



## **NITE Annual Report on Product Safety (FY2001)**

### **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

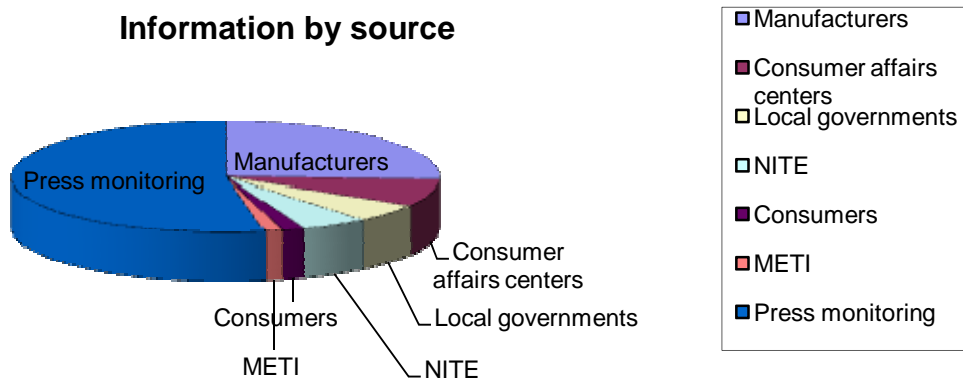
### **2. Accident Information Collection System and number of collected information cases**

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 total number of accident information cases collected in FY2001 was 1,852. The following chart shows the breakdown by information source.

Information Source	No. of accidents	Ratio
Manufacturers	479	26.0%
Consumer affairs centers	144	7.8%
Local governments (including Fire Dept.)	99	5.3%
NITE	93	5.0%
Consumers	32	1.7%
METI	25	1.3%
Subtotal	872	47.1%
Press monitoring	980	52.9%
Total	1,852	100.0%

### Information by source

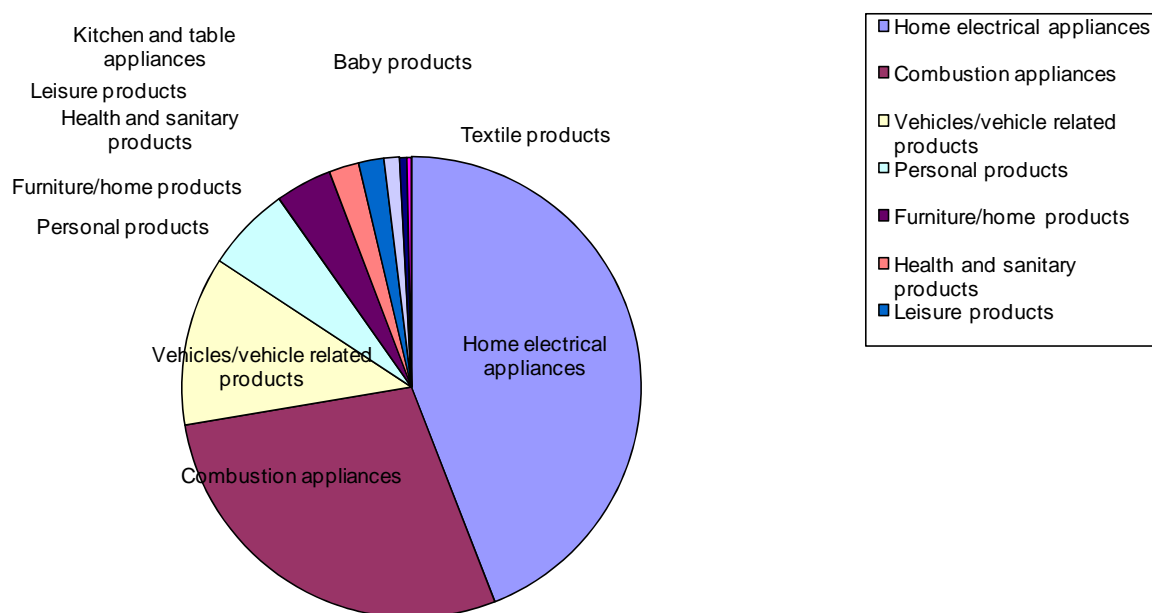


As of August 10, 2002, the net number of accidents was 1,569 when duplications and unrelated information are excluded. The breakdown of the accident information by product category is shown below.

“Home electrical appliances” ranked top, accounting for about 44% of the total, followed by “Combustion appliances” (about 28%) and “Vehicles/vehicle related products” (about 12%). There has been no significant difference in this trend from FY1999 and FY2000.

	Product classification	Number of accidents	Ratio
1	Home electrical appliances	692	44.1%
2	Combustion appliances	443	28.2%
3	Vehicles/vehicle related products	187	12.0%
4	Personal products	94	6.0%
5	Furniture/home products	62	4.0%
6	Health and sanitary products	33	2.1%
7	Leisure products	28	1.8%
8	Kitchen and table appliances	17	1.0%
9	Baby products	8	0.5%
10	Textile products	5	0.3%
11	Others	0	0.0%
	Total	1,569	100.0%

## Information by product classification



### 3. Further Investigation of the Accidents

#### . 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 FY2001, NITE conducted on-site investigations for 77 cases including a fatal carbon monoxide poisoning case in Hokkaido, caused by an “Energy-saving trivet”, and another fatal case occurring in Yamanashi, in which the lid of a pressure cooker blew off and hit the user in the head.

