
4	-	-	100	-	-	-	Y	Y	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	100	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	100	-	-	-	100	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-
12	10	-	70	20	-	-	90	10	-	-	-	-
13	10	-	80	10	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	100	-	-	-	100	-	-	-	-	-
16	-	-	100	-	-	-	-	-	-	-	-	DK
17	-	-	100	-	-	-	100	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	50	-	-	50	-	-	100	-	-	-	-	-
20	-	-	-	-	-	5	70	10	5	5	5	-
21	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-
23	40	-	50	10	-	10	60	30	-	-	-	-
24	10	0	30	60	-	-	60	20	20	-	-	-

Y - Yes
DK - Don’t know
- - Information unavailable

6 European Commission view on present child safety legislation

Intertek RTC met with Mr Georg Hilbert from the DG Enterprise of the European Commission on 23 June 2003. Mr Hilbert is responsible for European legislation for electrical equipment under the Low Voltage Directive 73/23/EEC (LVD).

Mr Hilbert was asked about the Commission's views on present child safety legislation relating to electrical equipment. In particular, Intertek RTC asked what the Commission believes constitutes a child appealing product and when a product may be considered as a toy and when not a toy. These aspects were discussed in the context of the relevant EU Directives (Toys and Low Voltage), EC guidance documents and EC opinion statements. The meeting agenda is given in Appendix V.

Overall, the Commission believes that children are covered by the LVD under Article 2 as "all persons". Furthermore the EN 60335 series of standards for electrical equipment, which provide a presumption of conformity to the LVD, do not totally exclude the use of electrical products by children unsupervised.

The Commission believes that the definition provided in the European standard for child appealing luminaries EN 60598-2-10 is a benchmark when deciding whether an electrical product is child appealing. The manufacturer should begin by establishing whether a child is likely to come into contact with the product. If so, a risk analysis should identify the potential hazards and the manufacturer should attempt to reduce the potential hazards at the design stage of the product.

When deciding whether a product may be considered a toy and when not a toy, the Commission believes that the definition of a toy from the Toys (Safety) Directive 88/378/EEC combined with the manufacturer's declaration of the product's intended use is most appropriate. Commission guidance documents exist to assist in this process and state that "reasonable expected use" must be considered. The manufacturer has to be able to support its claims.

A full transcript of the meeting is set out on Page 67 to 69.

What constitutes a child-appealing product?

The latest Commission opinion document concerning portable child-appealing luminaries is listed in the Official Journal of the European Communities under reference 2002/C 112/02, May 2002. This opinion document contains the following definition for a child-appealing luminaire, which is taken from EN 60598-2-10:

'A luminaire that in normal use can be moved from one place to another while connected to the supply and which is constructed to represent a model, person or animal such that due to the design and materials used it could be treated, by a child, as a toy. Examples of such luminaries are nightlights using filament lamps, replicas of persons, animals, buildings, cars or trains with internal or external filament lamps.'

The Commission believes that this definition is also a benchmark for electrical products. In particular, the pertinent aspects are whether the product is constructed to represent a model, person or animal such that due to the design and materials used children could treat it as a toy.

However, the Commission believes that each product should be considered on a case-by-case basis. The manufacturer's intended use of the product is considered the most important factor. The intended use should be supported by a risk analysis, which should cover child safety hazards where it is reasonably expected that a child is likely to come into contact with the product. Such a risk assessment must be declared in the event of a challenge by market surveillance authorities.

The Low Voltage Directive 73/23/EEC and the role of harmonised standards

The Commission believes that children are included within the LVD under Article 2, which states the following:

'The member states shall take all appropriate measures to ensure that electrical equipment may be placed on the market only if, having been constructed in accordance with good engineering practice in safety matters in force in the Community, it does not endanger the safety of *persons*, domestic animals or property when properly installed and maintained and used in applications for which it was made.'

In this context, *persons* are deemed children less than 14 years of age.

Compliance with a harmonised European standard provides a presumption of conformity with the essential health and safety requirements of the LVD. However, the series of harmonised standards covering domestic electrical appliances contains the following statement:

'This standard does not in general take into account: the use of appliances by young children without supervision; playing with the appliance by young children'

This statement suggests that a manufacturer's declaration of intended use prevails. The Commission believes that "reasonable expected use" should prevail over the manufacturers declaration of intended use. The manufacturer should ensure that all child safety aspects are considered where it's reasonably expected that a child will come into contact with or use the product, by carrying out a risk assessment. Furthermore, the term "in general" is considered as allowing for those products where it's reasonably expected that an unsupervised child might use the product. The Commission therefore believes that the statement is not totally excluding the use of appliances by young children unsupervised.

The Commission would be concerned if a part 2 standard did not adequately cover child safety where it's reasonably expected that a child may come into contact with or use the product. At present the 60335 series of standards for domestic electrical appliances are not mandated to ensure that they cover the essential health and safety requirements of the LVD. It is expected that a Standing Committee will be established under the revised LVD, which will operate under a mandate from the Commission to address this matter. Until such time the manufacturer should undertake a risk assessment to cover child safety, in particular "reasonably expected conditions of use"

What is the role of Mandate M/293?

This is a mandate for a guidance document for the inclusion of child safety in standards. It was requested by ANEC in 1998 and subsequently accepted by CEN/BT WG117[2].

The foreword in the latest version of the guide (March 2003) says that:

'The scope of mandate M/293 covers the protection of children from unintentional physical and/or mental injury associated with products, constructions and services. This includes those not intended for use by children but which are easily and generally accessible to them. The mandate covers foreseeable use and misuse within the normal behaviour of children; also, a product, construction or service is used to refer to the subject of any European Standard'.

The guide's scope also says:

'Where products, constructions or services are subject to regulatory requirements, e.g. European legislation or national laws, these requirements take precedence over any conflicting information in this guide'.

The Commission believes that this guide is not entirely appropriate for electrical products within the scope of the LVD as it has not been produced in collaboration with CENELEC.

Commission opinion – Portable child appealing luminaries

The latest Commission opinion document is listed in the Official Journal of the European Communities under reference 2002/C 112/02, May 2002. The opinion aims to clarify the application of the Low Voltage Directive 72/23/EEC to these products with respect to the risk of electric shock, as the Commission believes this to be the primary hazard. In particular live parts should not be accessible after foreseeable conditions of overload, as stated in Annex I(3)(c) of the LVD.

The Commission defines "foreseeable conditions of overload" in terms of mechanical impacts and drops, which may result from a child playing with the product. All other risks, e.g. hazardous surface temperatures and sharp edges are covered by the part 1 standard for luminaries EN 60598-1.

[2] CEN/BT WG117 is the working group dealing with child safety within the European Committee for Standardisation (CEN)

The Commission opinion refers to the definition for child-appealing portable luminaries taken from the European standard EN 60598-2-10:

‘A luminaire that in normal use can be moved from one place to another while connected to the supply and which is constructed to represent a model, person or animal such that due to the design and materials used it could be treated, by a child, as a toy. Examples of such luminaries are nightlights using filament lamps, replicas of persons, animals, buildings, cars or trains with internal or external filament lamps’.

