



NITE Annual Report on Product Safety (FY2004)

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

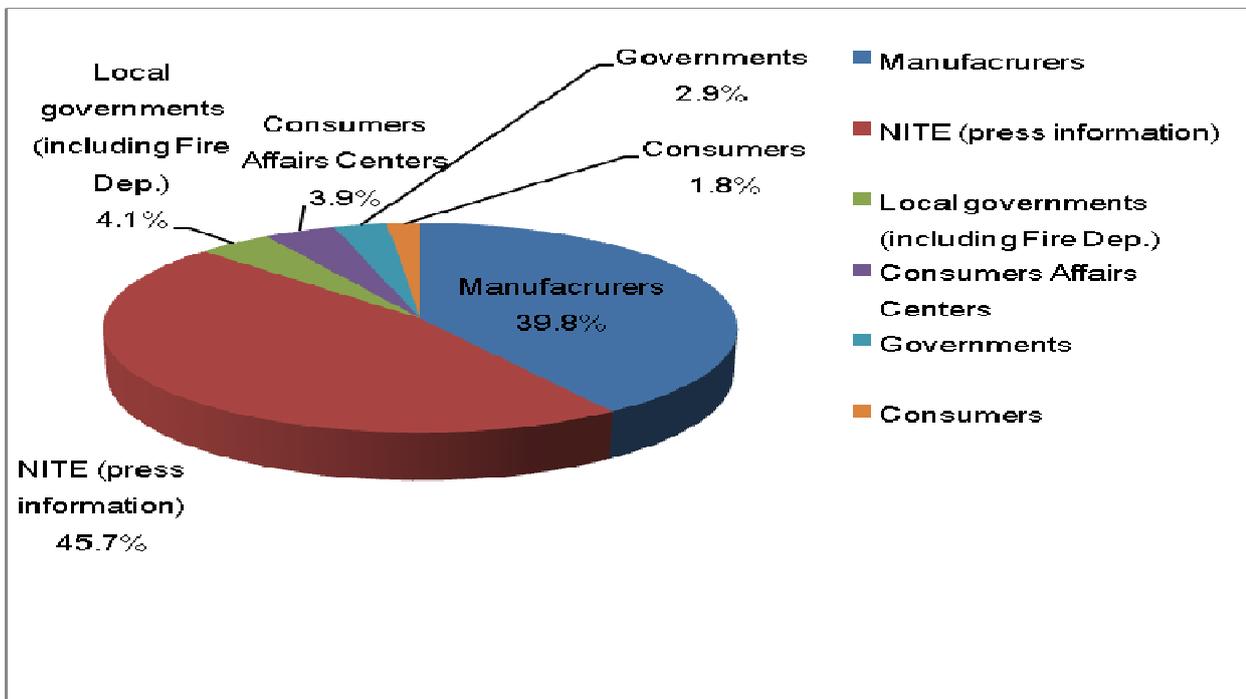
2. Accident Information Collection System and number of collected information cases

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 by information source in FY2004.

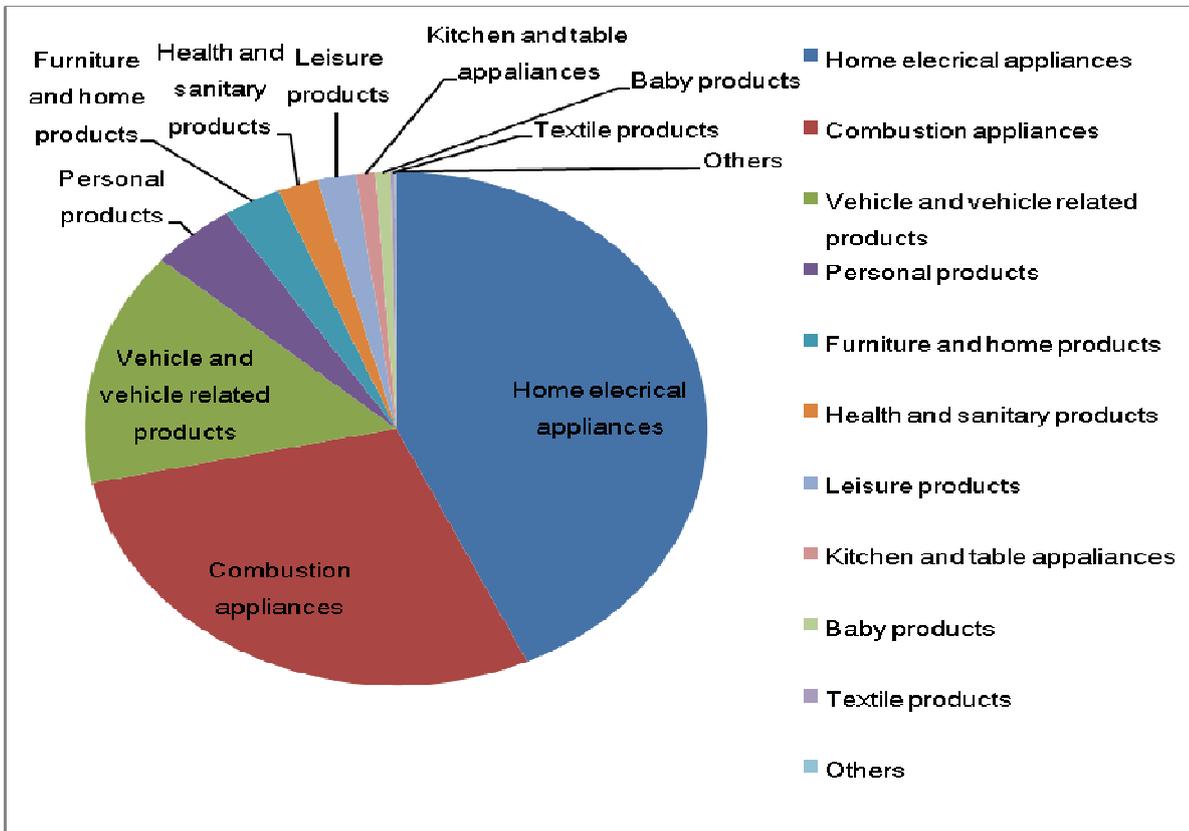
Information Source	Number of accidents	Ratio (year on year)
Manufacturers	1,084	39.8%
Local governments (including Fire Department)	111	4.1%
Consumer affairs centers	105	3.9%
National institutions	80	2.9%
Consumers	49	1.8%
Others	49	1.8%
Subtotal	1,478	54.3%
Press monitoring	1,243	45.7%
Total	2,721	100.0%