Also verified with the cooperation of the Fire Department were the products which supposedly caused accidents in 186 cases, such as color TV sets, air conditioners and bicycles.

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

The following chart shows the status of investigations conducted by NITE in FY2001.

On-site investigation / Accidental product	Conducted on-site investigation	77 cases
	Obtained the actual product which had caused accident	186 cases
Manufacturer of product (as of August 10, 2002)	Identified by report from manufacturer	464 cases
	Identified through investigation by NITE	498 cases

#### .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.

In FY2001, 11 such cases were reported including one case in which the electric lamp, pump or heater of a home aquarium ignited and burned, and a serious injury case in which the user's hands were caught in the rotary section of a snow blower. Some examples of investigations conducted by NITE in FY2001 are given below:

Name of product	Investigation summary	Remedies
Home aquarium	A review of collected accident information indicated that practically no ignition or fire incidents had occurred due to product defects. In most cases, accidents were caused by misuse or negligence; ignition from a wet plug, or turning the water heater on outside the aquarium by mistake during cleaning.	In an effort to prevent further incidents, NITE released an alert to attract consumers' awareness, and distributed it to consumer affairs centers nationwide, manufacturers and distributors of home aquariums and concerned parties, and posted the alert on the NITE website.
Snow blower	Investigations were implemented on accident environment, manufacturer and model of the concerned product. Results revealed that most of the involved snow blowers were manufactured more than 15 years ago. Users put their hands in the rotating part in an effort to remove snow clogging the part, and were seriously injured when the rotary parts started moving. These snow blowers were not equipped with automatic stop functions that shut down the devices when left unattended.	METI called for the snow blower industry group to consider measures for product safety to prevent further incidents. NITE released an alert, and distributed it to consumer affairs centers and local governments and posted the alert on the NITE website.

### . 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 FY2001 are shown below:

Test case	Outline of accident and test objectives	Test results and remedies
Smoke emission from electric lift for people in need of care	The drive components of an electric care lift generated smoke from the drive component after 3 years of use. Since the lift was designed for the use of people with disabilities, NITE conducted tests to determine the cause to secure product safety.	The drive motor generated heat by over-current when commanded to move while the lift was immobilized at the far end of the rail. Looking at the involved lift revealed the motor winding to be carbonized and the insulation destroyed. The transistor terminal was unsoldered and short-circuited by the over-current. Since the cause was deemed to be a problem of product design, the manufacturer implemented safety measures such as the installation of emergency stop

		switches.
Smoke generation from car stereo	A series of car stereo speaker ignition/smoke emission incidents have occurred since 1996. Investigations were conducted to determine the cause in view of recurrence and the possibility of extended damage incidents.	<p>The investigation focused on the cause of direct-current (DC) electricity generation in the car stereo, as fire or smoke is generated when a speaker receives excessive DC.</p> <p>It was found out that DC electricity was generated by electric parts malfunctioning due to engine vibration or defective soldering. NITE has made a request to the industry for DC preventable circuit design between speaker terminals, and the installation of protective circuits to cut off electricity in case of DC generation.</p>
Energy-saving utensils for gas cooking stove	There was a fatal carbon monoxide poisoning case in 1997 due to a trivet designed for energy-saving. NITE has implemented a tests on similar products to prevent further incident.	<p>Tests on two products claiming energy-saving effects revealed that the carbon monoxide concentration, contained in emission gases, could exceed the level allowed by Japan Industrial Standards, and cause poisoning.</p> <p>NITE has made a request, based on the test results, to distributors to discontinue selling these products. In addition, a “NITE alert” was distributed to consumer affairs centers nationwide as well as being posted on the website.</p> <p>Also included in the alert was an article on other energy saving utensils tested in FY2000 to warn consumers of hazards.</p>

Investigations to develop techniques for identifying causes of accidents performed in FY2001 are shown below:

Theme	Investigation objectives	Summary
Establish method to identify 1 <sup>st</sup> & 2 <sup>nd</sup> short circuit traces (*2) on plugs utilizing DAS(*3)	<p>Home electrical appliance related incidents include many fires involving plugs, outlets, power cords or domestic wiring.</p> <p>Although the appliances are significantly damaged, short circuit trace is likely to be left, which can be effective in identifying the fire’s cause.</p> <p>However, due to lack of technical criteria, investigations rely mainly on experience based observation and investigation; therefore fire origins were not easily identifiable.</p> <p>The investigation looked into the metallic structure of trace material forming on the plugs and outlets. Systematic data for metallic structures likely to form at the ignition source (primary trace) and metallic structures likely to be caused by external heat (secondary trace) was compiled to facilitate the identification of the ignition source.</p>	<p>The method of determining causes by obtaining data to identify primary and secondary trace from a curve of ambient temperature (chilling rate) and DAS transition data was established.</p> <p>On the other hand, primary and secondary trace was identified experimentally on a plug which had been collected from a fire scene, by utilizing DAS to estimate the ambient temperature when the traces was produced.</p>
Collecting and analyzing data on	With the increasing import of bicycles and parts, many accidents are	NITE produced sample frames with welding defects using various materials and

