

NITE Annual Report on Product Safety (FY2003)

1. Accident Information Collection System of NITE

The National Institute of Technology and Evaluation (NITE) collects accident information on consumer products under the jurisdiction of the Ministry of Economy, Trade and Industry (METI) such as "Home electrical appliances", "Combustion appliances", "Vehicles", "Leisure items", "Baby products", etc. every year in relation to:

1) accidents causing human injury

2) accidents causing property damage with a high probability of causing human injury

3) defective products with a high probability of causing human injury

2. Accident Information Collection System and number of collected information cases

NITE seeks to collect exhaustive accident information by receiving daily information from sources including consumers, consumer affairs centers nationwide, administrative agencies, manufacturers, importers and distributors, as well as by establishing a system to acquire daily accident reports from nationwide on newspapers and the Internet.

The following chart shows the breakdown of the number of accident information by information source in FY2003.

Information Source	Number of accidents	Ratio (year on year)
Manufacturers	573	27.0%
Local governments (including Fire Department)	122	5.7%
Consumer affairs centers	102	4.8%
National institutions	140	6.6%
Consumers	32	1.5%
Unknown source	1	0.1%
Others	80	3.8%
Subtotal	1,050	49.5%
Press monitoring	1,074	50.5%
Total	2,124	100.0%
Note: Multiple newspaper information on the same incident is counted as one incident.		



As of May 31, 2004, the net number of accidents was 1,765 when duplications and unrelated information were excluded. (The number includes cases under investigation)

The breakdown of the accident information by product category is shown below. Serious accidents were caused mainly by "Home electrical appliances" (38.3%), followed by "Combustion appliances" (35.8%) and "Vehicles/vehicle related products" (9.3%). There has been no significant change in this trend since FY2002 when reports from manufacturers started to increase.

	Product classification	Number of accidents	Ratio (year on year)
1	Home electrical appliances	676	38.3%
2	Combustion appliances	631	35.8%
3	Vehicles/vehicle related products	164	9.3%
4	Personal products	87	4.9%
5	Furniture/home products	70	4.0%
6	Baby products	49	2.8%
7	Leisure products	35	2.0%
8	Health and sanitary products	24	1.4%
9	Kitchen and table appliances	23	1.3%
10	Textile products	5	0.3%
11	Others	1	0.1%
	Total	1,765	100.0%



3. Further Investigation of the Accidents

I. Accident investigation status

Investigations are conducted into all the collected accident information cases to clarify the circumstances of accidents. NITE initially collects detailed information on accidents through telephone interviews with information providers or involved parties, or in writing, or by visiting the people involved.

In FY 2003, on-site investigations were conducted for 52 cases, such as fire cases related to electric cool/warm refrigerators and electric heaters.

The investigations confirm products related to accidents as well as the similar products for 168 cases including; handle bars falling off a folding bicycle, a dehumidifier which caught fire and disposable cigarette lighters which generated excessive flames.

Once manufacturer and model are identified through investigation, NITE forwards accident information to the manufacturers, and instructs these manufacturers to submit reports on the cause of the accidents and preventive measures, which will be reviewed and inspected from the standpoint of accident prevention.

The following chart shows accident details for FY 2003 including; number of on-site investigations, products obtained, and identified manufacturer names.

On-site investigation /	Conducted on-site investigation	52 cases
Accidental product	Obtained the actual product which had caused accident	168 cases
Manufacturer of product	Identified by report from manufacturer	448 cases
(as of May 31, 2004)	Identified through investigation by NITE	489 cases

II. Further Investigation of the serious accidents

NITE proceeds with investigations while promptly sharing information with the Ministry of Economy, Trade and Industry (METI) upon receiving not only initial reports, but information acquired through subsequent investigations on accidents requiring special attention; serious accidents involving human injury including death and severe injuries, and fire, frequent accidents caused by same model of products and accidents related to the violation of technical standards.

Highlights of investigations are indicated in the next chart. Serious human injury or extended damage cases include a nursing bed which caused a compression fracture in the lower back and the lid blowing off a pressure cooker resulting in burns to the left shoulder. In addition, investigations were conducted in relation to frequently occurring accidents including fires caused by electric heaters, overheated halogen heaters and folding bicycles with broken frames.

Name of product	Investigation summary	Remedies
Toy trailer <serious case></serious 	An incident was reported in which a 2-year-old boy caught his left hand inside a trailer type toy and severed his left fourth finger. The investigation deduced as follows; An opening appears at the front and back of the part of the toy called the "control tower", which automatically rises when it is unlocked to allow miniature cars to pass through. This temporally creates a gap between the bottom surface and the inner wall when moving the control tower up and down. The gap can catch a finger if it is inserted through the "control tower" opening as the "control tower" begins to rise. Attempts to make the opening wider to free the finger create further sheer force which can cause injury.	The toy maker placed a company announcement in newspapers as well as on their website, announcing the product recall on January 28, 2004. They subsequently reissued the announcement on February 5, 2004. They have also decided to review the company's quality controls with regards to trapping accidents, and the rules on accident information.
Pressure cooker <serious case></serious 	An incident was reported in which the lid of a pressure cooker suddenly blew off and flew into the air while in use, resulting in the female user sustaining burn injuries to her right shoulder. The investigation deduced that, due to defective dimensions and shape of the supporting section (arm) and clasp (stopper), which act to secure the lid to the pan, the arm disengaged from the clasp during cooking, allowing the lid to blow off and the contents to splash out.	On November 5, 2003, the manufacturer placed a company announcement in newspapers as well as on their website announcing the product recall and free product replacement. In addition, the manufacturer has produced a dimension gauge for the arm and the stopper of the pot for total inspection along the manufacturing line, and has also reviewed items and methods of inspection reporting, and improved QC process charts and rules.