Note: Multiple newspaper information on the same incident is counted as one incident.



The net number of accidents was 2,378 as of May 30, 2005, when duplications and unrelated information are excluded. The breakdown of the accident information by product category is shown below. Serious accidents were caused mainly by “Home electrical appliances” (43.1%), followed by “Combustion appliances” (28.5%) and “Vehicle/vehicle related products” (14.8%). There has been no significant change in this trend since FY2000 when reports from manufacturers started to increase.

	Product classification	Number of accidents	Ratio (year on year)
1	Home electrical appliances	1,024	43.1%
2	Combustion appliances	678	28.5%
3	Vehicle and vehicle related products	352	14.8%
4	Personal products	104	4.4%
5	Furniture and home products	72	3.0%
6	Health and sanitary products	50	2.1%
7	Leisure products	48	2.0%
8	Kitchen and table appliances	24	1.0%
9	Baby products	19	0.8%
10	Textile products	6	0.2%
11	Others	1	0.1%
	Total	2,378	100%



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 addition, on-site investigations are proactively implemented into the causes for accidents with the possibility of frequent occurrence, and accidents related to the violation of technical standards among serious accidents that led to death, serious injury or fire.

In FY2004, NITE conducted on-site investigations for 39 cases including fire accidents involving refrigerators and kerosene water heaters.

NITE investigations also confirmed products which supposedly caused accidents in 190 cases, such as electric heaters with burst heating pipes, a hair iron with overheated handles and a tricycle which fell over due to a push-bar breakage.

Once manufacturer and model are identified through investigations, NITE forwards accident information to the manufacturer, and instructs these manufacturers to submit a report on the cause of the accident and preventive measures.

The following chart shows the status of investigations conducted by NITE in FY2004 as of May 30, 2005.

On-site investigation / Accidental product	Conducted on-site investigation	39 cases
	Obtained the actual product which had caused accident	190 cases
Manufacturer of product	Identified by report from manufacturer	962 cases
	Identified through investigation by NITE	490 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.

The following chart shows some examples of investigations conducted by NITE in FY2004, which includes; an electric-powered wheelchair accident in which a user fell over with the seat and broke the left wrist, another wheelchair related accident in which a user fell over on a slope due to a failure to stop by releasing the accelerator, and a fire accident which broke out from an electric refrigerator placed in a children’s play space in a store. In addition, investigations were implemented for frequent accident cases such as; bursting glass heater pipes of electric heaters (halogen heaters); a dishwasher generating heat and igniting; and a bicycle frame head which broke while the user was riding the bicycle.

Name of product	Investigation outline	Remedies
Coating material <Frequent case>	<p>An incident was reported in which a garbage bag containing fabric used for wiping off coating material ignited and burned the interior wall. The fabric was discarded in the garbage bag after being used for wiping down the exterior wall of a wooden house.</p> <p>The causes of accidents have been deduced as follows: The coating material is mainly composed of vegetable oil with high unsaturated fatty acid content, which dries by oxidation. Because the coating material was wiped off with a cloth, oxidation was promoted on the large surface area exposed to the air. In addition, when the cloth was placed in the garbage bag, the heat from oxidation accumulated, resulting in spontaneous-ignition.</p>	<p>The importer did not take any action attributing the accident to the consumer’s negligence. The warning label attached to the product indicated the spontaneous-ignition hazard and how to dispose of the material used for wiping off the paint.</p> <p>However, NITE called for consumer attention to the incident in a NITE Alert issued on February 18, 2005 in response to an accident reported in November 2004, which appeared to be a similar spontaneous-ignition case.</p>
Snow blower <Frequent case>	<p>An incident was reported in which a man died during operation of a snow blower. The user died of traumatic shock after being caught in the blades of the snow blower.</p> <p>The cause of the accident was deduced to be the victim being accidentally caught in the rotary blades.</p>	<p>No action was taken as the accident cause was attributed to the consumer’s negligence. The snow blower is equipped with an emergency stop switch to put on the operator’s clothes to stop the engine when the operator leaves the operational panel. The product displays instructions with warnings including messages such as:</p> <p>“Always be sure to disengage the clutch to stop the engine and wait until all parts have completely stopped rotating whenever leaving the operation panel to unclog snow. Do not approach the auger during operation.”</p> <p>However, NITE placed a reminder</p>