the breakage of frame pipes of a bicycles due to a welding defects	<p>occurring due to welding defects or poor strength of frames.</p> <p>However it was hard to determine the cause of accidents, whether the breakages were caused by faulty welding or strength poverty, due to a lack of data on faulty welding.</p> <p>To improve and accelerate the investigations on frame breakage, NITE has systematically compiled various data for welding defect types.</p>	<p>welding methods, and then loaded and destroyed them by utilizing existing data about forces acting on frames. The data obtained was compiled, analyzed and organized into types of welding defect, range of strength degradation and fractured surfaces.</p> <p>NITE has established a manual outlining the estimating method of identifying causes by observing weld breakages.</p>
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(\*2) Primary and Secondary traces: Primary trace is the molten trace produced at the ignition source. This trace tells us that a fire broke out from this area. Secondary trace is produced by external heat such as fire.

(\*3) DAS: Dendrite Arm Spacing; spacing between adjacent secondary arms in dendrite crystals on molten trace sectional structure.

## 4. Analysis of the Investigation Results and Accident Trends

### .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 cause 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 group	Job description
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 kerosene heaters and bath boilers.</p> <p>Advising on tests conducted by NITE and evaluating the results.</p>
Chemicals/Physical Impediment	<p>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.</p> <p>Evaluation of investigation results submitted by manufacturers and preventive measures.</p> <p>Advising on tests conducted by NITE and evaluating the results.</p>
Misuse	<p>Analysis of “misuses and negligence” which led to accidents, and exploration of the current and modeled status of products.</p> <p>Advising on tests conducted by NITE.</p>

#### (2) 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.

**. Results of Investigation in FY2001**

**(1) Accident Information Classified by Causes**

The next table shows accident information, classified by causes, collected in FY 2001.

Of the 1,569 accident information cases, investigations for 1,119 cases have been completed. Accident causes were identified in 850 cases; 422 cases of “Accidents caused by products” and 428 cases of “Accidents not caused by products”.

Out of “Accident caused by products”, “Problems with design, manufacturing process or labeling” accounts for about 93 percent, or 391 cases, with the remaining 7 percent considered to have been caused by product deterioration from extended periods of use. “Misuse and negligence” accounts for about 83 percent, or 355 cases in “Accidents not caused by products”, with the remaining 17 percent due to improper installation, repair work or natural phenomena such as lightning or high winds.

(As of August 10, 2002)

Categories According to Causes of Accidents	# of cases
Accidents caused by products	422
A : Accidents supposedly caused by problems of design, manufacturing process, labeling, etc.	391
B : Accidents supposedly caused by defective products, and affected by use conditions	13
C : Accidents supposedly caused by performance degradation due to extended periods after manufacturing and long duration of operation	18
Accidents not caused by products	428
D : Accidents supposedly caused by improper installation, repair work, handling during transportation, etc.	31
E : Accidents mainly due to misuse or negligence	355
F : Other accidents not caused by products	42
Accidents caused by unknown factors	719
Unidentified cause	269
Under investigation	450
Total	1,569

**(2) Accident Information Classified by products and causes**

The following chart shows accident information cases collected in FY2001 according to products and accident causes. “Home electrical appliances” were ranked the top cause. 331 cases accounted for “Accidents caused by products”, while 67 cases were supposedly caused by “Misuse or negligence”, which is about 20 percent of the former.

“Combustion appliances” ranked the second with 8 cases of “Accidents caused by products”, while “Misuse or negligence” triggered 216 accident cases, 27 times as many as the former.

In other categories, numbers of “Accidents caused by misuse or negligence” and “Accidents caused by products” are almost the same with 73 cases and 83 cases respectively.

The results of investigations showed that, in addition to improvements that heighten the safety of the product, the education of consumers and the promotion of consumer awareness are important and effective factors in the prevention of “Accidents caused by misuse or negligence”.

Accident cause Product	Caused by product				Not caused by product				Unidentified		Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	H	
Home electrical appliances	311	5	15	331	9	67	12	88	122	151	692
Combustion appliances	6	0	2	8	13	216	2	231	52	152	443
Vehicle/vehicle related	22	1	0	23	8	32	4	44	59	61	187
Personal products	29	2	0	31	0	15	12	27	21	15	94
Furniture/home products	5	1	1	7	1	13	1	15	5	35	62
Health and sanitary products	11	0	0	11	0	3	9	12	2	8	33
Leisure products	1	4	0	5	0	7	1	8	7	8	28
Kitchen and table appliances	2	0	0	2	0	1	0	1	0	14	17
Baby products	3	0	0	3	0	1	0	1	0	4	8
Textile products	1	0	0	1	0	0	1	1	1	2	5
Total	391	13	18	422	31	355	42	428	269	450	1,569

(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

H: Under investigation

### (3) Injuries and Damages

The chart below shows the extent of damages classified by accident causes.

Among “Accidents caused by products,” 78 cases involved bodily injuries (fatalities, severe or minor injuries), and 249 cases of damaged properties (extended damage beyond product breakage).