Nursing bed	An incident was reported in which the	The companies placed
(Electric)	user suffered a compression fracture of the	announcements in newspapers.
<serious< td=""><td>hip bone. The accident occurred when the</td><td>They also sent notices to their client</td></serious<>	hip bone. The accident occurred when the	They also sent notices to their client
case>	user pressed the back adjustment button on	companies and provided
cuse>	the control switch. The bed continued	information on their websites for
	ascending even after releasing the finger	free replacement of control switches
	from the button. The back bottom and	with the new units with plastic caps.
	knee bottom sections ascended to	with the new diffes with plastic caps.
	maximum angles causing the fracture.	
	The investigation deduced that	
	substances such as secretions from the	
	hand and hand cream constituents, etc,	
	penetrated the switch through repetitive	
	use. The conductive rubber in the switch	
	may have become swollen and softened by	
	the substances, causing the rubber to	
	slowly peel away. The rubber eventually	
	adhered to the substrate, resulting in the	
	switch being in a permanent "on" state.	
Electric	An incident was reported in which an	The company and The Japan
cooking	electric cooking stove caught fire, resulting	Electrical Manufacturers'
stove	in the partial destruction of a compact	Association jointly implemented an
<frequent< td=""><td>kitchen. In addition, soot and smoke</td><td>educational campaign, including</td></frequent<>	kitchen. In addition, soot and smoke	educational campaign, including
case>	deposited on other appliances including	preparing posters, calling for safe
	the air conditioner and the refrigerator.	use of the product.
	The investigation deduced that cardboard	Protruding switch knobs were
	boxes stacked by the kitchen unit fell and	eliminated from products
	accidentally switched the stove on. The	manufactured after October 1988. In
	boxes were overheated and ignited.	addition, safe use tips were added
		on their webpage on November 30,
		2001. In February 2004, they
		started to make flyers on safe use of
		the product to be distributed to
		studio apartments.
	An incident was reported in which a	
	plastic container and a photo album on an	
	electric cooking stove ignited, burning the	
	ceiling and wall. The investigation	
	deduced that a purse carried by the owner	
	accidentally contacted the switch when	
	he/she left the house. This turned on the	
	power and burned the objects on the	
	electric cooking stove.	
	An incident was reported in which a	
	portable gas cooking stove stacked on an	
	electric range exploded. It broke an	
	apartment balcony window, showering	
	glass on the street. The investigation	
	deduced that the electric cooking stove	
	was accidentally switched on when a part	

1		1
	of the body brushed against the switch. The heat increased the internal pressure of a cooking canister set in a gas cooking stove, which resulted in the explosion.	
Electric halogen heater <frequent case></frequent 	An incident was reported in which a room carpet incurred burn damage from the heat of the product. The product had been used for ten days. It was always set to 400W during this time. The investigation deduced that the product had a defective diode which was used as a power control. It generated heat and melted a solder used for attaching the components. The melted solder dropped and pierced the resin basal plate, which burned the carpet.	The company had all customer contact details as the products were sold through mail order. The customers were contacted by phone for product return, repair or replacement. The company attached a thermal fuse near the diodes of products in stock.
Cellular phone <frequent case></frequent 	An incident was reported in which an overheated cellular phone body resulted in partial deformation of the case on the back side. The investigation deduced that a failure occurred with the power current control part of the phone. Additionally, the set value of the over-current control was inadequate. These factors allowed over-current to flow into the failed component, which generated the heat.	The company placed a company announcement in newspapers and on their website on January 30, 2003. The battery packs were collected from the product users and new battery packs with overheat prevention (set value for the battery pack's power current control was changed to prevent overheating in case of cellular component failure) were sent for replacement.
Electric vacuum cleaner <frequent case></frequent 	An incident was reported in which the handle broke when using the product for cleaning. The investigation deduced that the plastic inlet of the handle used for molding was corrupted by factors including; 1) impact of lifting the product by holding the handle, 2) lack of strength against force, such as twisting when using the product by keeping hold of the handle, and 3) molding defects of the polyethylene-made handle.	The company placed an announcement in newspapers and on their webpage on November 7, 2002. They provided free replacement handles made of integral stainless steel molding.
Folding bicycle <frequent case></frequent 	An incident was reported in which a crack appeared in the welded section of the frame of a folding bicycle, causing the frame to break. The investigation deduced that poor welding between the frame and the folding box caused the damage. The defective welding was a result of insufficient pretreatment for welding such as degreasing, which allowed corrosion to set in and eventually cause the crack.	The company discontinued import and sales of the product. A company announcement was placed in newspapers and on their website, announcing free replacement of the product. In addition, mail order customers were contacted directly and given free replacement products, while customers purchasing from retail outlets were contacted via the outlets and given free replacements.

III. Investigation on products

As a part of the investigations on collected accident information, NITE implements tests on accident related products and similar products in order to investigate the accident causes in cases where there are doubts concerning the results of the manufacturer's investigations into accident causes.

In addition, in cases where 1) investigative methods to identify the causes are undeveloped and 2) necessary fundamental data is insufficient for evaluating test results and identifying causes, NITE implements investigations to develop cause identification methods by obtaining and accumulating necessary data and developing necessary methods for identifying accident causes in order to develop an environment in which accident causes can be determined.

Furthermore, accident trends are analyzed based on collected accident information and, depending on the results, investigations are conducted into product safety measures which will be effective in preventing the occurrence and recurrence of accidents. These results are applied to NITE's investigations into accident causes as well as provided to relevant authorities.

Test case	Outline of accident and test objectives	Test results and remedies
Burnout of electric heater (Halogen heater)	An accident was reported in which the carpet and floor were burned while using an electric heater. Because the accident was thought to be due to abnormal heat generation of the electric power control diode, a test was conducted on a similar product and an improved product (*) by applying current for 1,000 hours (cumulative) to see whether the diodes would burn out. (*) Thermal fuse fitted to prevent abnormal heat generation of the diode section.	Although it was obvious that the accident was due to the abnormal heat generation of the diode, the test showed that the diodes attached to the similar product and the improved product did not fail or generate abnormal heat, therefore, it is highly possible that the diode on the accident product was itself defective. The defective diode generated abnormal heat, which caused the burnout of the diode. The heat consequently melted the solder where the diode was attached, which burned the carpet.
Bicycle with a broken down tube	An accident was reported of a bicycle on which the down-tube of the frame broke near the head-tube. The bicycle was used for approximately 2 years to commute to a school located about 2 kilometers away from home. A fractographic study found an undercut (1) at the lower	The largest stress is applied to the lower junction of head and down-tubes when riding the bicycle. The results of the fractographic study found a relatively large void at the junction, which was presumably formed at the time of manufacturing the down-tube (by folding and welding steel plate) or when the head and down-tubes were welded together. The lower weld may have generated a crack due to strong stress