		in a NITE Alert issued on February 18, 2005 due to the rising number of reported accidents involving snow blowers. 10 cases were reported in two months during the period from December 2004 to January 2005.
Handle bar type 4-wheel drive electric- powered wheelchair (self operated model) <Serious case>	<p>An accident was reported that a user fell over from the wheelchair with its seat, which resulted in left wrist fracture.</p> <p>The cause of the accident was deduced as follows: Welding locations on the fulcrum shaft were supposed to be fillet welded by sticking out the pipes 5 millimeters from the seat support. However, the seat support and the pipe edges were welded on the same surface without extending the pipes, which caused the seat detachment due to a lack of strength.</p>	The manufacturer placed a company announcement in newspapers as well as on their website on June 9, 2004. Free replacements and safety inspections were provided. The manufacturing process was reviewed and confirmation of welding location was added to the checking process in order to strengthen quality control.
Handle bar type 4-wheel drive electric- powered wheelchair (self operated model) <Serious case>	<p>An accident was reported in which a user and wheelchair fell over while traveling down a downhill slope. When the speed on the slope increased, the user released the accelerator, but the wheelchair failed to stop.</p> <p>The investigation deduced that the accident was caused by broken pinion bolts. The bolts became loose and broke by subsequent use of the wheelchair, which cause the gears to wear, resulting in drive power and brake power failures.</p>	The manufacturer placed company announcements in newspaper on June 11, 2004, offering free inspections. They are making efforts to improve the manufacturing process as well as to fortify the quality control by outsourcing production from September 2001.
Electric cooling and heating cabinet <Serious case>	<p>An accident was reported in which an electric cooling/heating cabinet burned in a children's play space in the store where it was located. The fire spread to adjacent cardboard boxes and toy vending machines, but was extinguished by the store's sprinkler system which was triggered when the fire started.</p> <p>The investigation found that the product did not comply with technical standards specified by the Electrical Appliance and Material Safety Law. It was deduced that the fire was caused by a tracking phenomenon which occurred as dust accumulated on a PCB with insufficient spacing between live parts with different polarities.</p>	The manufacturer placed a company announcement in newspapers on April 20, 2004 and recalled the products. NITE, however, placed a reminder in the NITE Alert issued on September 15, 2005 as the recall had been discontinued after the dissolution of the manufacturer after they filed for civil rehabilitation proceedings.
Electric heater (halogen heater) <Frequent	There were a total of 16 reports, with one incident involving a rupture of the glass heating tube one week after purchasing of the product.	The manufacturer discontinued import and sale of the products. They also placed a company announcement in newspapers and on their website

case>	Distortions from the molding process remained in the curved sections of the glass heater tube, while defective welding of the filament and molybdenum foil at the ends of the tube created a poor contact which generated heat and caused the molybdenum foil to expand. The investigation deduced that the combination of these factors caused the tube to crack at the sealed ends, while the inner gas pressure ruptured the tube.	announcing the product withdrawal and exchange on October 13, 2004.
Electric heater (Halogen heater) <Frequent case>	An accident was reported in which an upper cover component of the halogen heater became hot and emitted smoke while in use at "low" setting. The investigation deduced that there was a defect on the diode for low-output switching, which caused the diode in the upper cover of the unit to generate heat and produce smoke.	The manufacturer placed a company announcement on its website as well as in newspapers on August 26. In addition, they requested the suppliers to send written notice to the consumers to inform them of free inspections or exchange of the products. They also revised the diode component to raise reliability, and placed a thermal fuse adjacent to the diode as a safety measure.
Built-in dishwasher <Frequent case>	An accident was reported in which a dishwasher caught fire while residents were asleep. The owner set the dishwasher timer for one hour and went to bed. The fire was extinguished by residents who discovered the fire when the home security system activated. The investigation deduced that the product generated the heat and ignited due to a contact failure caused by the loosening of a connecting terminal at the door switch.	The manufacturer placed a company announcement in newspapers and on its website on November 1, 2004, announcing a free inspection and repair.
Bicycle <Frequent case>	A minor injury was reported. The right crank of the bicycle broke while in use and the rider toppled over. The investigation found that the strength of the crank was not uniform, and deduced that the accident was caused by the low strength of the crank.	The manufacturer discontinued product manufacturing. In addition, they placed a company announcement in newspapers on August 3, announcing an inspection and free exchange/repair of the crank.
Foldable bicycle <Frequent case>	An accident was reported in which the bicycle frame suddenly broke while riding, causing an injury to the knee. The investigation deduced that the frame broke due to disconnection of the folding part and the main pipe which was caused by poor	The manufacturer placed a company announcement on its webpage as well as in newspapers on May 28, announcing a product exchange. Additionally, the production plant had been switched to one with intensive manufacturing controls, and