165 cases of “Accidents not caused by products” involved bodily injuries while 210 cases involved property damage only.

The only fatality among “Accidents caused by products” was due to carbon monoxide poisoning caused by an “Energy-saving ring (trivet)”(\*4)

#### <(\*4) About the “Energy-saving ring (trivet)” for gas cooking stoves>

After two cases of fatal carbon monoxide poisoning involving “Energy-saving trivets” had occurred in June and December 1997, METI advised the distributors to issue an immediate recall of the products. NITE issued a safety alert in March 1998 to promote consumers’ awareness. One of the products, which should have been called in at that time, was presumed to have caused the accident in 2001; hence NITE has alerted consumers again.

Among “Accidents caused by products”, there were 5 serious injuries; a serious wrist injury from falling from a “Bicycle” due to brake failure; a serious injury involving fingers getting caught between the reclining pipe and backrest of “Baby buggy”; a serious facial injury caused by a “Helmet visor” when falling from a motor bike; a serious burn when taking a microwavable “Foot warmer” out of the microwave after heating due to a failed seam; a carbon monoxide poisoning caused by leaked combustion gas in the bathroom due to “Bath heater” corrosion.

Among “Accidents not caused by products”, there were 33 fatalities and 20 serious injuries through “Misuse or negligence”, which include; a fire fatality caused by ignited bed clothing which came into contact with a heater when the user rolled over while asleep; a serious injury



caused by an exploding gas cartridge of a portable cooking stove, which was placed beside a gas cooking stove while it was in use, which consequently overheated.

Accident cause Damage	Caused by product				Not caused by products				Unknown factors	Total
	A	B	C	Subtotal	D	E	F	Subtotal	G	
Death	1	0	0	1	0	33	2	35	24	60
Serious injury	3	1	1	5	1	20	2	23	14	42
Minor injury	66	5	1	72	6	78	23	107	35	214
Extended damage	237	5	7	249	10	190	10	210	120	579
Product breakage	82	2	9	93	13	31	5	49	76	218
No damage	2	0	0	2	1	3	0	4	0	6
<b>Total</b>	<b>391</b>	<b>13</b>	<b>18</b>	<b>422</b>	<b>31</b>	<b>355</b>	<b>42</b>	<b>428</b>	<b>269</b>	<b>1,119</b>

(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

Among 422 cases of “Accidents caused by products”, preventive measures have been taken for 406 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 unidentified 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 299 of the cases for which preventive measures were taken, a total of 34 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.

### .Accident Trends in FY2001

#### (1) Changes in Numbers of Accident Information Collection

The number of accident information cases collected by NITE in the last three years were; 956 in FY1999, 1,448 in FY2000, and 1,569 in FY2001. (excluding duplications and unrelated information)

#### (2) Changes in Accidents Causes

Among the accidents cases collected and investigated by NITE, “Accidents caused by products” accounted for about 20 percent in FY1999, about 37 percent in FY2000 and about 38 percent in FY2001.

“Accidents not caused by products” accounted for about 51 percent, 39 percent and 38 percent respectively; among them, “Accidents caused by misuse or negligence” accounted for 92 percent in FY1999, 81 percent in FY2000 and 83 percent in FY2001.

### (3) The Top 10 Items in the Last Three Years

The following chart indicates the top ten items causing accidents reported in the last three years from FY1999 to FY2001.

According to the chart, DC (direct current) power supply equipment, including battery chargers for electric shavers, was the top cause of accidents in FY2001. The reason is that more than 200 smoke and ignition accidents occurred with products of a specific manufacturer. Approximately 60 incidents had been reported by the same manufacturer in the previous year. Company announcements have been placed, and the products are under recall.

“Kerosene heaters” typically have a high number of reported accident cases; ranking first or second every year. In many cases, kerosene heater accidents escalate into serious incidents such as fires, and according to investigations conducted by NITE, the majority of the cases were caused by misuse or negligence, with many cases presumed to be caused by laundry hung above the heaters dropping onto them 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. The majority of them were 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 “Color TV sets” decreased to 65 in FY2001 from 90 in previous year. This may be due to the three companies that had placed company announcements in FY2000, announcing that prolonged use of products may pose fire hazards.

The number of collected accident information cases related to “Disposable cigarette lighters” fluctuated and ranged between 30 and 60 cases in the last three years. The majority of cases resulted in burn injuries caused by big flames when igniting the lighters, or in other cases, lighters igniting in pockets and burning clothes.

Many of the accidents involving “Electric heaters” were presumed to have been caused by “Misuse or negligence”, such as flammable materials including bed clothes contacting the heater, because the users neglected to turn heaters off when leaving home or left heaters on while asleep.

“Kerosene fan heaters” and “Gas cooking stoves (LP gas)” have ranked in the top 10 every year. Many of the accidents related to “Kerosene fan heaters”, as in the case of “Kerosene heaters”, are caused by “Misuse or negligence”, including fires due to kerosene leaking from cartridge tanks with insufficiently tightened caps or refueling with gasoline in instead of kerosene. Many of the accidents involving “Gas cooking stoves” are also attributed to negligence; such as fires caused by pans left unattended on the stove.