The following charts show examples of tests conducted in FY 2003, details of cause identification method development and investigations on product safety:

	 part of the down-tube. The lower weld of the down-tube also had an undercut. The Finite Element Method was used to perform stress analysis to study effect of stress distribution at these sections. (1) Poor welding resulting in 	concentration and the decreased wall thickness caused by the undercut. In addition, cyclic stress, applied as the bicycle was used, also caused the crack. The crack spread at right angles to the down-tube and consequently broke the tube.
	 the formation of a groove due to insufficient weld metal. (2) Approximate analytical technique using computational calculation to analyze stress and structural deformation 	
Bicycle with a broken down tube	which a bicycle frame (down-tube) broke. The incident was presumably due to the length of insertion	Stress analysis using the Finite Element Method confirmed that stress was concentrated on the starting point of the rupture. It was found that higher stress concentrations occurred on tested products when compared to products with normal insertion lengths and brazing. In addition to incomplete brazing on the insertion, the length of the insertion to connect the down-tube and bottom bracket was only 4.5mm long, while the design value was 10 mm. Because the brazing was insufficient, the impact load of riding the bicycle caused the brazing section to come off. Stress concentration took place on both ends of the section which created a crack on the down-tube.

(Investigation to develop techniques for identifying causes of accidents performed in FY2003)

Theme	Investigation objectives	Summary
Development of	According to the collected accident	The investigation confirmed
structural analysis	information for the last 5 years, 109 cases were	that stress analysis was
method using	bicycle related. Most of the accidents were	applicable and repeatable
Finite Element	processed based on assumptions made from	regardless of installation angle
Method for	investigation experience, with judgments	or loading direction, when the
studying the cause	based on the deformation or damage of	following details of the bicycle
of bicycle	bicycles. No sufficient analyses were	are fully available: (1) shape
breakage	conducted for the relationship between stress	and size, (2) material and
	distribution and unit strength of bicycles under	property value, (3) loading
	accident conditions as this was difficult to	condition (static load) and (4)
	measure.	loading condition.

	Conformation analysis by Finite Element Method (FEM) creates a 3-D computational model to analyze stress distribution of individual parts, displacement, etc, through simulations, which enables analyses under various conditions such as load, etc. The investigation was conducted with the aim of improving and developing the technique of conformation analysis using FEM to improve cause determination efficiency.	
Development of primary and secondary trace identification methods using graphite formed by carbonization of connecter lead wires	Past investigations have clearly shown the possibility of identification and evaluation by using objective parameters to indicate graphitization: When applying intensive heat treatment process (hereafter "graphitization treatment") at around 3,000 degrees Celsius to carbonized polyvinyl chloride materials such as connector wire covers which were caught in a fire, depending on thermal history below the temperature of the fire (around 800 degrees Celsius), the latent structural differences of primary and secondary trace crystals are actualized. The investigation was undertaken as reference data (data to be used for identification) was required to put the method to practical use.	 The investigation confirmed the following: (1) Validity of Raman spectroscopic measurement data which is effective for micro samples. Then, acquired reference data (reference data to be used for identification) and classification values to identify primary and secondary trace from Raman intensity ratio. (2) Carbonization process is highly effective at 2,600 degrees Celsius. (3) A study on preprocess conditions to remove materials which affect graphitization behavior confirmed that treatment with 20 percent dilute hydrochloric acid to remove calcium is effective. Physical removal was found to be effective for removing metallic impurities
Survey of efforts to prevent product accidents associated with improper use	In accident cases collected under the Accident Information Collection System, accident classification of "E: Accidents mainly due to misuse or negligence" constitutes a significant proportion of accidents for which causes were identified, with 35 percent in 2001, 35 percent in 2002 and 36 percent in 2003. In addition, accident trend analyses conducted by NITE found that the ratio was particularly high among elderly consumers, and further, the accidents resulted in death at a high rate. In view of the situation of the	 Following information was collected: (1) Companies' views of improper use and negligence. (2) Information collection systems for data related to user's claims and inquiries on accidents due to improper use and negligence. (3) Availability of preventive

nation's rapidly aging society, 100 domestic	measures (risk
companies were interviewed to select effective	
· · ·	e ,
measures which were already put in practice.	to counter improper use
The information was organized and analyzed	and negligence at the time
to help prevent accidents due to improper use	of product planning and
and negligence.	designing.
	(4) According to an
	investigation into the
	information on improper
	use and negligence which
	companies need to know, it
	is most important for
	product manufacturers to
	have a firm philosophy of
	"accident prevention."
	The investigation revealed
	the actual status of
	companies' specific efforts
	for accident prevention.
	The information will be
	summarized in the
	"Handbook for Prevention
	of Accidents Arising from
	Improper Use or Human
	Error" to help prevent the
	accidents.
	accidents.

4. Analysis of the Investigation Results and Accident Trends

I. Analysis of the investigation results

The investigation results are analyzed and evaluated from a technical perspective by "Accident cause analysis working groups (Technology groups)". The results, together with the investigation results by NITE, are to be reviewed by the "Accident Trend Committee" for the final results.

(1) Accident Trend Committee

NITE has established the "Accident Trend Committee" comprised of academic experts and consumer groups to conduct fair and impartial examinations of the investigation results.

After investigating accident causes and preventive measures, the Committee implements comprehensive discussion and analysis of the accident trend based on the technical analysis and evaluation conducted by Technology groups.

(2) Accident cause engineering analysis working groups (Technology groups)

Accidents are investigated, technically analyzed and evaluated by the following four "Accident cause analysis working groups" composed of third parties such as academic experts and intellectuals, offering suggestions from the viewpoint of expertise.

Technology groups are also established for accidents caused by misuse of products, to analyze and evaluate products and their safe operation.

Technology groups	Job descriptions	
Electrical Engineering	Accident analysis and evaluation of investigation results/prevention measures for smoke emission and ignition accidents caused by electric appliances including TVs, air conditioners, refrigerators and domestic wiring. Advising on tests conducted by NITE and evaluating the results.	
Mechanical Engineering	Accident analysis and evaluation of investigation results/prevention measures for accidents caused by broken bicycles, fire accidents caused by combustion appliances such as kerosene heaters and bath boilers. Advising on tests conducted by NITE and evaluating the results.	
Chemicals/Physical Impediment	Accident analysis and evaluation of investigation results/prevention measures for accidents caused by personal items such as gas lighters, and skin lesions including allergies caused by chemicals contained in rubber gloves or clothes, etc. Evaluation of investigation results submitted by manufacturers and preventive measures. Advising on tests conducted by NITE and evaluating the results.	
Improper use	Analysis of "misuses and negligence" which led to accidents, and exploration of the current and modeled status of products. Advising on tests conducted by NITE.	