	penetration of the fillet weld.	the inspection of imported products has been fortified.
Bicycle <Frequent case>	<p>An accident was reported in which the bicycle frame head broke, and that the user sustained facial injuries and a broken pair of glasses.</p> <p>The investigation deduced that the continuous use of the bicycle resulted in the frame breakage. The frame is less deformable so it is difficult to notice any cracks caused by excessive impact. The instruction manual states “DO not continue riding the bicycle after crashing or falling over. It is advised that you check with your retailer for inspection and maintenance.” However, the instruction did not make clear the point of undergoing the inspection even if there was no visible defect on the product.</p>	<p>The manufacturer placed a company announcement on its website as well as in newspapers on July 2, 2004, announcing free inspection and treatment.</p>

III. Investigation on products

NITE looks into all collected accident information and conducts accident information processing tests or market monitoring tests to identify the causes when these accidents; require clarification of the cause of accidents; have uncertain origins; or have a high probability of frequent occurrence.

Also, NITE has been attempting to establish an appropriate environment to expedite investigations by implementing tests to develop techniques for identifying causes of accidents when such methods have not been developed or the necessary basic data is not fully available.

The test results are distributed to information providers, related government institutions and industry organizations. NITE utilizes the results of investigations for technical development, and offers these techniques to related testing organizations.

Examples of product safety tests performed in FY2004 are shown below:

Test case	Outline of accident and test objectives	Test results and remedies
Thermal bottle whose inner bottle burst out	<p>Three accidents were reported;</p> <p>(1) A thermal bottle on the table, filled with hot water, made a loud noise and burst at the bottom part releasing hot water and broken glass from the inner bottle. (2) While pouring hot water into a thermal bottle placed on the desk, the inner bottle suddenly broke splashing water over the table and a PC monitor, causing the monitor to breakdown. (3) The inner bottle suddenly broke after pouring hot water in.</p> <p>These circumstances indicate that the inner bottles presumably broke because of thermal shock when pouring hot water in. To determine the cause of bottle breakage, rapid cooling and heating tests were conducted under probable actual use conditions in addition to verifying</p>	<p>(1) Strain, thermal expansion coefficient and material of inner bottle</p> <p>The accident product (pieces of broken inner bottle) and inner bottle openings of equivalent products showed significant interference color. Also, its expansion coefficient and material did not comply with the Japanese Industrial Standards.</p> <p>(2) Use Test (Thermal shock capability test)</p> <p>Quench tests, pouring over two liters of chilled water of $5\pm 1^{\circ}\text{C}$ into the sample thermal bottles placed in a hot ambient environment, were conducted ten times repeatedly for respective products.</p> <p>Rapid heating tests were also conducted, pouring boiling water into the samples placed in a cold ambient environment, also ten times. Both tests</p>

	<p>thermal shock capability including strain, thermal expansion coefficient and material of the inner bottle.</p>	<p>revealed no defects with the inner bottles of five equivalent products.</p> <p>Given the above results, the cause of the accidents was deduced as follows. Since the inner bottles of the accident and equivalent products had greater thermal expansion coefficients than those set by JIS and of similar products, they supposedly had inferior qualities in thermal shock resistance. However, since no such breakage recurred through the capability tests, it is inferred that the inner bottle was presumably damaged at some stage, and the accidents were triggered by the thermal impact.</p> <p>In addition, the test revealed that the product had an improper quality labeling. NITE provided the information to METI who then took administrative measures.</p>
<p>Burnt out dish dryer</p>	<p>A fire broke out at a kitchen, while a user was out after setting the timer of a dish dryer for 1 hour operation. The fire resulted in damage to about 9 square meters of a 48 square meters residence.</p> <p>The burnt out interior and melting trace were analyzed after removing resins stuck to the accidental product. Reproduction tests were also conducted with equivalent products, along with tests to confirm safety device operation, to identify the cause of the dishwasher fire.</p>	<p>According to investigations, alterations were made intentionally to short-circuit thermal fuses and over-heating prevention devices.</p> <p>A reproduction test was conducted with a similarly altered product with its inlet and vent blocked, which resulted in ignition from the inner hot-air cover.</p> <p>Thus, the accident cause is presumed as follows: the heater was extremely overheated due to the significant reduced air volume caused by the accumulated dust in its inlet and vent at the bottom. In addition, the over-heating prevention device was altered and disabled, which led to the ignition.</p> <p>The result also revealed that the over – heating prevention device would have activated properly and lowered the possibility of ignition even in the case of overheating due to reduced air volume etc, if the alteration has not been made.</p>
<p>Rechargeable stick vacuum cleaner which stained a part of a floor</p>	<p>While re-charging a stick vacuum cleaner, the base of the charger generated heat, which resulted in the discoloration of a part of the floor.</p> <p>A reproduction test was implemented to investigate the cause of the over-heating of the rechargeable stick cleaner. As respective thermal fuses (primary winding surface and secondary substrate of transformer) were operating properly, the reproduction test was conducted on the assumption that the battery had deteriorated with respective thermal fuses under short-circuit conditions.</p>	<p>The temperature of the bottom of the transformer rose to 188°C in the reproduction test with the accident battery and electric load, assuming battery deterioration; and the base of the charger melted down, which resulted in the discoloration of the wooden stand.</p> <p>The accident charger had presumably been in a high-temperature state for a prolonged period in the deterioration process, judging from the state of the components, including melted charger bottom, discolored transformer inside the charger and the amount of insulator material attached to wiring. In addition, due to transformer variations (errors of primary wiring diameter and thickness uniformity of insulating coating on wiring), the disconnection points along</p>