The number of collected information cases on “Refrigerators” dropped down to 22 in FY2001 from 146 in the previous year. These accidents were related to design defects with products of a specific manufacturer, and the number of accidents has supposedly been reduced by the preventive measures taken by the manufacturer.

FY1999 (Total: 956 cases)			FY2000 (Total: 1,448 cases)			FY2001 (Total: 1,569 cases)		
Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
Kerosene heater	150	16	Refrigerator	146	10	DC power supply equipment	218	14
Four wheel vehicle	112	12	Kerosene heater	130	9	Kerosene heater	184	12
Gas cooking stove (LP gas)	42	4	Four wheel vehicle	116	8	Four wheel vehicle	130	8
Disposable cigarette lighter	34	4	Color TV set	90	6	Color TV set	65	4

Electric heater	32	3	DC power supply equipment	64	4	Disposable cigarette lighter	62	4
Subtotal	370	39	Subtotal	546	37	Subtotal	659	42
Bicycle	25	3	Electric clothes drier	57	4	Electric heater	48	3
Kerosene fan heater	24	3	Disposable cigarette lighter	48	3	Gas cooking stove (LP gas)	34	2
Refrigerator	20	2	Gas cooking stove (L P Gas)	44	3	Kerosene fan heater	29	2
Portable gas stove	14	1	Kerosene fan heater	21	1	Refrigerator	22	1
Color TV set	13	1	Bicycle	20	1	Humidifier	21	1
Subtotal	96	10	Subtotal	190	12	Subtotal	154	9
Total	466	49	Total	736	49	Total	813	51

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

The number of accident information cases on “DC power supply equipment” was outstanding in FY2001 because of frequent smoke/fire incidents due to design defects with battery chargers for electric shavers.

FY1999 (948 completed cases)			FY2000 (1,395 completed cases)			FY2001 (1,119 completed cases)		
Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
Disposable cigarette lighter	16	1.7	Refrigerator	142	10.2	DC power supply equipment	201	18.0
Bicycle	13	1.4	DC power supply equipment	64	4.6	Disposable cigarette lighter	26	2.3
Refrigerator	11	1.2	Electric clothes drier	52	3.7	Humidifier	19	1.7
Four wheel vehicle	10	1.1	Color TV set	50	3.6	Color TV set	18	1.6
Color TV set	8	0.8	Disposable cigarette lighter	23	1.6	Vacuum cleaner	18	1.6
Interior light	8	0.8						
Total	66	7.0	Total	331	23.7	Total	282	25.2

The table below shows the top 5 accident causing items for “Accidents caused by misuse or negligence”.

According to the table, “Kerosene heaters” and “Gas cooking stoves” have ranked first or second for the past three years, followed by other “Combustion appliances”. 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.

FY1999 (951 completed cases)			FY2000 (1,395 completed cases)			FY2001 (1,119 completed cases)		
Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)	Item	#of Cases	Ratio (%)
Kerosene heater	123	13.0	Kerosene heater	109	7.8	Kerosene heater	103	9.2
Gas cooking stove (LP)	38	4.0	Gas cooking stove (LP)	40	2.9	Gas cooking stove (LP)	27	2.4
Four wheel vehicle	28	3.0	Four wheel vehicle	32	2.3	Electric heater	21	1.9

Electric heater	27	2.8	Electric heater	15	1.1	Gas cooking stove (City gas)	13	1.2
Kerosene fan heater	13	1.4	Kerosene fan heater	14	1.0	Kerosene fan heater	11	1.0
Total	229	24.2	Total	210	15.1	Total	175	15.6

In order to minimize “Accidents caused by misuse or negligence”, manufacturers, etc. 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, indicating that education of consumers and the 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

### .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.

### .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 800 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.

In FY2001, 14 NITE Alerts were issued in relation to; an “Energy saving ring (trivet)”, which led to a fatal carbon monoxide poisoning case; “Double structured thermal cookware”, with an inner pan which deformed, made an explosive sound and burst out with the contents during cooking; “Electric shavers”, which triggered frequent smoke or fire incidents due to a design defect with the battery charger; a “Home aquarium”, which caused frequent fires because of overheated heaters or power cord breakage; and “Snow blowers”, which involved entrapment accidents in the rotary parts resulting in serious injuries.

Brief summaries of major alerts issued in FY2001 are as follows:

### Accident Information “NITE Alert” Topics

#### No.37 & 42: Safety alert on “Energy Saving Ring” (Trivet) for gas cooking stoves

Investigations revealed that while using a gas cooking stove trivet that claimed to be energy saving, carbon monoxide concentration could rise to a critical level causing headache, nausea, fainting or even death. NITE has alerted consumers to refrain from using these products.

**No.43 & 48: Safety alert on thermal cookware**

While cooking in a stainless pan with a double structure, the inner pan deformed, made an explosive sound and burst out. Heated oil splashed out, and the user suffered burn injuries. NITE released a safety alert in an attempt to draw consumers' attention to the matter as well as notifying users that the manufacturer was replacing these products. Another issue followed to alert consumers again since further incidents were caused by the improved replacement products.