II. Results of Investigations in FY2003

The investigation results are analyzed and evaluated from a technical perspective by the "Accident cause analysis working groups (Technology groups)". The results, together with the investigation results by NITE, are to be reviewed by the "Accident Trend Committee" for the final results.

(1) Number of Accident Information Cases Categorized by Causes

The following chart shows the number of accidents reported in FY 2003 classified according to causes. In FY 2003, investigations and subsequent reviews by the "Accident Trend Committee" were completed for of 1,767 cases.

The investigations identified the causes for 565 cases out of 722 collected in FY2003 for which investigations had been completed in FY 2003; 255 cases accounted for "Accidents caused by products" and 310 cases accounted for "Accidents not caused by products."

Among "Accidents caused by products", about 89 percent, or 226 cases are considered to be caused by design, manufacturing error, or labeling problems, while the rest were presumed to be caused by problems with the products themselves or caused by performance degradation due to long term-use. Among "Accidents not caused by products", about 84 percent, or 261 cases accounted for "Accidents mainly due to misuse or negligence", while the rest, about 16 percent, were presumed to be caused by works/services by installation or repair agents or by natural phenomena such as lightning and high winds. Accident prevention measures are taken on all accidents considered to require preventive measures except for cases in which the manufacturer could not be identified due to fire damage, etc.

Category	2001	2002	2003	Total
Accidents caused by product	13	295	255	843
A :Accidents supposedly caused by problems	7	262	226	495

5	14	14	33
1	19	15	35
30	452	310	792
3	23	24	50
19	400	261	680
8	29	25	62
16	239	157	412
16	239	157	412
59	986	722	1,767
1,477	755	1,043	3,275
1,536	1,741	1,765	5,042
	1 30 30 3 19 8 16 16 59 1,477	1 19 30 452 3 23 19 400 8 29 16 239 59 986 1,477 755	1 19 15 1 19 15 30 452 310 3 23 24 19 400 261 8 29 25 16 239 157 59 986 722 1,477 755 1,043

(2) Number of Accident Information Cases Classified by Products

The table below shows accident causes classified by products for accident information cases collected in FY 2003. "Home electrical appliances" was the top cause. 197 cases accounted for "Accidents caused by products", while 50 cases are presumed to be "Accidents mainly due to misuse or negligence", which is about 25 percent of the former. The second largest cause is "Combustion appliances"; 8 cases accounted for "Accidents caused by products," while 158 cases accounted for "Accidents mainly due to misuse or negligence", which is about 25 percent of the former. The second largest cause is "Combustion appliances"; 8 cases accounted for "Accidents caused by products," while 158 cases accounted for "Accidents mainly due to misuse or negligence", which represent about a twenty-fold increase from the former.

In other categories, the numbers of "Accidents mainly due to misuse or negligence" and "Accidents caused by products" are almost the same with 53 cases and 50 cases respectively.

The results of investigations on accident causes showed that improving products is an effective means of promoting safety for "Home electrical appliances." Meanwhile, results also indicate that educating consumers and promoting consumer awareness are beneficial to the prevention of accidents caused by misuse or negligence.

Type of accident cause		Cause	ed by p	roduct		Not cau	sed by	v product	Unidentified	
	A	B	C	subtotal	D	E	F	subtotal	G	Total
Product category										
(1) Home electrical appliances	180	8	9	197	4	50	12	66	65	328
(2) Combustion	3	0	5	8	16	158	5	179	27	214

appliances										
(3) Vehicle/Vehicle related products	9	4	0	13	4	17	4	25	34	72
(4)Personal products	16	1	0	17	0	13	1	14	18	49
(5) Furniture and home products	6	0	0	6	0	8	2	10	4	20
(6) Health and sanitary products	6	0	0	6	0	6	0	6	1	13
(7)Leisure products	2	0	1	3	0	6	1	7	3	13
(8)Kitchen and table appliances	2	0	0	2	0	0	0	0	2	4
(9)Baby products	1	1	0	2	0	2	0	2	3	7
(10) Textile products	1	0	0	1	0	1	0	1	0	2
Total	226	14	15	255	24	261	25	310	157	722

Note: The chart is an intermediate statistic on 722 of the 1,765 cases collected in FY 2003 which has completed the investigation.

(Categories by cause of accident)

- A: Problems of design, manufacturing process, labeling, etc.
- B: Defective products, and affected by use conditions
- C: Performance degradation due to extended periods after manufacturing and long duration of operation
- D: Improper installation, repair work, handling during transportation, etc.
- E: Misuse or negligence
- F: Other accidents not caused by products
- G: Unidentified

(3) Injuries and Damages

The chart shows the extent of damage classified by accident causes.

41 cases among "Accidents caused by products" involved bodily injuries (fatalities or severe and minor injuries). No fatalities were reported. Among the group, there were 168 cases involving property damage (damage extending beyond product or product breakage).

132 cases of "Accidents not caused by products" involved bodily injuries, while 148 cases only involved property damage.

Among "Accidents caused by products", there were 2 cases associated with nursing beds due to malfunctions that caused the back bottom and knee bottom sections to rise to the maximum angles, resulting in injuries including a fractured thigh.

Another case involved injuries sustained by falling from a bicycle due to a brake failure on the downhill, and the other involved injuries caused by a sprayer; the pump cap suddenly popped out from the product, which resulted in the user sustaining facial contusions. Among the bodily injury cases of "Accidents mainly due to misuse or negligence", there were 24 fatalities and 12 serious injuries. The accidents include a fire fatality caused by the unclosed combustion cylinder of a kerosene heater, electrocution caused by contacting an overhead power line with a carbon fishing rod when crossing a railroad crossing, and a serious injury caused by using a

hot-water bottle, resulting in low temperature burns.