		the primary wiring and the time taken for disconnection to occur varies, which can result in exceptionally high temperatures in the primary wiring, which can potentially lead to smoke emission and ignition.
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(Investigation to develop techniques for identifying causes of accidents performed in FY2004)

Theme	Investigation objectives	Summary
Developing techniques for confirmation analysis adopting the Finite Element Method to identify the cause of bicycle breakage	<p>In FY2004, a 3-D CAD model of a folding bicycle that was the cause of frequent accident cause was created and applied analysis of the frame was conducted using the Finite Element Method to acquire and establish analysis conditions and stress distribution data, focusing on the areas around the joints where stresses concentrate, in order to establish an evaluation method for frame strength at time of accident.</p> <p>The investigation was implemented with the aim of establishing analysis techniques adopting the Finite Element Method effective for determining the accident cause, in conjunction with conformation analysis for welded bicycle frames implemented in FY2003.</p>	<p>For folding bicycles, the techniques for identifying accident cause were developed adopting the Finite Element Method. In addition to modeling and evaluating the stress distribution data obtained by static analysis and linear dynamic analysis, fatigue analysis was implemented utilizing the stress value obtained from linear dynamic analysis. The test confirmed the following; Finite Element method is applicable as the technique to identify the accident cause. (1) creation of a 3-D model (2) static analysis (3) dynamic analysis (4) fatigue analysis *subject to conditions</p>

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	<p>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.</p> <p>Advising on tests conducted by NITE and evaluating the results.</p>
Mechanical Engineering	<p>Accident analysis and evaluation of investigation results/prevention measures for accidents caused by broken bicycles, fire accidents caused by combustion appliances such as</p>

	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.
Misuse	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 FY2004

(1) Accident Information Classified According to Causes

The following chart shows the number of accidents reported in FY 2004 classified according to causes. In FY 2004, investigations and subsequent reviews by the Accident Trend Committee were completed for 2,112 cases. Among the cases, there were 99 cases from FY2002, 823 cases from FY2003 and 1,190 cases from FY 2004.

Investigations identified the causes for 939 cases out of 1,190 for which investigations were completed in FY 2004; 611 cases accounted for “Accidents caused by products” and 328 cases accounted for “Accidents not caused by products.”

Among “Accidents caused by products”, about 93 percent, or 566 cases were considered to be caused by design, manufacturing error, or labeling problems, while other cases 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 85 percent, or 279 cases accounted for “Accidents mainly due to misuse or negligence”, while about 15 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	2002	2003	2004	Total
Accidents caused by products	32	200	611	843
A : Accidents supposedly caused by problems of design, manufacturing process, labeling, etc.	28	178	566	772
B : Accidents supposedly caused by defective products, and affected by use conditions	1	11	21	33
C : Accidents supposedly caused by performance degradation due to extended periods after manufacturing and long duration of operation	3	11	24	38
Accidents not caused by products	36	427	328	791
D : Accidents supposedly caused by improper installation, repair work, handling during transportation, etc.	2	32	29	63
E : Accidents mainly due to misuse or negligence	34	365	279	678
F : Other accidents not caused by products	0	30	20	50

Accidents caused by unknown factors	31	196	251	478
G: Unidentified Cause	31	196	251	478
Subtotal	99	823	1,190	2,112

(2) Accident Information Classified by Products and Causes

The table below shows accident causes classified by products for accident information cases collected in FY 2004; “Home electrical appliances” was the top cause. 443 cases accounted for “Accidents caused by product.” In contrast, 35 cases are presumed to be “Accidents mainly due to misuse or negligence”, which is about 8 percent of the former.

The second largest is “Combustion appliances”; while 17 cases accounted for “Accidents caused by product.” 178 cases accounted for “Accidents mainly due to misuse or negligence”, about ten times the number of “Accidents caused by products.”

In other product categories, while 151 cases are presumed to be “Accidents caused by products” 66 cases accounted for “Accidents mainly due to misuse or negligence” which is about 44 percent compared with the number of “Accidents caused by product.”

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

Causes of accidents on product category basis regarding accident information collected in FY 2004 are shown in Table 11. As for the causes of accidents of “1 Home electric appliances” which collected most issues, “Accidents due to product” were 443 issues. On the contrary, accidents supposedly “due to improper use or carelessness” were 35 issues that were about 8% to “Accidents due to product”. The next most in the number of collected issues is “2 Burning appliances”. There were 17 issues of “accidents due to product”, however, accidents due to “improper use or carelessness” amount to 178 issues that was almost 10 times to the former.