**No.44: Safety alert on home aquariums**

A series of burn injuries and fires occurred whilst lighting equipment, pumps or heaters for home aquariums were in use. This was supposedly due to a tracking phenomenon, or an interrupted cord or a heater becoming overheated. NITE has called for user attention to avoid splashing water onto plugs, to remove dust, to make sure there is no furniture sitting on the cords, and to never power heaters that are not in the water.

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**Appendix 1: Yearly Transition of Accident Notification Number**

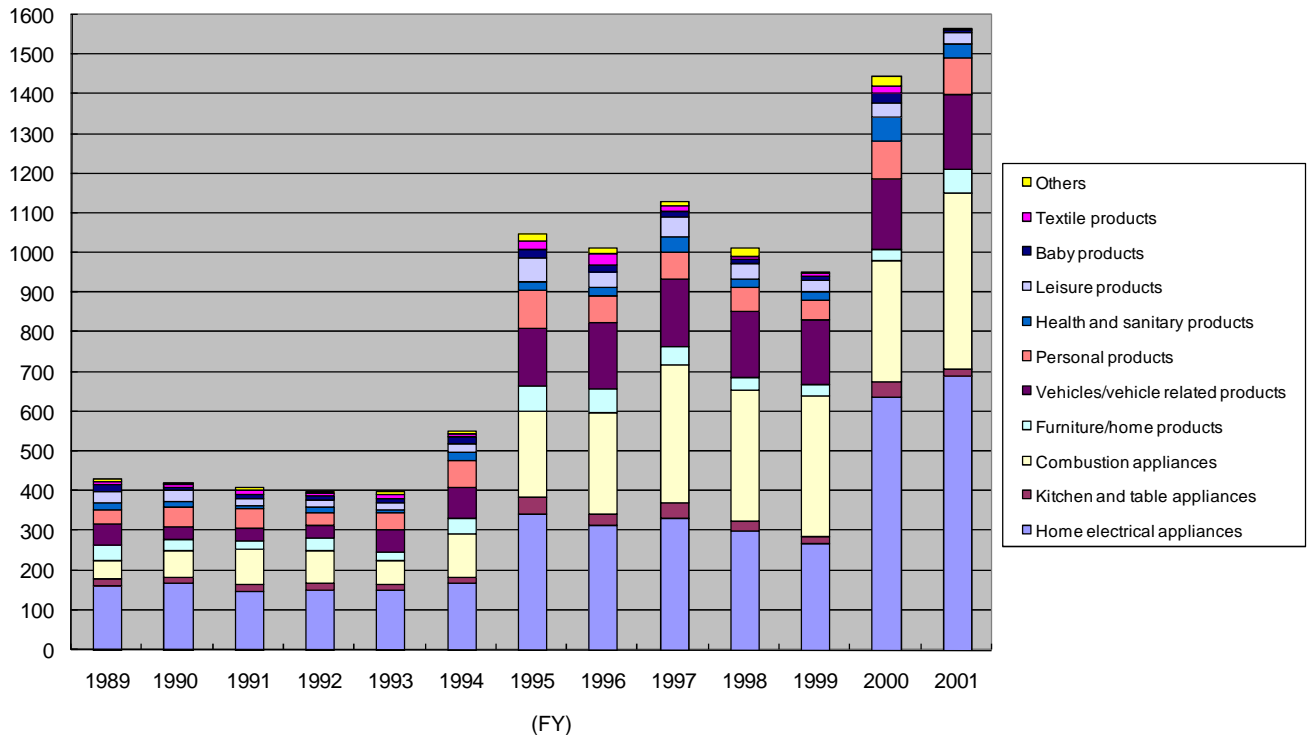
Product classification	FY												
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1 Home electrical appliances	164 (37.8)	172 (40.7)	150 (36.6)	152 (37.8)	151 (37.8)	171 (31.0)	344 (32.7)	314 (31.0)	332 (29.3)	303 (29.9)	268 (28.0)	639 (44.1)	692 (44.1)
2 Kitchen and table appliances	18 (4.1)	11 (2.6)	17 (4.1)	19 (4.7)	14 (3.5)	15 (2.7)	44 (4.2)	31 (3.1)	40 (3.5)	22 (2.2)	18 (1.9)	37 (2.6)	17 (1.1)
3 Combustion appliances	45 (10.4)	69 (16.3)	89 (21.7)	81 (20.1)	63 (15.8)	109 (19.7)	215 (20.5)	253 (25.0)	347 (30.7)	332 (32.7)	356 (37.2)	307 (21.2)	443 (28.2)
4 Furniture/home products	40 (9.2)	29 (6.9)	20 (4.9)	31 (7.7)	20 (5.0)	40 (7.2)	64 (6.1)	63 (6.2)	47 (4.2)	31 (3.1)	27 (2.8)	29 (2.0)	62 (4.0)
5 Vehicles/vehicle related products	54 (12.4)	30 (7.1)	33 (8.0)	32 (8.0)	56 (14.0)	75 (13.6)	145 (13.8)	167 (16.5)	169 (14.9)	167 (16.5)	165 (17.3)	176 (12.2)	187 (11.9)
6 Personal products	34 (7.8)	51 (12.1)	48 (11.7)	32 (8.0)	42 (10.5)	70 (12.7)	95 (9.0)	65 (6.4)	69 (6.1)	59 (5.8)	50 (5.2)	98 (6.8)	94 (6.0)
7 Health and sanitary products	17 (3.9)	15 (3.5)	9 (2.2)	14 (3.5)	8 (2.0)	20 (3.6)	22 (2.1)	24 (2.4)	40 (3.5)	24 (2.4)	20 (2.1)	57 (3.9)	33 (2.1)
8 Leisure products	29 (6.7)	26 (6.1)	16 (3.9)	17 (4.2)	20 (5.0)	20 (3.6)	62 (5.9)	38 (3.8)	48 (4.2)	36 (3.5)	28 (2.9)	36 (2.5)	28 (1.8)
9 Baby products	18 (4.1)	9 (2.1)	12 (2.9)	11 (2.7)	10 (2.5)	18 (3.3)	19 (1.8)	18 (1.8)	14 (1.2)	11 (1.1)	10 (1.0)	27 (1.9)	8 (0.5)
10 Textile products	7 (1.6)	9 (2.1)	12 (2.9)	8 (2.0)	11 (2.8)	9 (1.6)	22 (2.1)	26 (2.6)	15 (1.3)	8 (0.8)	10 (1.0)	17 (1.2)	5 (0.3)
11 Others	8 (1.8)	2 (0.5)	4 (1.0)	5 (1.2)	5 (1.3)	5 (0.9)	19 (1.8)	14 (1.4)	11 (1.0)	22 (2.2)	4 (0.4)	25 (1.7)	0 (0)
<b>Total</b>	<b>434</b> (100)	<b>423</b> (100)	<b>410</b> (100)	<b>402</b> (100)	<b>400</b> (100)	<b>552</b> (100)	<b>1,051</b> (100)	<b>1,013</b> (100)	<b>1,132</b> (100)	<b>1,015</b> (100)	<b>956</b> (100)	<b>1,448</b> (100)	<b>1,569</b> (100)