However, **when deciding whether a product may be considered as a “toy” and when not a toy**, the Commission believes that the Toys Directive definition combined with a manufacturer’s declaration of a products intended use is most appropriate.

A toy is defined in the Toys Directive 88/378/EEC as ‘any product or material designed or clearly intended for use in play by children of less than 14 years of age’.

Further considerations are given in European Commission Guidance Document number four (textiles, leather and toys) on the application of the directive on the safety of toys (88/378/EEC), namely:

‘To be considered as a toy for the purpose of the Directive, the playing value has to be introduced in an intended way by the manufacturer’.

‘Even if a product is covered by other Directives, it has also to be examined within the scope of the Safety of Toys Directive.’

‘Reasonable expected use shall prevail over the declaration of intended use by the manufacturer’.
‘If the manufacturer labels the products as not being toys, he has to be able to support this claim’.

The Commission believes that a manufacturer should consider the above criteria in its risk assessment when deciding whether a product may be considered as a toy and when not a toy. Also, the selection of the most appropriate directive must be declared and justified by the manufacturer in the context of the products intended use.

Generally, member states must decide whether a product may be considered a toy within the Toys (Safety) directive. In dispute proceedings, a definitive interpretation may be given by the Court of Justice established within the EC Treaty under Article 226.

7 Recommendations and Conclusions

What constitutes a child-appealing product?

The term “child-appealing” in relation to electrical equipment is defined in a number of safety standards as follows:

From IEC 60598-2-10: 2003 (second edition) Particular requirements for portable child-appealing luminaries

A portable luminaire for children is defined as ‘a luminaire that in normal use can be moved from one place to another while connected to the supply and which is designed to provide a level of safety in excess of that provided by a portable general purpose luminaire conforming with IEC 60598-2-4’. With the accompanying note: ‘a portable luminaire for children is intended for use by children who may not be under the supervision of more competent persons at the time of use’.

From EN 60598-2-10: 1989 Particular requirements for portable child-appealing luminaries

A portable child-appealing luminaire is defined as ‘a luminaire that in normal use can be moved from one place to another while connected to the supply and which is constructed to represent a model, person or animal such that due to the design and materials used it could be treated, by a child, as a toy. Examples of such luminaries are nightlights using filament lamps and replicas of persons, animals, buildings, cars or trains with internal or external filament lamps’

From EN 60335-1: 2002, clause 22.44

Clause 22.44 says that ‘Appliances shall not have an enclosure that is shaped and decorated so that the appliance is likely to be treated as a toy by children. Examples are enclosures representing animals or persons resembling scale models’.

It is concluded from the above definitions that child appealing aspects of an electrical product vary depending on the perceived risk to a child expected to come into contact with the product. For example, the child-appealing luminaries definitions include the following aspects of the product:

- ‘Constructed to represent a model, person or animal such that due to the design and materials used it could be **treated, by a child, as a toy**. Examples of such luminaries are nightlights using filament lamps and replicas of persons, animals, buildings, cars or trains with internal or external filament lamps’

The definition for electrical appliances is not as detailed:

- ‘Appliances shall not have an enclosure which is **shaped and decorated so that the appliance is likely to be treated as a toy by children**. Examples are enclosures representing animals or persons resembling scale models’.

The definitions emphasize the word “toy”. A toy is defined in the Toys (Safety) Regulations as ‘any product or material designed or clearly intended for use in play by children of less than 14 years of age’. The term “use in play” is clearly an important factor for defining whether a product is child appealing but is only appreciated where the manufacturer has introduced the playing aspect into the product intentionally.

The results of our survey of school suggest that a distinction should be made between “playing” and “handling” a product.

Most of the school children said that they would not play with any of the electrical products. This suggests that they do not associate the term “playing” with electrical equipment. The children seem to understand most of the potential hazards in using electrical equipment yet they find certain features of the products appealing. This is an important distinction between a product being considered a toy and one that is considered child appealing. It is clear that children associate toys with “playing” but are likely to handle and experiment with electrical equipment where such equipment has particular features that appeal to them. While these features will be unique to each individual, most children found the following features of the products appealing, which would encourage them to handle and explore the products:

- Bright and contrasting colours
- Shape like an animal
- Shape like a model
- Movement
- Adjustment
- Flexible
- Texture
- Smell
- Touch
- Function
- Noise of on/off switch

Many children also mistook the identity of certain products, believing the products to be harmless and thereby unaware of the potential hazards. For example, believing the popcorn maker to be a hairdryer, the “penguin” steam cleaner to be a gun and the plane lamp to be a torch.

While there are fewer incidents for electrical appliances when compared with lighting products, the risk of injury is still significant. Electric shock is the primary risk with lighting products, whereas burns, scalds and cuts are risks with electrical appliances.

There is an increasing trend in child-appealing electrical appliances. Animal sounds have been introduced for sandwich toasters and some fridges are decorated to represent animals. Consideration should be given to the general wisdom of marketing such products to children.

Recommendation A

Intertek RTC recommends that the “child-appealing” definition for electrical appliances should be consistent with the definition provided for child-appealing luminaries.

Recommendation B

Standards writers should consider broadening the definition of “child-appealing” to include aspects that were revealed by the survey of school children. The following definition and accompanying note is recommended:

> **Child-appealing product** – A product that is constructed such that due to the design, and regardless of materials used, it may induce or encourage handling by a child.
>
> Note – Aspects of such products include representing a model, person, animal (real or character printed), buildings or vehicles; having bright and contrasting colours, and a function, noise or texture consistent with a child’s desire to experiment.

When an electrical product may be considered as a toy and when not a toy

A toy is defined in the Toys (Safety) Regulations as ‘any product or material designed or clearly intended for use in play by children of less than 14 years of age’.

Guidance for deciding whether a product is a toy is given in the Toys (Safety) Regulations and the European Commission’s guidance document number 4 on the application of the directive on the safety of toys (88/378/EEC), dated 18 February 2003.

Some important aspects from the above guidance is given below:

- ‘All elements of the definition, and in particular ‘use in play’ – which implies some form of interaction between the child and product – should be given due weight in relation to the particular item in question’
- ‘Reasonable expected use shall prevail over the declaration of intended use by the manufacturer’
- ‘The fact that a product is child-appealing may make it dangerous as it could be confused with a toy by the consumer where its safety relies on adult supervision’
- ‘When a product has an intended playing use as well as another intended use, it could be considered as a toy if it has significant playing value’
- ‘Even if the product is covered by other directives, it has also to be examined within the scope of the Safety of Toys Directive’
- ‘Any label or statement on, or with, an item indicating that it is not a toy, or is not intended for anyone under 14 years, would not necessarily be regarded as conclusive by enforcement authorities’
- ‘The fact that a relevant national standard does not cover an item – or indeed that such a standard specifically states that it does not cover an item – does not necessarily mean that the item is not a toy’

The guidance is open to interpretation and is often contradictory. For example, the statement ‘even if the product is covered by other directives, it has also to be examined within the scope of the Safety of Toys Directive’ implies that the Toys Directive is also applicable for electrical appliances when the European Commission has stated definitively that only the LVD applies.