Type of accident cause		Cause	ed by p	roduct		Not cau	ised by	v product	Unidentified	
Damage	A	В	С	subtotal	D	E	F	subtotal	G	Total
Death	0	0	0	0	0	24	3	27	14	41
Serious injury	4	0	0	4	0	12	4	16	11	31
Minor injury	35	0	2	37	3	80	6	89	25	151
Extended damage	150	9	9	168	13	125	10	148	70	386
Product breakage	32	4	3	39	6	18	2	26	35	100
No damage	5	1	1	7	2	2	0	4	2	13
Total	226	14	15	255	24	261	25	310	157	722

Note: The chart is an intermediate statistic on 722 of the 1765 cases collected in FY 2003 which has completed the investigation.

(Categories by cause of accident)

A: Problems of design, manufacturing process, labeling, etc.

- B: Defective products, and affected by use conditions
- C: Performance degradation due to extended periods after manufacturing and long duration of operation
- D: Improper installation, repair work, handling during transportation, etc.

E: Misuse or negligence

F: Other accidents not caused by products

G: Unidentified

(4) **Preventive measures**

The table below shows the number of preventive measures taken for "Accidents caused by products", for which investigations were completed in 2003.

Among 563 cases of "Accidents caused by products", preventive measures have been taken on 529 cases or about 94 percent, by manufacturers.

The remaining 6 percent consists of cases for which measures could not be implemented because manufacturers, etc, could not be identified due to fire damage, etc, and incidents caused by deteriorated products now rarely seen in the market for which no other accident information has been collected. For 355 of the cases for which preventive measures have been taken, a total of 51 manufacturers placed company announcements in newspapers and/or on their websites and conducted recalls or replacement programs.

Other accidents are supposedly due to incidental defects, problems of labeling or improper use, therefore, the relevant manufacturers have taken preventive measures such as promoting consumer awareness by direct mail or through their websites, improving manufacturing process, enhancing quality control or improving instruction manuals and labeling.

Information	Investigation	Caused by products	Preventive	Individual
collected in	competed in	Caused by products	measures taken	measure only/no

	FY2003			measures are taken
FY2001	59	13	12	1
FY2002	986	295	276	19
FY2003	*722	255	241	14
TOTAL	1,767	563	529	34

*Note: The numbers are based on the intermediate statistic of 722 cases among 1,765 cases reported in 2003, for which investigations were completed in 2003.

IV. Accident Trend in FY2003

(1) Changes in Numbers of Accident Information Collection

The number of accident information cases collected by NITE in the last three years were; 1,536 in 2001, 1,741 in 2002 and 1,765 in 2003. (Based on data compiled as of May 31, 2004. The numbers includes cases under investigation.)

(2) Changes in Accident Causes

Among accidents cases collected and investigated by NITE, "Accidents caused by products" accounted for about 30 percent in 2001, about 32 percent in 2002 and about 31 percent in 2003.

"Accidents not caused by products" accounted for about 42 percent, 40 percent and 43 percent respectively. Of these, "Accidents mainly due to misuse or negligence" accounted for 35 percent in FY2001 and FY2002, and 36 percent in FY2003.

(3) Changes in products causing accidents over the last three years

The following table indicates the top ten items causing accidents reported in the last three years from FY2001to FY2003.

According to the chart, DC (direct current) power supply equipment, including battery chargers for electric shavers, was the top cause of accidents from FY 2001 to FY 2003.

The reason is that smoke and ignition accidents frequently occurred with products of a specific manufacturer. Company announcements regarding the case have been issued five times in the past. The products are still under recall. The number of collected cases associated with DC power supply equipment has been on a declining trend since the first accident occurred in 2000; there were 218 cases in FY 2001, 256 cases in FY 2002 and 164 cases in 2003.

The number of accident information cases related to "Gas cooking stoves" has ranked in the top ten for the last three years. The number has been on an upward trend, ranking sixth with 57 cases in 2001. However there were183 cases in 2003, making it a top cause.

Most fire accidents involved "Gas cooking ranges" and were caused by negligence, such as fires caused by leaving deep fryer pans containing oil or built-in fish grills unattended. "Kerosene heaters" typically have a high number of reported accident cases, ranking second in FY 2001 and FY 2002 with 186 and 174 cases respectively, and ranking third with 142 cases in FY2003.

"Kerosene heater" accidents are highly likely to lead serious incidents such as fires. According to NITE investigations, the majority of the cases are caused by misuse or negligence; there are many cases presumed to be caused by laundry dropping onto stoves and catching fire, and in other cases, fires presumed to have been caused by kerosene leaking from cartridge tanks which were not insufficiently capped. Many accidents information cases concerning "Four wheel vehicles" are collected every year; ranking third with 121 cases in FY2001 and fourth in FY 2002 and FY 2003 with 131 and 97 cases respectively. Many of them are related to vehicle fire. Fire origins cannot be identified in many cases because of significant fire damage. There were also accidents presumed to involve oil leaks, gasoline leaks, short-circuits in electric wirings and misplacing of flammable materials after repairs.

The number of collected accident information cases related to "Disposable cigarette lighters" fluctuated and ranged between fifth and sixth on the list with about 40 to 60 cases. The majority of cases resulted in burn injuries, which were caused by big flames when igniting the lighter, or in other cases, lighters igniting in pockets and burning clothes, which resulted in burn injuries.

The number of collected accident information cases on "Electric heaters" has fluctuated ranging between fifth and seventh with about 50 to 100 cases from FY2001 and FY2003. Many of the accidents, as in the case of "Kerosene heaters", are "Accidents mainly due to misuse or negligence". The accidents include fires caused by laundry dropping onto heaters, and fire cases presumed to have been caused by bed-clothes contacting stoves when the user rolled over in bed while asleep. In FY2002, there were a growing number of reported cases related to electric heaters distributed by a specific manufacturer, involving defective components burning floors.

For "Color TV" related accidents, the number of cases ranked fourth with 67 cases in 2001 and tenth with 31 cases in 2002. This was due to two companies issuing company announcements in FY2001, announcing that "long term use may generate a crack on part of the substrate which could result in smoke and fire". The number dropped off the list in FY2003.