Notes:

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

**Figure 1: Yearly Transition of Accident Notification Number**

(Cases)



## Appendix 2: Damage Status by Product Classifications

(unit: cases)

Product Classification	# of Accident FY	Damage Status																			
		Accident involving human damages									Accidents not involving human damages										
		Death			Serious injuries			Minor injuries			Extended damages			Product breakage			No damages				
	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999
1 Home electrical appliances	692	639	268	26	16	20	5	7	4	64	42	33	463	268	146	129	299	62	5	7	3
2 Kitchen and table appliances	17	37	18	1	0	0	0	3	2	10	10	8	4	5	1	2	17	3	0	2	4
3 Combustion appliances	443	307	356	67	32	59	18	18	13	114	61	96	229	182	174	12	10	10	3	4	4
4 Furniture/home products	62	29	27	7	4	1	23	9	7	20	8	12	7	3	4	5	5	3	0	0	0
5 Vehicles/vehicle related products	187	176	165	19	4	10	15	10	14	20	22	26	17	18	15	115	120	99	1	2	1
6 Personal products	94	98	50	1	1	1	6	13	4	59	61	37	21	19	6	6	4	2	1	0	0
7 Health and sanitary products	33	57	20	0	1	1	0	3	3	22	39	6	4	10	8	7	4	2	0	0	0
8 Leisure products	28	36	28	4	3	7	4	5	1	13	17	10	2	6	1	5	4	7	0	1	2
9 Baby products	8	27	10	0	1	1	2	1	3	4	18	5	0	0	0	1	7	0	1	0	1
10 Textile products	5	17	10	0	0	0	0	0	0	5	17	7	0	0	0	0	0	0	0	0	3
11 Others	0	25	4	0	2	0	0	6	1	0	1	0	0	16	2	0	0	1	0	0	0
<b>Total</b>	<b>1,569</b>	<b>1,448</b>	<b>956</b>	<b>125</b>	<b>64</b>	<b>100</b>	<b>73</b>	<b>75</b>	<b>52</b>	<b>331</b>	<b>296</b>	<b>240</b>	<b>747</b>	<b>527</b>	<b>357</b>	<b>282</b>	<b>470</b>	<b>189</b>	<b>11</b>	<b>16</b>	<b>18</b>

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

(unit: cases)