Furthermore, the safety standard for household electrical appliances, EN 60335-1, says that ‘this standard does not in general take into account playing with the appliance by young children’. Therefore, taken literally, an electrical appliance would never be defined as a toy within the meaning of the Toys (Safety) Regulations as the safety standard for such products excludes *playing* with the appliance by young children.

However, it is clear from Intertek RTC risk analysis of higher risk electrical products that manufacturers have not designed their products as toys within the meaning of the above toy definition. Indeed, those products that are shaped and decorated like animals, e.g. a penguin and a duck, have statements in the user instructions that warn against child usage.

While the products have clearly not been designed or intended to be played with by young children, the school children found features of the products appealing and enticing, which would encourage them to handle and explore the product.

Recommendation C

Remove the statement in the scope of the safety standard for household electrical appliances EN 60335-1, which says that 'this standard does not, in general take into account playing with the appliance by young children' and replace with the following:

- 'This standard, in general, takes into account use in play where it is foreseeable that a child will come into contact with the product'

Recommendation D

Define the term "for use in play" in a note to accompany the definition of a toy within the Toys (Safety) Regulations, as follows:

Note: "Use in play" includes a child exploring, experimenting or handling the material or product.

Expanding the term "for use in play" in the Toys (Safety) Regulations in conjunction with the removal of the "exclusion" statement from the scope of EN 60335-1 will assist in deciding whether an electrical product may be considered a toy.

Child safety and associated legislation

This research has shown that lighting products pose the highest risk of injury for children less than 14 years of age, with the primary risk of injury being electric shock, followed by burns and cuts. The publication of the European Commission opinion document in this regard is a reflection of the concern surrounding these products particularly when the products are child-appealing. This research has also shown that basic lighting products pose the same risks to children.

It is concluded from the review of basic lighting products that the position of the on/off switch has a significant bearing on the risk of injury. Especially when the switch is incorporated in the lamp holder.

A child when coming into contact with or playing with the product may contact the lamp holder connections where a lamp is not fitted, particularly if the switch is located in the lamp holder. It is clear from the children's comment in the school survey that switches are particularly appealing. Children are more likely to handle a product when it has features that appeal to them.

Lighting products may also be pulled off their work surfaces. An easily accessible in-line cord type switch increases this risk. A broken lamp might result from the ensuing drop leaving a child at risk of injury. Furthermore, user instructions do not provide adequate child safety information

Recommendation E

It is recommended that all lighting products irrespective of whether they are child- appealing, should be supplied with a voltage not exceeding 24 volts. This practice is already incorporated in the safety standard for portable child-appealing luminaries.

Recommendation F

Incorporate safety type lamp holders that isolate live parts from accessible parts while the lamp is being removed from its lamp holder and when the lamp has been completely removed from its lamp holder.

Recommendation G

Manufacturers should consider improving the mechanical strength of lampshades and their fixings to minimise access to the lamp and breakage of the lamp.

Recommendation H

Manufacturers should consider improving the information in user instructions to educate parents about the consequences of potential hazards for children.

After lighting products, cooking appliances account for a large number of injuries involving children particularly between 1 and 4 years of age. Other incidents where product safety is an issue have been identified for toasters, sandwich toasters, vacuum cleaners and televisions. The number of incidents is quite low, as Intertek RTC has attempted to determine where the product was responsible for the incident. Indeed the data suggest that for some products such as kettles and microwave ovens the incidents are due to misuse rather than anything inherently wrong with the product. However, it must be remembered that the accident data review concerns only reported incidents from a small number of UK hospitals and aggregated data in EHLASS reports but the injuries are still significant.

The research does show however that children use kettles, lighting products, toasters, and sandwich toaster regularly and to a lesser degree hair dryers, vacuum cleaners, microwaves, hair curling products, bread makers and fan heaters.

Kettles and sandwich toasters were given a moderate risk for scalds and burns respectively during our review of higher risk products. Given that children are using such products regularly, it suggests the need for child safety improvements in the design of these products. Child safety improvements in the other products used by children should not be ignored as the opportunity for an incident might arise with regular usage of the products.

The review of higher risk products also revealed that while user instructions for electrical appliances do generally take account of foreseeable misuse by children, they do not contain sufficient information to inform the parents about the consequences of potential hazards for children.

Recommendation I

Manufacturers should consider improving the information in user instructions to educate parents about the potential hazards and their consequences for children.

When considering improvements in child safety for electrical products it should be noted that safety standards for electrical equipment are voluntary. Their associated guidance documents are also only informative. While safety standards for microwave ovens, tumble dryers and washing machines do take some account of foreseeable child usage, there are other products highlighted in this research that need to be considered for child safety.

Actual product improvements in child safety are likely to be effective when the safety requirements are written into legislation and implemented as national regulations by Member States.

Recommendation J

The LVD should include a risk assessment, which must be applied to electrical equipment even in absence of a harmonised standard. The risk assessment should include consideration for “all person”, as defined by the European Commission as children less than 14 years of age.

Recommendation K

The LVD should make provision for a Standing Committee (SC) that operates under the terms and conditions of a European Commission mandate. The terms and conditions should insist that the SC reviews the part-2 (product specific) standards to ensure that child safety aspects are covered. The SC should make reference to the latest guidance documents in this regard:

- ISO/IEC Guide 50 Safety aspects – Guidelines for child safety
- ISO/IEC Guide 51 Safety aspects – Guidelines for their inclusion in standards
- Child safety – Guidance for its inclusion in standards: Produced by CEN BT WG117 under Mandate M/293

Recommendation L

The European Committee for Electrotechnical Standardization (CLC) should review the LVD standards to ensure that they cover the essential health and safety requirements of the LVD, in particular “all persons”, which is defined by the European Commission as including children less than 14 years of age. CLC should consult child safety experts and should make use of the latest guidance documents in this regard:

- ISO/IEC Guide 50 Safety aspects – Guidelines for child safety
- ISO/IEC Guide 51 Safety aspects – Guidelines for their inclusion in standards
- Child safety – Guidance for its inclusion in standards: Produced by CEN BT WG117 under Mandate M/293

Finally, it is concluded that the adoption of the above recommendations A – L, should result in a significant improvement in reducing incidents involving children and raising awareness of the potential risks for children when using electrical equipment.