From a view across the categories (3 to 10), there were 66 issues of “Accidents due to improper use or carelessness”, that is about 44% to the “accidents supposedly due to product” collected 151 issues.

Type of accident cause Product category	Caused by product				Not caused by products				Unidentified	Total
	A	B	C	subtotal	D	E	F	subtotal	G	
(1) Home electrical appliances	401	20	22	443	18	35	13	66	75	584
(2) Combustion appliances	15	0	2	17	7	178	2	187	26	230
(3) Vehicle / vehicle related products	79	0	0	79	3	30	2	35	124	238
(4) Personal products	43	0	0	43	0	14	0	14	16	73
(5) Leisure products	11	1	0	12	0	8	2	10	1	23
(6) Furniture / home products	4	0	0	4	1	5	0	6	1	11
(7) Baby products	8	0	0	8	0	1	1	2	1	11

(8)Kitchen and table appliances	3	0	0	3	0	2	0	2	4	9
(9)Health and sanitary products	0	0	0	0	0	6	0	6	2	8
(10) Textile products	2	0	0	2	0	0	0	0	1	3
Total	566	21	24	611	29	279	20	328	251	1,190

Note: The chart is an intermediate statistic on 1,190 of the 2,378 cases collected in FY 2004 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 Damage

The chart shows the extent of damage classified by accident causes. 56 cases among “Accidents caused by products” involved bodily injuries (fatalities or severe and minor injuries). There were no fatalities. 546 cases involved property damage (damage extending beyond product or product breakage). For “Accidents not caused by products”, 128 cases involved bodily injuries and 197 cases involved property damage.

Serious accidents among “Accidents caused by products” included two wheelchair accidents; one involved a left wrist fracture caused by falling over from wheelchair together with the seat while riding, and the other involved a fracture sustained when the user and wheelchair fell over while riding down a slope, due to a failure in drive and brake transmission. They also included two accidents involving injuries sustained when falling from bicycles while riding, due to a failure on the bicycle frame head.

Among the bodily injury cases of “Accidents mainly due to misuse or negligence”, there were 21 fatalities and 14 serious injuries, including a fatality caused by a parasol which was not secured to its base with screws, which was ripped out by a gust wind; a fatality caused by a generator used for lighting in an enclosed plastic greenhouse; and a serious injury caused by a compressed gas cylinder which ruptured when charcoal barbecue was used next to it.

Type of accident cause	Caused by product				Not caused by product				Unidentified	Total
	A	B	C	subtotal	D	E	F	subtotal		
Death	0	0	0	0	2	21	3	26	15	41
Serious injury	5	0	0	5	0	14	1	15	21	41
Minor injury	50	1	0	51	2	83	2	87	51	189
Extended damage	96	20	16	132	16	141	8	164	61	357
Product breakage	406	0	8	414	9	17	6	33	100	547
No damage	9	0	0	9	0	3	0	3	3	15
Total	566	21	24	611	29	279	20	328	251	1,190

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- F: Other accidents not caused by products
- G: Unidentified

(4) Preventive measures

The following chart indicates the number of collected accident information cases for “Accidents caused by products” for which investigations were completed in FY2004.

Information collected in	Investigation completed in FY2004	Accident caused by products	Preventive measures taken on cases	Individual measure only / no measures are taken
FY2002	99	32	26	7
FY2003	823	200	188	110
FY2004	(*),1,190	611	594	463
Total	2,112	843	808	580

(*), Preliminary results on 1,190 cases for which investigations were completed in FY2004 out of 2,378 collected accident information cases in the same year.

Among 843 cases of “Accidents caused by products”, preventive measures have been taken for 808 cases or about 96 percent, by manufacturers.

The remaining 4 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 644 of the cases for which preventive measures have been taken, a total of 75 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 misuse, 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 and improving instruction manuals and labeling.

III. Accident trend in FY2004

(1) Changes in Numbers of Accident Information Collection

The number of accident information cases collected by NITE in the last three years as of May 30, 2005 were; 1,728 in FY2002, 1,610 in FY 2003 and 2,378 in FY 2004 excluding duplications and unrelated information.

(2) Changes in Accident Causes

Among the accidents collected and investigated by NITE, “Accidents caused by products” accounted for about 35 percent in FY2002, about 29 percent in FY2003 and

about 51 percent in FY2004.

“Accident not caused by products” accounted for about 40 percent, 48 percent and 28 percent respectively. Of these, “Accident due to misuse or negligence” accounted for 35 percent in FY2002, 41 percent in FY2003 and 23 percent in FY2004.

(3) The Top 10 Items in the last three years

The following table indicates the top ten items causing accidents reported in the last three years from FY2002 to FY 2004.

According to the chart, DC (direct current) power supply equipment, including battery chargers for electric shavers, were the most frequent cause of accidents in the last three years. The reason is that smoke and ignition accidents frequently occurred with products of a specific manufacturer. The products are still being under recall following six company announcements. It has been three years since the first accident occurred in FY2000. The number of cases collected which were caused by DC power supply equipment has been on a declining trend; 256 cases in FY 2002, 164 cases in 2003 and 65 cases in 2004.