Product	Accident Cause FY	Accident Causes																										
		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			Under investigation			Total		
		2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999
1 Home electrical appliances	311	349	60	5	7	5	15	29	10	9	13	4	67	97	100	12	9	6	122	125	81	151	10	2	692	639	268	
2 Kitchen and table appliances	2	7	11	0	3	0	0	1	1	0	0	0	1	12	3	0	0	1	0	11	2	14	3	0	17	37	18	
3 Combustion appliances	6	4	8	0	3	1	2	4	7	13	9	18	216	233	263	2	1	2	52	47	56	152	6	1	443	307	356	
4 Furniture/home products	5	8	7	1	3	0	1	0	0	1	1	0	13	9	15	1	0	0	5	6	5	35	2	0	62	29	27	
5 Vehicles/vehicle related products	22	28	27	1	3	4	0	2	1	8	7	3	32	43	41	4	3	3	59	83	85	61	7	1	187	176	165	
6 Personal products	29	28	16	2	5	8	0	0	0	0	0	0	15	18	12	12	29	0	21	12	14	15	6	0	94	98	50	
7 Health and sanitary products	11	5	4	0	3	3	0	0	0	0	1	1	3	11	4	9	17	0	2	19	8	8	1	0	33	57	20	
8 Leisure products	1	7	4	4	2	4	0	0	0	0	1	0	7	11	10	1	1	0	7	10	10	8	4	0	28	36	28	
9 Baby products	3	12	6	0	6	0	0	0	0	0	0	0	1	4	3	0	0	0	0	4	1	4	1	0	8	27	10	
10 Textile products	1	0	3	0	0	2	0	0	0	0	0	1	0	1	1	1	11	0	1	5	3	2	0	0	5	17	10	
11 Others	0	0	0	0	1	0	0	0	0	0	0	0	0	8	1	0	0	0	0	3	2	0	13	1	0	25	4	
<b>Total</b>	<b>391</b>	<b>448</b>	<b>146</b>	<b>13</b>	<b>36</b>	<b>27</b>	<b>18</b>	<b>36</b>	<b>19</b>	<b>31</b>	<b>32</b>	<b>27</b>	<b>355</b>	<b>447</b>	<b>453</b>	<b>42</b>	<b>71</b>	<b>12</b>	<b>269</b>	<b>325</b>	<b>267</b>	<b>450</b>	<b>53</b>	<b>5</b>	<b>1,569</b>	<b>1,448</b>	<b>956</b>	

#### Appendix 4: Damage status by Accident Cause

(unit: cases)

Product	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			Under investigation			Total		
		FY			FY			FY			FY			FY			FY			FY			FY					
		2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999
Accident involving human damages	1 Death	1	0	0	0	2	0	0	0	1	0	0	1	33	35	57	2	0	2	24	25	39	65	2	0	125	64	100
	2 Serious injuries	3	6	9	1	5	1	1	0	0	1	1	1	20	40	26	2	3	1	14	17	14	31	3	0	73	75	52
	3 Minor injuries	66	59	56	5	20	17	1	2	5	6	3	4	78	95	108	23	56	2	35	53	46	117	8	2	331	296	240
Accident not involving human damages	4 Extended damages	237	119	17	5	4	4	7	13	9	10	15	13	190	232	220	10	8	6	120	114	87	168	22	1	747	527	357
	5 Product breakage	82	259	58	2	2	3	9	21	4	13	12	6	31	43	38	5	4	1	76	114	77	64	15	2	282	470	189
	6 No damages	2	5	6	0	3	2	0	0	0	1	1	2	3	2	4	0	0	0	0	2	4	5	3	0	11	16	18
Total		391	448	146	13	36	27	18	36	19	31	32	27	355	447	453	42	71	12	269	325	267	450	53	5	1,569	1,448	956

Notes:

- "Serious injuries" signifies those required one month or more for recovery.
- "Extended damages" involve damages to more than the relevant products.

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

Product Classification	Preventive Measures taken	# of cases(* 1)			Replace product/parts, or conduct safety check			Discontinue manufacturing, sales or import			Improve product, manufacturing process or/and quality control			Improve labeling or/and instruction manual			Alert consumers by government or/and manufacturers			Individual measures incl. compensation for damages, product replacement etc.			Total		
		FY			FY			FY			FY			FY			FY			FY					
		2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999	2001	2000	1999
1 Home electrical appliances	318	368	59	289	311	32	18	12	5	268	145	34	5	5	1	245	287	6	304	349	49	1,129	1,109	127	
2 Kitchen and table appliances	2	10	9	1	2	1	1	3	2	0	7	7	1	1	5	1	0	0	2	6	7	6	19	22	
3 Combustion appliances	8	9	8	5	0	6	1	1	0	1	5	1	0	0	0	6	0	6	5	6	2	18	12	15	
4 Furniture/home products	6	10	7	4	5	2	0	0	1	4	8	5	1	5	1	4	3	2	6	8	6	19	29	17	
5 Vehicles/vehicle related products	21	30	25	12	21	12	0	2	0	13	16	22	0	3	2	9	12	0	15	24	20	49	78	56	
6 Personal products	31	32	16	1	6	0	1	5	0	30	24	15	1	1	2	4	3	0	27	27	16	64	66	33	
7 Health and sanitary products	11	8	4	9	2	3	0	0	2	10	4	1	1	4	0	9	0	2	10	7	2	39	17	10	
8 Leisure products	5	9	4	0	2	0	0	2	0	2	4	3	4	2	1	0	1	0	2	6	4	8	17	8	
9 Baby products	3	17	6	0	3	1	0	0	1	3	13	4	0	5	1	0	1	0	2	14	5	5	36	12	
10 Textile products	1	0	3	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	1	0	3	2	0	5	
11 Others	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	2	0	
Total		406	494	141	321	352	57	21	25	11	332	226	94	13	27	13	278	307	16	374	448	114	1,339	1,385	305

Notes:

- (\*1) Number of cases preventive measures were taken.  
When multiple measures were taken, each measure was counted respectively.