APPENDIX I

RESEARCH BRIEF

Child Appealing Research

Background

Following a number of enforcement disagreements between the UK and other Member States with regard to Child Appealing luminaires operating at voltages over 24 volts the UK have identified a need to be able to cite professional opinion as to what constitutes a risk to children. To determine whether and if so how that risk varies with age and to obtain professional opinion when a product can be considered as a toy and when not a toy.

The Scope of the Research

The research shall be limited to injuries from electrical equipment primarily in the home and domestic environment. Railway and factory premises are specifically excluded, however, that part of the research related to examination of statistics shall also exclude areas and locations where children legitimately go; e.g. shops, fairs etc. Accidents shall be considered for children over the age range from birth up to but not including the 15 birthday. Appliances which can be considered to be "toys" within the meaning of the "Toys (Safety) Regulations 1995" shall be identified and the report clearly identify how such products can be considered to be "toys".

Work required

Review of statistics:- To carry out a survey of available accident data relating to injuries to children caused by electrical appliances, to identify the mechanics behind the incident and to determine the features of the appliance that appealed to the child.
To investigate the types of electrical equipment used by children and directly with children. To investigate the risks and produce recommendations as to whether the risks are acceptable and whether generally the risks are addressed and adequately covered by the design of the appliances.

Detailed review products identified in 1. above as being of higher risks:- To carry out a detailed review of products identified in the review of statistics expected to be associated with them. The specific types of appliances will be selected as a result of the initial study (see 1. above, however one product will be "child appealing" luminaires)

Review of safety risk of mains powered lighting used by children:- To investigate mains powered lighting aimed both for direct use by children and for use by parents in a child's environment. To determine whether instructions for use are adequate and to assess whether foreseeable misuse has been catered for with for the age range the product appears to have been designed for. Also to assess basic lighting products (not child appealing) to determine the risk to children who could be anticipated to use the product. Such products would include computer desk lamps, living room table lamps. Consideration shall be given to the location of the light switch on portable luminaires.

Report

To supply a report with clear recommendations with regard to child safety which compare and contrast the risks to children. The purpose of the report is to assist the UK authorities in leading debate in Europe with regards to what constitutes a child appealing product, what constitutes a toy and some quantification as to the risks for various ages of children.

APPENDIX II

EHLASS DATA

EHLASS report for Ireland 1998
Extract from products causing injuries by age group (page 21)

Product causing the injury	<1	1-4	5-14	15+	All age groups
Tennis,swimming, windsurfing etc	1	10	572	1662	2245
House building elements	4	130	171	469	774
Clothing, sportswear	0	0	118	382	500
Household furniture	6	87	73	114	280
Sports articles	0	1	61	218	280
Vehicles, boats, bikes & access.	1	23	113	127	264
Floor, footpath, street, water	0	23	60	160	243
Animals, animal access.	0	16	34	108	158
DIY equipment	0	3	7	123	133
Food, hot liquids	3	23	14	81	121
Athletics, boxing, etc.	0	2	34	80	116
Kitchen utensils, electrical items	1	9	10	81	101
Building materials, insulation, wood	0	7	20	58	85
Splinters, dust, other particles	0	0	9	76	85
Fairs, playgrounds	0	16	64	3	83
Footwear	0	0	9	48	57
Plants, trees	0	0	32	22	54
Heating equipment	2	20	7	23	52
Floor, inside coverings, stairs	1	10	10	27	48
Garden equipment	1	1	5	38	45
Other product	13	119	58	164	354
No product stated	0	20	67	48	135
TOTAL	33	520	1548	4112	6213

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	30	372	261	759	1422
Around the home	2	116	415	542	1075
Other	1	32	872	2811	3716
Total	33	520	1548	4112	6213

EHLASS report for Ireland 1999
Extract from products causing injuries by age group (page 21)

Product causing the injury	<1	1-4	5-14	15+	All age groups
Tennis,swimming, windsurfing etc	1	11	696	1913	2621
House building elements	17	201	212	698	1128
Clothing, sportswear	0	4	153	467	624
Household furniture	7	158	74	188	427
Floor, footpath, street, water	1	36	87	270	394
Vehicles, boats, bikes & access.	0	32	165	159	356
Sports articles	0	1	55	220	276
DIY equipment	1	6	7	158	172
Food, hot liquids	2	28	12	110	152
Animals, animal access.	0	12	37	91	140
Kitchen utensils, electrical items	1	14	14	103	132
Fairs, playgrounds	0	32	87	8	127
Athletics, boxing, etc.	0	1	25	98	124
Building materials, insulation, wood	1	9	15	87	112
Floor, inside coverings, stairs	4	15	15	62	96
Splinters, dust, other particles	0	1	6	82	89
Plants, trees	0	5	44	26	75
Heating equipment	0	24	13	32	69
Containers, wrappings	0	7	4	57	68
Other product	15	150	77	295	537
No product stated	5	37	108	111	261
TOTAL	55	784	1906	5235	7980

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	47	581	327	1195	2150
Around the home	7	142	424	582	1155
Other	1	61	1155	3458	4675
Total	55	784	1906	5235	7980

EHLASS report for Ireland 2000
Extract from products causing injuries by age group (page 21)

Product causing the injury	<1	1-4	5-14	15+	All age groups
Tennis,swimming, windsurfing etc	0	14	556	1782	2352
House building elements	5	151	187	576	919
Clothing, sportswear	0	7	148	444	599
Household furniture	10	136	60	172	378
Floor, footpath, street, water	1	37	53	226	317
Vehicles, boats, bikes & access.	0	29	124	134	287
Sports articles	0	6	75	187	268
Food, hot liquids	7	31	18	91	147
Kitchen utensils, electrical items	1	19	18	96	134
Fairs, playgrounds	0	34	76	9	119
DIY equipment	0	5	9	104	118
Animals, animal access.	1	8	30	74	113
Building materials, insulation, wood	0	9	16	77	102
Athletics, boxing, etc.	0	3	23	75	101
Floor, inside coverings, stairs	3	12	5	49	69
Heating equipment	1	17	17	32	67
Garden equipment	0	9	5	52	66
Bathroom equipment	0	8	4	35	47
Plants, trees	0	3	24	18	45
Other product	21	100	62	243	426
No product stated	3	25	98	122	248
TOTAL	53	663	1608	4598	6922

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	52	470	286	1151	1959
Around the home	1	143	388	490	1022
Other	0	66	971	3084	4121
Total	53	679	1645	4725	7102

EHLASS report for Greece 1998
Extract from products causing injuries by age group (page A31)