“Electric heaters” have always been ranked in the top 5 for the past three years, ranking fifth in FY2002 and FY2003 with 100 and 51 cases respectively. In FY2004, these products were ranked the No.1 cause, with 357 cases, due to the increased number of accident reports involving burnt floors caused by defects in the products of a specific manufacturer.

Many of the accident cases in FY2004 were caused by component defects. “Accidents mainly due to misuse or negligence” are also among the frequently occurring cases, which include cases of fires caused by laundry dropping onto heaters, and fires presumed to have been caused by bed-clothes coming into contact with heaters when the user rolled over while asleep.

The number of accident information cases related to “Gas cooking stoves” is on the increase. It has been ranked in the top 3 for the past three years; ranking third with 131 cases in FY2002 and ranking second in FY2003 and FY2004 with 153 cases and 249 cases respectively. Most of the fire accidents involving “Gas cooking stoves” were caused by negligence, such as fires caused by leaving deep fryer pans containing oil or built-in fish grills unattended when using the gas cooking stove. Fire accidents caused by negligence account for the majority cases of “Gas cooking stove” incidents.

“Kerosene heaters” typically have a high number of reported accident cases. The number of accident information cases concerning “Kerosene heaters” has also ranked in the top 3 for the past three years; ranking second with 174 cases in FY2002, 126 cases in FY2003 and 163 cases in FY2004. Many of the accidents are serious incidents involving fire. According to investigations conducted by NITE, the majority of the cases are caused by misuse or negligence; there are many cases presumed to be caused by laundry dropping onto heaters and catching fire, and in other cases, fires presumed to have been caused by kerosene leaking from cartridge tanks which were not sufficiently capped.

Many accident information cases concerning “Four wheel vehicles” are collected every year, ranking fourth in FY2002 and FY2003 with 131 and 89 cases respectively, and fifth in FY2004 with 136 cases. Many of these cases are related to vehicle fire. There are accidents presumed to involve oil leaks, gasoline leaks, short-circuits in electric wirings and misplacing of flammable materials after repairs. However, the fire origins remain unidentified in many cases because of significant fire damage.

The number of collected accident information cases related to “Disposable cigarette lighters” fluctuated and ranged from fifth to ninth on the list with 40 to 50 cases between 2002 and 2004. The majority of cases resulted in burn injuries, which were caused by big flames when igniting the lighters. In other cases, lighters ignited in pockets and burned clothes, resulting in burn injuries.

FY 2002 (Total : 1,728)			FY 2003 (Total : 1,610)			FY 2004 (Total : 2,378)		
Item	# of Cases	Ratio %	Item	# of Cases	Ratio %	Item	# of Cases	Ratio %
DC Power Supply Equipment	256	14.8	DC Power Supply Equipment	163	10.1	Electric Heater	357	15.0
Kerosene Heater	174	10.1	Gas Cooking stove	153	9.5	Gas Cooking Stove	249	10.5
Gas Cooking Stove	131	7.6	Kerosene Heater	126	7.8	Kerosene Heater	163	6.9
Four Wheel Vehicle	131	7.6	Four Wheel Vehicle	89	5.5	Bicycle	153	6.4
Electric Heater	100	5.8	Electric Heater	51	3.2	Four Wheel Vehicle	136	5.7
Subtotal	792	45.9	Subtotal	582	36.1	Subtotal	1,058	44.5
Vacuum Cleaner	42	2.4	Disposable Cigarette Lighter	48	3.0	Air Conditioner	74	3.1
Air Conditioner	41	2.3	Bicycle	36	2.2	DC Power Supply Equipment	65	2.7
Disposable Cigarette Lighter	41	2.3	Toy	34	2.1	Color TV	43	1.8
Interior Wiring	33	1.9	Interior Wiring	29	1.8	Disposable Cigarette Lighter	39	1.6
Color TV	30	1.7	Wiring Accessories (Extension Cord)	29	1.8	Wiring Accessories (Extension Cord)	37	1.6
Subtotal	187	10.8	Subtotal	176	10.9	Subtotal	258	10.8
Total	979	56.7	Total	758	47.0	Total	1,316	55.3

The table below indicates the top 5 items for “Accidents caused by products” in the last three years.

The number of accident information cases for “Electric heaters” ranked in the top 5 for three consecutive years, and incidents were particularly frequent in FY2004. “DC power supply equipment” was outstanding with 731 cases as of May 30, 2005, because of frequent smoke/fire incidents due to design defects with battery chargers for electric shavers. Many other accidents involved “Home electric appliances”, others involved bicycles, shoes, disposable cigarette lighters and toys.

FY2002 (1,686 completed cases)			FY2003 (1,545 completed cases)			FY2004 (1,190 completed cases)		
Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
DC power supply equipment	255	15.1	DC power supply equipment	160	10.3	Electric heater	282	23.6
Electric heater	46	2.7	Toys	32	2.1	Bicycle	59	5.0
Vacuum cleaner	41	2.4	Bicycle	18	1.2	DC power supply equipment	57	4.8
Electric heating pad	26	1.6	Electric heater	17	1.1	Shoes	26	2.2
Disposable cigarette lighter	14	0.8	Cigarette lighter Electric cooking stove	15 15	1.0 1.0	Dishwasher	21	1.8
Total	382	22.6	Total	257	16.7	Total	445	37.4

The table below shows the top 5 items for “Accidents due to misuse or negligence” in the past three years.