FY 2001 (Tota	l : 1,53	86)	FY 2002 (Te	otal : 1,74	41)	FY 2003 (Tota	al : 1,70	65)
Item	# of Cases	Ratio %	Item	# of Cases	Ratio %	Item	# of Cases	Ratio %
DC Power Supply Equipment	218	14.2	DC Power Supply Equipment	256	14.7	Gas Cooking Stov e	183	10.4
Kerosene heater	186	12.1	Kerosene heater	174	10.0	DC Power Supply Equipment	164	9.3
Four Wheel Vehicl e	121	7.9	Gas Cooking Stov e	133	7.7	Kerosene heater	142	8.0
Color TV	67	4.4	Four Wheel Vehicl e	131	7.5	Four Wheel Vehicl e	97	5.5
Disposable Cigarett e Lighter	62	4.0	Electric Heater	101	5.8	Electric Heater	53	3.0
Subtotal	654	42.6	Subtotal	795	45.7	Subtotal	639	36.2
Gas Cooking Stov e	57	3.7	Disposable Cigarett e Lighter	42	2.4	Disposable Cigarett e Lighter	49	2.8
Electric Heater	51	3.3	Air Conditioner	42	2.4	Bicycle	36	2.0
Kerosene Fan Heat er	27	1.8	Vacuum Cleaner (i ncluding self-charg ing unit)	42	2.4	Тоу	34	1.9

Air Conditioner	22	1.4	Interior Wiring	35	2.0	Interior Wiring	33	1.9
Humidifier	21	1.4	Color TV	31	1.8	Kerosene Fan Heat	32	1.8
						er		
Subtotal	178	11.6	Subtotal	192	11.0	Subtotal	184	10.4
Total	832	54.2	Total	987	56.7	Total	823	46.6

The table below indicates the top 5 items for "Accident causes classified by products" for accident information collected in FY2003. There have been frequent incidents concerning "DC power supply equipment" used for electric shavers due to improper design. The number of announced cases is particularly noticeable with a total number of 605. In other products, "Disposable cigarette lighters" have ranked fifth for the last three consecutive years. With the exception of "Disposable cigarette lighters" and "Bicycle", "Home electronic appliances" accounted for most of the top 5 items on the list.

FY 2001 (1,468 com	pleted	cases)	FY 2002 (1,587	completed	cases)	FY 2003 (722 con	mpleted	cases)
Item	# of Cases	Ratio %	Item	# of Cases	Ratio %	Item	# of Cases	Ratio %
DC Power Supply Equipment	214	14.6	DC Power Supply Equipment	255	16.0	DC Power Supply Equipment	136	18.8
Disposable Cigarette Lighter	28	1.9	Vacuum Cleaner	41	2.6	Disposable Cigarett e Lighter	13	1.8
Color TV	21	1.3	Electric Heater	36	1.6	Bicycle	9	1.3
Humidifier	19	1.4	Electric Foot War mer	26	2.3	Electric "Takoyak i" Cooker	9	1.3
Vacuum Cleaner	18	1.2	Disposable Cigarett e Lighter	14	0.9	Electric Heater	6	0.8
Total	300	20.4	Total	372	23.4	Total	173	24.0

The table below indicates the top 5 items for "Accidents mainly due to misuse or negligence." According to the table, "Kerosene heaters" and "Gas stoves" accounted for first and second on the list. "Electric heaters" and "Four wheel vehicles" are among the top 5 items. NITE has been drawing consumer and manufacturer attention to this state of affairs by providing information on its webpage and in the Collected Accident Information Reports.

In order to minimize "Accidents mainly due to misuse or negligence", manufacturers have been giving warnings and promoting consumer awareness in instruction manuals of kerosene heaters, and installing apparatus on gas cooking stoves to prevent fire due to overheating and failure to turn off. However, accidents continue to occur despite these efforts, which indicate that the education of consumers and the further promotion of consumer awareness are important and effective factors in the prevention of accidents caused by misuse or negligence.

FY 2001 (1,468 con	npleted	cases)	FY 2002 (1,587 c	completed	cases)	FY 2003 (722 con	npleted	cases)
Item	# of Cases	Ratio %	Item	# of Cases	Ratio %	Item	# of Cases	Ratio %
Kerosene heater	145	9.9	Kerosene heater	140	8.8	Gas Cooking Stove	136	18.8
Gas Cooking Stove	48	3.3	Gas Cooking Stove	111	7.0	Kerosene heater	13	1.8
Electric Heater	33	2.2	Electric heater	38	2.4	Bicycle	9	1.3
Four Wheel Vehicle	31	2.1	Four Wheel Vehicle	30	1.9	Electric "Takoyaki" Cooker	9	1.3
Kerosene Fan Heater	18	1.2	Firewood Bath Boil er	16	1.0	Disposable Cigarett e Lighter	6	0.8
Total	275	18.7	Total	335	21.1	Total	173	24.0

Accident Information "Special News" topics

No.59 Accidents with the side rails of an electric bed

A fatal accident occurred in which a user died of suffocation after the neck was entrapped between a side rail and the bed board of a bed with an electrically adjustable backrest. The accident occurred when the remote control automatically switched on to lift the backrest while the user's upper body was in-between the side rail, which was inserted on a side of the electric bed.

No.60 Accidents with "Hottoku Nabe (pot*)" sold before August 2000

With regards to accidents related to this product, NITE called for the attention of users in NITE Alerts No. 43 on September 25, 2001, followed by No.48 issued on December 26, 2001, providing information concerning the circumstances of the accidents and actions taken by concerned manufacturers in response to the accidents. However, we have recently received accident information for the first time on a product manufactured before August 2000 (purchased on October 1999), in which the inner pot incurred significant deformation during use resulting in the

lid blowing off and the contents flying out.

(*) Imported double structure pot (inner and outer pots welded together at the bottom and at the flanges) made of stainless steel. The pot has a structure with air space on the side of the pot to enhance heat retention.

No.61 FY2002 Results on Accident Information under the Accident Information Collection System

October 24, 2003, NITE released a report on product accident cases collected in FY 2002. The report was compiled based on the Accident Information Collection System adopted by NITE.