Product causing the injury	<1	1-4	5-14	15+	All age groups
Environment	64	755	4214	5777	10810
House constr features	317	1596	2075	4509	8497
Household furniture	38	736	544	416	1734
Sports	3	29	915	342	1289
DIY equipment	6	131	339	681	1157
Animals cage/kennels	10	134	348	404	896
Food, drink, smoke mat.	71	343	162	252	828
Floor covering	53	225	192	200	670
Vehicles	1	71	172	300	544
Kitchen utensils	4	57	85	353	499
Heating equipment	6	152	92	95	345
Bathroom equipment	2	48	41	179	270
Medicines	14	169	40	13	236
Plants, trees, bushes	2	12	57	118	189
Container & wrapping	0	22	55	109	186
Fair & playground	1	74	73	5	153
Games, toys	3	79	56	1	139
Particles	4	27	18	79	128
Writing & drawing	0	45	69	4	118
Laundry equipment	10	66	25	15	116
Personal items	4	47	34	28	113
Garden equipment	0	10	16	76	102
Cooking appliances	10	34	11	36	91
Cleaning product	3	45	11	7	66
Stereo/radio equipment	1	18	14	11	44
Wiring & accessories	1	6	21	4	32
Cleaning equipment	0	5	7	18	30
Baby/child furniture	11	10	2	1	24
Lighting equipment	2	8	8	4	22
Other product	15	93	131	83	322
No product stated	100	925	1480	1151	3656
TOTAL	756	5972	11307	15271	33306

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	536	3408	2208	5187	11339
Around the home	51	532	1061	2792	4436
Other	169	2032	8038	7292	17531
Total	756	5972	11307	15271	33306

EHLASS report for France 1998
Extract from products causing injuries by age group (page 19)
Calculated from percentages

Product causing the injury	<1	1-4	5-14	15+	All age groups
Constructional features	382	2066	1991	3858	8296
Environment	77	702	2976	3264	7019
Skiing, fencing, etc.	15	56	1586	2075	3732
Football, rugby, etc	5	20	981	1496	2502
Building materials	23	193	666	874	1756
Household furniture	30	602	375	471	1478
Animals cage/kennels	12	214	360	787	1374
Vehicles	3	131	372	833	1339
Food, drink, smoke mat.	23	169	115	510	818
Floor covering	84	169	163	349	766
DIY tools	2	21	70	580	673
Games, toys	6	116	309	98	529
Medicine	17	408	45	46	516
Small electrical appliances	7	42	54	409	512
Plants,trees, bushes	21	99	101	234	455
Heating equipment	16	120	83	163	382
Athletics, boxing etc.	1	2	128	243	374
Cleaning product	8	194	34	116	352
Garden equipment	3	52	91	199	345
Kitchen utensils	1	25	45	231	302
Bathroom equipment	3	78	43	142	266
DIY equipment	7	45	44	101	197
Personal items	4	74	33	71	182
Laundry equipment	6	99	37	25	167
Cooking appliances	3	39	12	42	96
Baby/child furniture	15	38	11	1	65
Lighting equipment	2	17	10	13	42
Stereo/radio equipment	1	13	5	14	33
Cleaning equipment	1	3	3	19	26
Wiring & accessories	1	7	3	12	23
Other product	N/A	N/A	N/A	N/A	3707
No product stated	7	200	888	2414	3508
TOTAL	837	6526	12717	21753	41832

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	600	3986	2316	6707	13609
Around the home	49	677	1374	2535	4635
Other	174	1850	9018	12546	23588
Total	823	6513	12708	21788	41832

EHLASS report for Spain 1998

(Calculated from percentages and foreign language categories so treat with caution)

Product causing the injury	<1	1-4	5-14	15+	All age groups
Environment	5	36	250	799	1089
Sports	0	3	203	374	580
Floors	13	23	34	450	521
Food, drink, smoke mat.	7	3	11	163	185
Kitchen utensils	1	2	5	153	161
Household furniture	5	26	15	109	155
Bathroom equipment	2	2	6	50	60
DIY tools	0	1	30	19	50
Garden equipment	0	2	6	20	28
Cleaning product	3	0	0	15	18
Lighting equipment	0	1	2	8	12
Cooking appliances	0	0	0	10	10
Other product	34	91	187	884	1196
No product stated	1	1	5	117	125
TOTAL	71	193	754	3172	4190

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	58	96	117	1343	1613
Around the home	5	24	56	372	457
Other	8	73	581	1458	2120
Total	71	193	754	3172	4190

EHLASS report for UK 1997
Note: UK data only available for product involved in the accident. There is no data for product Individual products where child-appealingness may be an issue

Product involved in the accident	<1	1-4	5-14	15+	All age groups
Lighting					
Elec. Wire, extension cord	4	19	9	82	114
Switch	0	5	7	16	28
Socket	1	10	8	18	37
Oth. elect. Installation	4	18	15	77	114
Socket & wall socket	2	3	4	10	19
Wire	1	9	35	111	156
Other lighting equipment	0	2	2	17	21
Fluorescent lighting	0	2	2	8	12
Wall light	0	1	0	9	10
Other access. with flame	1	8	7	23	39
Christmas tree lighting	0	0	2	3	5
Unspec. lighting equipment	0	1	2	21	24
Bulb	2	17	10	81	110
Lamp globe	1	5	4	17	27
Torch	0	8	1	10	19
Lamp & oil lamp	1	1	2	14	18
Candle	0	3	8	26	37
Candlestick	0	3	2	6	11
Light acc - flame unspec	0	2	1	5	8
Audio equipment					
Television	4	52	46	148	250
Video, tv game	1	22	3	26	52
Other tv/radio & telephone	4	28	9	14	55
Record player/stereo	4	33	20	54	111
Cassette/Video cases	0	9	5	9	23
Telephone with equipment	6	19	10	199	234
Miscellaneous					
Christmas tree	1	3	6	29	39
Kitchen appliances					
Gas cooker	3	45	25	106	179
Cooker, hot plate	0	5	2	3	10
Oven cover	3	10	1	26	40
Cooker, oven	0	6	7	86	99
Cooker, grill	1	11	3	35	50
Cooker other part	2	23	17	104	146
Barbeque grill	0	5	4	20	29
Toaster	0	2	1	9	12
Microwave	0	4	8	41	53
Refrigerator	1	29	14	108	152
Deep Freezer	0	11	9	67	87
Kettle & other hot drink	15	48	53	181	297
Laundry appliances & equipment					
Washing machine	1	21	7	116	145
Clothes basket	3	13	5	55	76
Clothes line	0	6	20	56	82
Tumble drier	1	6	4	13	24
Clothes horse	0	4	1	17	22
Coat hanger	1	8	5	11	25
Electric iron	0	23	3	22	48
Ironing board	0	17	6	51	74
Cleaning equipment					
Vacuum cleaner	4	27	27	221	279
Broom/brush	0	8	9	40	57
Automatic dishwasher	1	2	2	27	32

EHLASS report for Denmark 1997
Extract from Table 18.4 Accidents by products causing injuries and age group (page 21)