According to the table, “Kerosene heaters” and “Gas cooking stoves” ranked first or second on the list, followed by “Electric heaters” and “Four wheel vehicles.” NITE has been drawing consumer and manufacturer attention to this state of affairs by providing information on its website and in the Collected Accident Information Reports.

FY2002 (1,686 completed cases)			FY2003 (1,545 completed cases)			FY2004 (1,190 completed cases)		
Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
Kerosene heater	142	8.4	Gas cooking stove	130	8.4	Gas cooking stove	120	10.1
Gas cooking stove (LP)	113	6.7	Kerosene heater	104	6.7	Kerosene heater	19	1.6
Electric heater	43	2.6	Electric heater	25	1.6	Four wheel vehicle	13	1.1
Four wheel vehicle	34	2.0	Electric wiring (extension cord)	19	1.2	Bicycle	12	1.0
Wood fuel bath boiler	18	1.1	Four wheel vehicle	18	1.2	Kerosene bath boiler	10	0.8
Total	350	20.8	Total	296	19.1	Total	174	14.6

In order to minimize “Accidents 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 or 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.

5. Disclosure of collected Accident Information

I. Accident Information Collection Reports

The accident information cases collected by NITE are compiled quarterly, following the necessary analyses or investigations of the cases, and approval by the Accident Trend Committee, and published as the “Collection Results of Accident Information”. This information is further compiled and published as the “Annual Report on Product Safety” to provide information to consumers, etc.

Also, NITE broadly disseminates information concerning accidents and preventive measures through its website.

II. NITE Alert

NITE Alerts (special news) are issued for cases requiring immediate action and distributed to consumers and related organizations, calling for their attention.

NITE Alerts are circulated to approximately 1,200 organizations including local consumer affairs centers, local governments, fire and police departments and related industry groups in addition to being posted on the NITE website.

Alerts issued by NITE in FY2004 included “Imported gas laundry dryer” and “Electric cooking stoves.”

Brief summaries of major alerts issued in FY2004 are as follows:

Accident Information “NITE Alert” Topics

No.62: Fire accidents involving imported gas dryers

NITE, in cooperation with the Ministry of Economy, Trade and Industry, the Tokyo Fire Department and the Japan Gas Appliances Inspection Association, has been working on an investigation into causes and discussing countermeasures in relation to 6 fire cases reported on October 12, 2004, involving imported gas laundry driers all manufactured by the same company. Demonstration testing was conducted in November 2004 at the Japan Gas Appliances Inspection Association, which practically revealed the accident cause. In an effort to promote preventive measures, NITE provided the information and issued an alert on the matter.

No.63: Accidents involving electric cooking stoves

Fire accidents related to electric stoves installed in sites such as studio apartments have frequently occurred. Most of these accidents are caused when the switches of normally unused stoves are unintentionally turned on while combustible materials have been left on them.

As a preventive measure, the Electrical Appliance and Material Safety Law was revised in 1990 to stipulate that electric stoves should be designed to prevent unintentional operation of the switch. Also in 1990, electric stove manufacturers started voluntary campaigns to promote awareness among housing managers concerning products manufactured before the revision of the law, which might pose fire risk. They have posted the alerts on the brochures and web pages, and provided replacement switch parts at the owner's expense.

However, NITE received 15 accidents reports related to electric stoves manufactured before the law revision. In response to the situation, in June 2004, the "Home Electrical Division" of the "Japan Electrical Manufacturers and Association" and the "Japan Association of Kitchen & Bath" put together new brochures and distributed them to 3,000 member companies of the "Association of Rental Properties Management." In September 2004, an announcement was placed in the National Rental Properties Newspaper to alert consumers to the hazard, and a free repair campaign was started.

In an effort to promote preventive measures, NITE provided the information and issued an alert on the matter.

No.64: Spontaneous ignition from rags impregnated with coating material

Two reports were received by NITE on spontaneous ignition cases which occurred in November 2004, which were believed to have been caused by rags used for wiping sunflower oil based coating materials for wood. There is information that since consumers have become more nature oriented and are concerned about recent "sick building syndrome" cases, the sales volume of these kinds of natural vegetable oil based coating materials is increasing. The product itself is not harmful as it is made from components similar to those used in vegetable oils. However, it is presumed that fabrics impregnated with the coating material spontaneously ignited in garbage bags due to exposure to air, which generated heat from oxidation. In an effort to promote preventive measures, NITE provided the information and issued an alert on the matter.

No.65: Safety alert on snow blowers

Multiple accidents associated with snow blowers occurred in the winter of 2004, with 10 cases reported to NITE over the two months from December 2004 to January 2005. NITE had previously issued "NITE Alert" (No.46) on December 10, 2001 as a preventive step. However, 10 cases have been reported over this two-month period. Manufacturers distributed items to prevent similar accidents. In response to the situation, NITE provided information on the latest accidents and issued the alert again.