APPENDIX

			FY												
Product Classification	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1. Home and electric	164	172	150	152	151	171	344	314	332	303	268	637	686	838	676
appliances	(37.8)	(40.7)	(36.6)	(37.8)	(37.8)	(31.0)	(32.7)	(31.0)	(29.3)	(29.9)	(28.0)	(44.1)	(44.7)	(48.1)	(38.3)
2. Kitchen and table	18	11	17	19	14	15	44	31	40	22	18	37	17	16	23
3. Combustion appliances	45	69	89	81	63	109	215	253	347	332	356	306	426	518	631
	(10.4)	(16.3)	(21.7)	(20.1)	(15.8)	(19.7)	(20.5)	(25.0)	(30.7)	(32.7)	(37.2)	(21.2)	(27.7)	(29.8)	(35.8)
4. Furniture and home	40	29	20	31	20	40	64	63	47	31	27	29	60	55	70
products	(9.2)	(6.9)	(4.9)	(7.7)	(5.0)	(7.2)	(6.1)	(6.2)	(4.2)	(3.1)	(2.8)	(2.0)	(3.9)	(3.2)	(4.0)
5. Vehicle/Vehicle related	54	30	33	32	56	75	145	167	169	167	165	175	178	183	164
products	(12.4)	(7.1)	(8.0)	(8.0)	(14.0)	(13.6)	(13.8)	(16.5)	(14.9)	(16.5)	(17.3)	(12.1)	(11.6)	(10.5)	(9.3)
6. Personal products	34	51	48	32	42	70	95	65	69	59	50	98	95	79	87
	(7.8)	(12.1)	(11.7)	(8.0)	(10.5)	(12.7)	(9.0)	(6.4)	(6.1)	(5.8)	(5.2)	(6.8)	(6.2)	(4.5)	(4.9)
Health and sanitary	17	15	9	14	8	20	22	24	40	24	20	57	34	11	24
products	(3.9)	(3.5)	(2.2)	(3.5)	(2.0)	(3.6)	(2.1)	(2.4)	(3.5)	(2.4)	(2.1)	(3.9)	(27.0)	(0.6)	(1.4)
8. Leisure products	29	26	16	17	20	20	62	38	48	36	28	36	27	23	35
	(6.7)	(6.1)	(3.9)	(4.2)	(5.0)	(3.6)	(5.9)	(3.8)	(4.2)	(3.5)	(2.9)	(2.5)	(1.8)	(1.3)	(2.0)
9. Baby products	18	9	12	11	10	18	19	18	14	11	10	27	8	10	49
	(4.1)	(2.1)	(2.9)	(2.7)	(2.5)	(3.3)	(1.8)	(1.8)	(1.2)	(1.1)	(1.0)	(1.9)	(0.5)	(0.6)	(2.8)
10. Textile products	7	9	12	8	11	9	22	26	15	8	10	17	5	7	5
	(1.6)	(2.1)	(2.9)	(2.0)	(2.8)	(1.6)	(2.1)	(2.6)	(1.3)	(0.8)	(1.0)	(1.2)	(0.3)	(0.4)	(0.3)
11. Others	8	2	4	5	5	5	19	14	11	22	4	25	0	1	1
	(1.8)	(0.5)	(1.0)	(1.2)	(1.3)	(0.9)	(1.8)	(1.4)	(1.0)	(2.2)	(0.4)	(1.7)	(0.0)	(0.1)	(0.1)
TOTAL	434	423	410	402	400	552	1051	1013	1132	1015	956	1444	1536	1741	1765
	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)	(100)

Appendix 1: Yearly Transition of Accident Notification Number

Notes:

1. Numbers shown in parentheses are percentage of respective product classifications in yearly accident notification number.

2. Year-on-year comparisons are not applicable for accident information collection was strengthened in 1994, and

Product Liability Law (PL Law) was put into effect in 1995.



														(unit:	cases)
		Damage		Acciden	t involvin	ig huma	1	damages							
Product # of Classification		Status	D	eath	Seriou	s injurie	s	Mino	[,] injuries		tended mages	Produ	ct breakage	No c	amages
FY	2003	2002 2001	2003	2002 2001	2003	2002 20	01	2003	2002 2001	2003	2002 20	01 2003	3 2002 2001	2003	2002 200
1 Home electrical appliances	676	838 686	38	26 24	10	7	5	60	104 62	455	563 4	₆₄ 109	133 128	4	5
2 Kitchen and table appliances	23	16 17	0	0 1	2	0	1	11	9 9	5	1	4	6 2	1	0
3 Combustion appliances	631	518 426	77	55 61	35	18	17	161	128 111	312	269 2	22 30	32 12	16	16
4 Furniture/home products	70	55 60	10	97	10	13	21	18	14 20	18	1	7 13	65	1	1
5 Vehicles/vehicle related products	164	183 178	19	17 17	14	17	15	26	18 19	16	12	18 87	, 109 108	2	3
6 Personal products	87	79 95	6	4 1	8	14	6	47	38 59	15	19	21 7	, 47	4	2
7 Health and sanitary products	24	11 34	0	0 0	2	0	0	16	6 23	6	17	4 0	0 7	0	0
8 Leisure products	35	23 27	8	34	9	7	4	10	9 13	3	5	1 5	0 5	0	2
9 Baby products	49	10 8	0	0 0	3	1	2	35	94	0	2	0 8	0 1	3	0
10 Textile products	5	75	0	1 0	1	0	0	3	4 5	0	0	0 1	0 0	0	2
11 Others	1	1 0	0	0 0	0	0	0	0	0 0	1	0	0 0	0 0	0	0
Total	1,765	1,741 ###	158	115 115	94	77	71	387	339 325	831	889 7	41 264	290 275	31	31

Appendix 2: Damage Status by Product Classifications

Notes:

1. Numbers shown are irrespective of product defects.

2. "Serious injuries" signifies those required one month or more for recovery.

3. "Extended damages" involve damages to more than the relevant products.