Product causing the injury	<1	1-4	5-14	15+	All age groups
Constr features of house	245	2417	3352	12721	18735
Features, outside env.	46	1194	4470	9624	15334
Pets, pet articles, insects	11	263	626	2336	3236
Sports equipment A	0	26	1277	1435	2738
Household furniture	37	651	545	1170	2403
Dust, dirt, particles	7	92	298	1743	2140
Tools, ladders	1	34	287	1499	1821
Cars, boats, bicycles	1	141	264	831	1237
Footwear	3	8	303	713	1027
Plants, trees	7	109	163	677	956
Food, drink	67	204	118	534	923
Kitchen utensils, knives	4	41	87	749	881
Containers, wrappings	2	37	93	497	629
Building materials	2	70	161	342	575
Playthings	16	299	159	58	532
Decorating materials	0	27	151	343	521
Sports equipment B	0	16	263	225	504
Kitchen mach & china	6	59	44	361	470
Garden equipment, tools	4	53	75	337	469
Heating/ ventilation	7	136	73	238	454
Other product	64	722	860	1929	3575
No product stated	76	998	2657	8674	12405
TOTAL	606	7597	16326	47036	71565

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	481	3913	2905	16269	23568
Around the home	28	759	1576	5825	8188
Other	97	2925	11845	24942	39809
Total	606	7597	16326	47036	71565

EHLASS report for the Netherlands 1997

Product causing the injury	<1	1-4	5-14	15+	All age groups
Constr features of house	33	1087	1659	6620	9399
Features, outside env.	19	338	1971	4890	7218
Sports	4	28	842	2156	3030
DIY equipment	3	68	229	1417	1717
Cage/kennel	5	81	195	1431	1712
Household furniture	4	291	267	832	1394
Kitchen utensils	2	30	58	1095	1185
Dust, dirt, particles	1	25	71	857	954
Vehicles	2	74	138	684	898
Food, drink, smoking	5	157	65	542	769
Footwear	2	4	119	432	557
Floorcoverings	2	61	63	258	384
Heating/ ventilation	2	77	44	209	332
Containers, wrappings	2	27	28	271	328
Medicines	0	47	7	204	258
Plants, trees	1	11	44	178	234
Cooking appliances	1	15	15	177	208
Fair/playground	1	32	111	39	183
Garden equipment, tools	0	13	21	147	181
Other product	13	345	423	1783	2564
No product stated	48	683	1875	11008	13614
TOTAL	150	3494	8245	35230	47119

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	63	1877	1329	8738	12007
Around the home	4	97	208	1199	1508
Other	83	1520	6708	25290	33601
Total	150	3494	8245	35227	47116

EHLASS report for Finland 1997

Product causing the injury			0-14	15+	All age groups
Environment			1615	2759	4374
Constr. features of the house			1047	1542	2589
Skiing, fencing, etc.			591	559	1150
Household furniture			199	168	367
Vehicles, boats, bikes & access.			113	161	274
DIY equipment			31	200	231
Animals and animals' cage/kennel			88	104	192
Food, drink, smokers' material			130	26	156
Fairs, playgrounds			87	18	105
Plants, trees			71	33	104
Particles			57	36	93
Kitchen utensils 2			9	63	72
Floor covering, stairs,etc			21	34	55
Sports equipment			25	14	39
Bathroom equipment			10	29	39
Heating equipment			18	20	38
Laundry equipment			18	14	32
Games, toys			13	17	30
Other product			1198	893	2091
No product stated			274	536	810
TOTAL			5615	7226	12841

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	166	868	497	1528	3059
Around the home	8	224	606	1046	1884
Other	28	470	2748	4652	7898
Total	202	1562	3851	7226	12841

EHLASS report for Spain 1997

(Calculated from percentages and foreign language categories so treat with caution)

Product causing the injury	**<1**	**1-4**	**5-14**	**15+**	**All age groups**
Environment	0	31	267	801	1099
Sports	0	4	123	314	442
Floors	32	23	3	356	413
Household furniture	6	18	27	140	192
Food, drink, smoke mat.	0	6	12	142	160
Kitchen utensils	0	1	3	111	115
Bathroom equipment	0	4	1	44	48
DIY tools	0	1	2	38	41
Garden equipment	0	0	5	18	22
Cleaning product	0	6	0	9	15
Lighting equipment	0	0	1	7	7
Other product	25	77	210	725	1038
No product stated	0	1	17	113	130
TOTAL	63	171	670	2819	3724

Age breakdown not available for 1997 so have used proportions for 1998

Place of accident	**<1**	**1-4**	**5-14**	**15+**	**All age groups**
In the home	52	85	104	1112	1352
Around the home	4	22	50	299	375
Other	7	65	517	1408	1997
Total	63	171	670	2819	3724

EHLASS report for Germany 1996
Extract from Page 40 Products causing the injury

Product causing the injury	<1	1-4	5-14	15+	All age groups
Constr features of house	5	141	163	1487	1796
Features, outside env.	1	54	338	1355	1748
DIY equipment	1	10	39	401	451
Sports equipment	0	2	103	323	428
Household furniture	0	59	35	285	379
Kitchen utensils	0	8	24	209	241
Vehicles	0	21	55	148	224
Animals and Cage/kennel	0	7	28	184	219
Food, drink, smoking	0	15	18	118	151
Plants and plant care	0	4	21	108	133
Containers, wrappings	1	7	9	95	112
Garden equipment, tools	0	7	9	85	101
Heating equipment	0	21	20	44	85
Bathroom equipment	0	7	8	66	81
Dust, dirt, particles	0	4	0	62	66
Cooking appliances	2	10	1	26	39
Fair/playground	0	5	19	14	38
Floorcoverings	0	2	2	31	35
Footwear	0	0	2	11	13
Other product	2	61	85	622	770
No product stated	1	40	103	1639	1783
TOTAL	13	485	1082	7313	8893

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	11	331	266	2658	3266
Around the home	1	62	190	1144	1397
Other	1	92	626	3511	4230
Total	13	485	1082	7313	8893

EHLASS report for Italy 1997
Extract from Page 36 Products causing the injury

Product causing the injury	<1	1-4	5-14	15+	All age groups
Constr features of house	76	297	510	2333	3216
Features, outside env.	5	84	711	2183	2983
Animal accessories	3	32	126	751	912
Household furniture	15	71	122	604	812
Kitchen accessories	1	15	43	612	671
Work tools	3	32	126	499	660
Vehicles	1	30	102	394	527
Dust, dirt, particles	0	2	13	440	455
DIY equipment	0	3	39	242	284
Food, drink, smoking	6	17	23	227	273
Kitchen utensils	1	3	13	254	271
Games/toys	4	15	112	103	234
Building materials	0	2	11	183	196
Containers, wrappings	0	2	15	176	193
Garden equipment, tools	2	4	22	154	182
Ski, tennis, etc.	1	1	49	121	172
Bathroom equipment	0	6	13	139	158
Plants and plant care	1	3	15	137	156
Fair/playground	0	3	46	92	141
Sports equipment	0	0	21	109	130
Other product	9	56	106	1097	1268
No product stated	1	48	216	997	1262
TOTAL	129	726	2454	11847	15156

Place of accident	<1	1-4	5-14	15+	All age groups
In the home	121	495	736	5019	6372
Around the home	4	131	651	2402	3188
Other	4	100	1067	4426	5596
Total	129	726	2454	11847	15156

Note: Age breakdowns by place of accident and age group are approximations based on %s.