Appendix 3: Accident Causes by Product Classifications

Appendix 3: Ac	ciden	t Cause	es by	Produ	ICt Cla	assitic	at	ions																
																						(unit: cas	/	
Accident Cause Product	des manufa	ems of sign, acturing , labeling	produ affecte	ective cts, and d by use dition	degrae to e	ormance dation du xtended eriods	ie	insta repai	roper Ilation, r work, oortation		isuse gliger			er than ducts		Unid	entified	Inve	ubtotal) estigation mpleted	Under Ir	ivestigation	T	OTAL	
	2003	2002 2001	2003	2002 200	2003	2002 20	01	2003	2002 200	200	3 200	2 2001	2003	2002 2	001	2003	2002 2001	2003	2002 2001	2003	2002 2001	2003	2002	2001
1 Home electrical appliances	180	419 336	8	11 1 [.]	9	26	20	4	12 1	50) ₁₀₄	4 99	12	22	24	65	170 160	328	764 660	348	74 26	676	838	686
2 Kitchen and table appliances	2	54	0	2 (0	0	0	0	0)	4 1	0	1	3	2	0 1	4	12 9	19	4 8	23	16	17
3 Combustion appliances	3	12 8	0	2 (5	6	4	16	13 1	158	3 ₃₅₄	4 300	5	8	8	27	75 73	214	470 409	417	48 17	631	518	426
4 Furniture/home products	6	17 8	0	2 3	0	0	1	0	3	2 8	3 ₁₀	6 30	2	2	2	4	11 8	20	51 54	50	4 6	70	55	60
5 Vehicles/vehicle related products	9	13 28	4	0	0	6	1	4	7 1	17	42	2 43	4	5	6	34	93 79	72	166 169	92	17 9	164	183	178
6 Personal products	16	22 32	1	2 2	2 0	1	0	0	0	13	3 18	B 19	1	4	13	18	29 29	49	76 95	38	3 0	87	79	95
7 Health and sanitary products	6	0 12	0	0 (0	0	0	0	0	. 6) ;	76	0	0	11	1	3 4	13	10 33	11	1 1	24	11	34
8 Leisure products	2	5 1	0	2 4	1	0	0	0	1	. 6	5	9 10	0	1	2	3	3 9	13	21 26	22	2 1	35	29	27
9 Baby products	1	4 4	1	0 (0	0	0	0	1		2.	1 2	1	0	0	3	3 2	7	9 8	42	1 0	49	10	8
10 Textile products	1	3 1	0	0 (0 0	0	0	0	0) 1	Ι.	1 0	0	1	1	0	2 3	2	7 5	3	0 0	5	7	5
11 Others	0	0 0	0	0 (0	0	0	0	0)	1 0	0	0	0	0	0 0	0	1 0	1	0 0	1	1	0
Total	226	500 434	14	21 2'	15	39	26	24	37 3	261	55	7 510	25	44	70	157	389 368	722	1,587 ####	1,043	154 68	1,765	1,747	1,536

Appendix 4: Damage status by Accident Cause

											(unit: cases)
Pr	Accident Cause	Problems of design, manufacturing process, labeling	Defective products, and affected by use condition	Performance degradation due to extended periods	Improper installation, repair work, transportation	Misuse or negligence	Other than products	Unidentified	(Subtotal) Completed case	Under investigation	Total
		2003 2002 2001	2003 2002 2001	2003 2002 2001	2003 2002 2001	2003 2002 2001	2003 2002 2001	2003 2002 2001	2003 2002 2001	2003 2002 2001	2003 2002 2001
ages	1 Death	0 1 1	0 0 1	0 0 0	0 0 0	24 62 60	3 4 6	14 34 40	41 101 108	117	158 115 115
Accident involving human damages	2 Serious injuries	4 4	0 0 1	0 0 1	12 36 34	4 4 6	11 24 17	31 72 64	31 72 64	63 5 7	94 77 71
Accic hum	3 Minor injuries	35 64 75	0 2 7	2 6 3	3 7 8	80 145 124	6 5 32	25 72 59	151 303 308	236 36 17	387 339 325
volving ages	4 Extended damages	237 119 17	5 4 4	7 13 9	10 15 13	190 232 220	10 _{8 6}	120 114 87	386 827 715	445 62 26	831 889 741
Accident not involving human damages	5 Product breakage	82 259 58	2 2 3	9 21 4	13 12 6	31 43 38	5 4 1	76	100 255 264	164 35 11	264 290 275
Accide hum	6 No damages	2 5 6	0 3 2	0 0	1 1 2	3 2 4	0 0	0 2 4	13 _{29 9}	18 2 0	31 31 9
	Total	360 452 161	7 11 18	18 40 17	39 71 63	332 488 452	35 45 62	266 408 331	722 #### ####	1,043 154 68	1,765 1,741 1,536
Note	S:										

1. "Serious injuries" signifies those required one month or more for recovery.

2. "Extended damages" involve damages to more than the relevant products

Product Classification # of	Preventiv Measure cases(*1)	es taken	produc condu	eplace :t/parts, or uct safety heck	manu	continue facturing, or import	pr manu proce	aprove oduct, ifacturing ss or/and ty control	or/and	ve labeling instruction ianual	by go o	consumers vernment r/and lfacturers	mea com for o p	dividual sures incl. pensation damages, roduct lacement etc.	Т	otal
FY	2003	2002 2001	2003	2002 2001	2003	2002 2001	2003	2002 2001	2003	2002 2001	2003	2002 2001	2003	2002 2001	2003	2002 2001
1 Home electrical appliances	191	439 350	166	396 311	1	4 18	180	422 292	1	2 7	171	372 267	181	378 334	700	1,574 1,229
2 Kitchen and table appliances	2	7 4	2	0 2	0	0 1	2	7 1	0	2 3	2	0 2	2	4 4	8	13 13
3 Combustion appliances	5	14 11	4	10 8	0	0 1	4	10 2	0	0 0	2	8 8	4	10 8	14	38 27
4 Furniture/home products	6	19 11	5	15 5	0	2 1	6	18 7	0	1 3	0	5 5	6	17 10	17	58 31
5 Vehicles/vehicle related products	13	14 27	12	7 15	0	2 1	10	7 17	1	2 1	8	6 11	13	11 19	44	35 64
6 Personal products	16	25 34	1	6 2	1	3 2	14	21 32	0	3 1	1	3 4	15	22 29	32	58 70
7 Health and sanitary products	6	0 12	5	0 9	0	0 0	6	0 10	0	0 2	5	0 9	2	0 11	18	0 41
8 Leisure products	2	7 5	0	2 0	0	0 0	2	5 2	0	1 4	0	2 0	1	4 2	3	14 8
9 Baby products	2	4 4	0	1 1	0	1 1	1	3 4	0	1 0	1	1 0	2	3 2	4	10 8
10 Textile products	1	3 1	0	2 0	0	0 0	1	2 1	1	0 0	0	2 0	1	2 1	3	8 2
11 Others	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0
Total	244	532 459	195	439 353	2	12 25	226	495 368	3	12 21	190	399 306	227	451 420	843	1,808 1,493

Appendix 5: Preventive Measures by Product Classifications (Accidents Caused by Product)

Notes:

(*1) Number of cases preventive measures were taken.

When multiple measures were taken, each measure was counted respectively.

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