APPENDIX III

QUESTIONAIRE FOR SCHOOL STUDY

Intertek Research & Testing Centre

61222 CHILD APPEALING PRODUCTS - Questionnaire March 2003

School: Age of child : Date:

We are interested in any electrical products that your child(ren) personally use – not just the ones that belong to your child(ren) but also those that belong to other members of your family.
Thank you for helping us in this important work.

1. Which of the following products do your child(ren) use at home (please tick all the boxes that apply) and how often do you use them?

Electric appliances used:		How often used:	
Electric table lamp	□	Every day	□
		Frequently	□
		Sometimes	□
		Rarely	□
Electric kettle	□	Every day	□
		Frequently	□
		Sometimes	□
		Rarely	□
Electric sandwich maker	□	Every day	□
		Frequently	□
		Sometimes	□
		Rarely	□
Electric toaster	□	Every day	□
		Frequently	□
		Sometimes	□
		Rarely	□
Electric Food Processor	□	Every day	□
		Frequently	□
		Sometimes	□
		Rarely	□

□□□Do your child(ren) use any other electrical products in your home regularly? (Do not include TVs, VCRs or computers.)

Yes □
No □

If Yes, please list the products they use regularly:

……
……
……
……
……

……

Do you have any gimmicky electrical products , or those which your child(ren) particularly like in your home? Have you or your child(ren) had any safety concerns- if Yes please give details

Yes □

No □

Safety concern:

If Yes, please describe each product below (start a new box for each product you have) :

– please describe what the product is:

……

……

How was the product bought?

Bought as a gift by someone else □

Asked parent to buy □

Other ……

How did you first hear about this product?

Advertising on TV □

Advertising in paper/magazine □

On the Internet □

Mail Order catalogue □

Seen at friend's house □

Other □ please explain ……

……..

– please describe what the product is:

……

……

How was the product bought?

Bought as a gift by someone else □

Asked parent to buy □

Other ……

How did you first hear about this product?

Advertising on TV □

Advertising in paper/magazine □

On the Internet □

Mail Order catalogue □

Seen at friend's house □

Other □ please explain ……

……..

– please describe what the product is:

……

……

How was the product bought?

Bought as a gift by someone else □

Asked parent to buy □

Other ……

How did you first hear about this product?

Advertising on TV □
Advertising in paper/magazine □
On the Internet □
Mail Order catalogue □
Seen at friend's house □
Other □

please explain ……

……..

Do you have any **imitation** electrical appliances as toys (eg vacuum cleaner, lawnmower, drill)?

Yes □

No □

If Yes, please list them here:

……

……

……

……

□□

Thank you for taking the time to fill in this questionnaire. Your assistance with this project is much appreciated.

APPENDIX IV

APPROACH TO RISK ASSESSMENT

Approach to Risk Assessment

The following document is an extract from our procedures. It indicates the principles on which Intertek RTC bases all risk assessments.

Risk assessment

The following notes are intended to help staff rate hazards in a consistent way. They are included to ensure all staff have a clear understanding of the thinking behind risk assessment.
It is necessary to carry out an assessment of risk arising from the identified hazard, these guidance notes attempt to assist the systematic process of risk assessment.

References

EN 1050	Safety of machinery - principles for risk assessment
EN 292 PT1	Safety of machinery - basic concepts, general principles for design - Basic terminology, methodology

Rating scale

The purpose of the risk assessment is to arrive at an initial rating to indicate the priority to be given to the alert. The risk rating is as follows:

1. Very high risk
2. High risk
3. Moderate risk
4. Low risk
5. Very low risk

Assessing the Risk

In order to assess the risk, the following areas need to be assessed. The aim is to be as objective as possible however many of the areas are based on subjective assessments.
The risk of a hazard is to be clearly defined, EN 292 provides categories that can be used, ie electrical, crushing and severing. In addition, the event or situation where the hazard can occur needs to be considered. Hazard identification may be based on accepted exposure levels, eg microwave leakage. If used, such criteria needs to be stated, together with a reference to the source of the information.

Mower example:
The hazard of a long stopping time for a mower blade can be identified as `cutting or severing hazard if hand entered into discharge opening or under hood to clear grass etc'.

Product Limitations

Limitations in the use of the product need to be noted.

- Determine whether the hazard occurs during intended use or during foreseeable misuse. Definitions of these are in EN 292.
- Identify what user group, if any, are intended to use the product
    - Is it old or young people?
    - Are any groups reasonably excluded?
- Would any experience or training have a bearing on the occurrence of the hazard?

Mower example:
Clearing grass from the discharge opening is a normal occurrence and intended use - it is carried out mainly by all user groups of 14 years and above, with no previous experience or training'.

Risk Estimation

Risk can be broken down into the following aspects:

A) Severity of the possible injury or harm

The severity is generally a subjective assessment, accident data from the DTI such as HASS - home accident surveillance system, HADD - home accident deaths database or individual reported incidences are available. The severity can be categorised into the following:

- Very serious - this covers death, and may include irreversible injury or harm which results in loss of limb or eye or permanent disability.
- Serious, normally irreversible - this covers damage to eye, loss of or serious damage to, finger or toe.
- Slight, normally reversible - this covers cuts, small burns etc.

Mower example:
`Serious injury - possible severe cutting or amputation of finger. HASS data and follow-up studies indicate that 20% of mower accidents result in hand injuries when clearing grass. Mowers involved in 7,000 accidents in 1999 requiring a visit to a hospital'.

B) Frequency and duration of exposure

This can be considered in three categories as follows:

- Continuous - exposure occurs all, or almost all, the time the product is used.
- Often - exposure occurs on a regular basis during the lifetime use of the machine. It need not be every time the machine is used.
- Seldom - exposure occurs rarely during the lifetime use of the product, eg when the product is being serviced.

Mower example:
Often - hazard occurs whenever mower needs to be cleared of grass'.

C) Probability of occurrence of an event that can cause harm

Assessing the probability of occurrence can be difficult however some estimation is needed to make an accurate assessment of risk. This is categorised as follows:

High	likely to occur
Medium	likely to occur sometime in the lifetime of the product
Low	unlikely, it can almost be assumed it will not occur

Note There may be more than one sequence of events or fault condition relating to the use of a product leading to a hazardous condition, and this will affect the probability of occurrence. Generally in electrical standards only one fault condition is considered at a time - the validity of this is questioned. Where more than one simultaneous fault condition is considered, this is to be stated.

Mower example:
Medium probability - it only takes a fraction of the stopping time to reach the moving blades'

D) Possibility of Avoidance

This aspect is not included as a separate factor in the overall assessment - see section 3.6, but should be taken into consideration when assessing the probability of occurrence. It ought to be possible to distinguish between `avoidance possible under specific conditions' and `scarcely possible'.

Mower example:
`Hazard not apparent - user assumes the blade has stopped'.

Overall Risk Rating

The factors outlined in severity, frequency of exposure, and probability of occurrence should enable an overall risk rating to be arrived at using the following table. When considering the probability of occurrence the possibility of avoidance needs to be taken into consideration. In practice these ratings can only be a rough guide - there will be shades of grey between each point on the scale. The key decision is whether the hazard is considered to be sufficiently severe to raise a safety alert, ie does the final overall risk rating reflects the testers' views about the hazard. If it does not, re-examine each factor and if necessary make adjustments.

Severity	Frequency of Exposure	Probability of Occurrence	Rating	Risk
very serious	any	any	1	very high
serious	continuous	high	1	very high
		medium	2	high
		low	3	moderate
	often	high	2	high
		medium	3	moderate
		low	4	low
	seldom	high	3	moderate
		medium	3	moderate
		low	4	low
slight	continuous	high	3	moderate
		medium	4	low
		low	5	very low
	often	high	3	moderate
		medium	4	low
		low	5	very low
	seldom	high	4	low
		medium	4	low
		low	5	very low

APPENDIX V

QUESTIONAIRE FOR HEALTH PROFESSIONALS AND COVERING LETTER

Covering Letter

Dear Colleague

Re: DTI Project to research child-appealing elements of electrical appliances.

The Department of Trade and Industry has commissioned Intertek Research and Testing Centre to carry out research into what types of electrical appliances constitute a risk to children. This is primarily related to electrical appliances in the home and domestic environment, particularly child-appealing lighting products. We wish to determine whether and, if so, how that risk varies with age. We also wish to understand the 'mechanics' of an incident, for example the cause and location.

Part of our research includes a survey of health professionals, in surgeries or clinics throughout Europe, who may be treating children with minor burns, scalds or electric shock.
I have enclosed a brief questionnaire that covers the treatment of children aged from birth to those reaching their 15th birthday. I would be very grateful if you, or one of your staff, could complete and return the questionnaire using the pre-paid label provided, by 23 June 2003. If you would prefer this questionnaire by email, please contact me at **Andrew.Gordon@intertek-rtc.com**.

I do realise that you must get several such requests for information and apologise for yet another call on your time. We have tried to keep the questionnaire simple to limit the time needed to complete it.

Please do not hesitate to contact me if you have any queries. Your help and co-operation is very much appreciated

Yours sincerely,

Andrew Gordon
Senior Technologist

Intertek Research & Testing Centre

Questionnaire for Health Professionals in Europe

Intertek Research and Testing Centre have been commissioned by the UK Department for Trade and Industry to undertake research into what types of electrical appliances constitute a risk to children, in particular child-appealing lighting products. Part of this study includes a survey of health professionals in up to 10 European countries and we appreciate your willingness to take part in our research.

This questionnaire relates to incidents, involving children (aged 0-15 years) using electrical products, which have resulted in burns, scalding or electric shocks. (e.g. kettles, desks and table lamps, toasters etc.)

Country:						
Surgery		Clinic		Other		
What is your profession?					Please tick ⊥	
1	Doctor					
2	Nurse/Triage Nurse					
3	Other (please specify)					
What is the nature of your work?						
4	Active treatment of patients					
5	Reception of patients					
6	Other (please specify)					
Can you specify roughly how many patients with burns, scalds or electric shocks, relating to electrical products, you have been in contact with during 2002, in the following age groups?						
7	Aged 0 >4 years old					
8	Aged 5 >10 years old					
9	Aged 10 >15 years old					
Do you think that the number and severity of these kinds of injuries are:						
10	Increasing					
11	About the same					
12	Decreasing					
Generally, what part of the body is most exposed to this kind of injury?						
13	Upper body - hands, fingers, arms, head, face and chest					%
14	Lower body – feet and legs					
15	Don’t know					

Have hot liquids, hot surfaces or live parts caused most of the injury?			
16	Hot liquids		%
17	Hot surfaces		
18	Live parts		
19	Don't know		
Do you know what the injuries are usually caused by?			
20	Hobs		%
21	Ovens		
22	Electric kettles		
22	Small electrical appliances (eg. toasters, irons, coffee machines)		
23	Lighting products (desk and table lamps)		
24	Other		
Do you know the reasons for the accidents?			
25	Child attracted to a product that looks like a toy		%
26	Faulty product		
27	Small children not being supervised		
28	General carelessness		
29	Other		

Where did the injuries usually occur?			
30	Bedroom		%
31	Kitchen		
32	Living room		
33	School		
34	Shop		
35	Cafe		
36	Other		
General comments			

Thank you for your help! Please return this form by 7 July 2003, to:

Andrew Gordon
ITS Research & Testing Centre,
Davy Avenue, Knowlhill, Milton Keynes MK5 8NL, UK. Tel: +44 (0)1908 857797

Or fax to: +44 (0)1908 857830. Email: Andrew.Gordon@intertek-rtc.com

APPENDIX V

AGENDA FOR EUROPEAN COMMISSION MEETING

MEETING AGENDA

Child-appealing Research

Venue: Rue de la Science 15, DG Enterprise, Brussels
Date: Monday 23 June 2003
Time: 14:30 – 15:30

Introduction

Intertek RTC has been commissioned by the UK Department of Trade and Industry to carry out research investigating child-appealing electrical equipment, in particular child-appealing luminaries. Some aims of this research include obtaining professional opinion as to what constitutes a child-appealing product and when a product can be considered as a toy and when not a toy. We wish to include the European Commission's views in this subject area in the context of EU Directives, EC guidance documents and EC opinion statements.

There are essentially two items we wish to discuss with you on Monday 23 June with the aim of assisting in our research, namely:

Item 1 - Whether existing EU legislation and harmonised standards adequately cover the risks associated with children using electrical equipment, in particular, portable child-appealing luminaires. Areas for discussion should include:

- What constitutes a child-appealing product?
- The role of harmonised standards, and the exclusion clause in the EN 60335 series of standards
- The role of Commission Mandate M/293 and its EC guidance document

Item 2 - Commission Opinion – Portable child-appealing luminaires. Areas for discussion should include:

- Risks resulting from "foreseeable conditions of overload" other than electric shock
- Deciding whether a product can be considered as a toy and when not a toy
- The role of EC Guidance document number 4 (updated 18 February 2003) for Toys Directive 88/378/EEC, where "reasonable expected use shall prevail over the declaration of intended use by the manufacturer" and where "even if a product is covered by other Directives, it has also to be examined within the scope of the Safety of Toys Directive"
- The status of the risk assessment where a child-appealing luminaire is using a voltage higher than 24 volts
- The role of the General Product Safety Directive