

2006 Edition

Japan Industrial Safety and Health Association

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## (1) Accident Data Sources

Statistics on occupational accidents in Japan are compiled and maintained by the Ministry of Health, Labour and Welfare (MHLW).

MHLW's sources include (1) Data from the Workmen's Accident Compensation Insurance Benefits (in Japan, workmen's accident compensation insurance is managed by MHLW), (2) Report of Workers Casualties, and (3) results of sample surveys conducted when necessary by MHLW of workplaces of a specified size and type.

The data included in this booklet comes mainly from Data from the Workmen's Accident Compensation Insurance Benefits mentioned above. Since 1999, we have included some data from the Report of Workers Casualties, also mentioned above. Please be aware that there is some discrete data caused by this change in statistical method.

## (2) Definition of Terms

The meanings of the major terms used in this booklet are as follows.

 $\bigcirc$  Occupational accident

Death, injury or disease suffered by a worker due to causes attributable to buildings, equipment, raw materials, gases, vapors, dust and other phenomenon related to work or as a result of a worker's conduct while he/she is at work. Accidents while commuting to and from work are not included.

○ Serious accident

An accident that results in three or more deaths or injuries.

 $\bigcirc$  Annual accident rate per 1,000 workers =  $\frac{\text{Total number of casualties in one year}}{\text{Average number of workers in one year}} \times 1,000$ 

 Occupational diseases per 1,000 workers See p. 28.

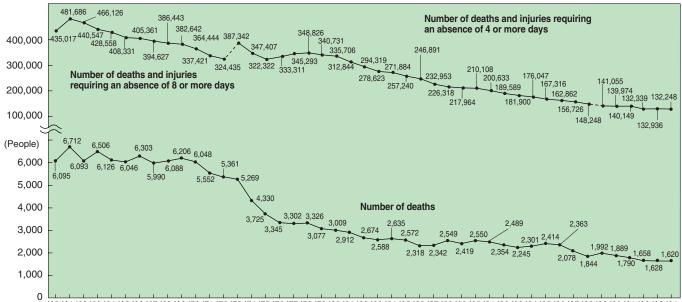
○ Frequency rate and severity rate See p.15.

## 1. Trends in Occupational Accidents

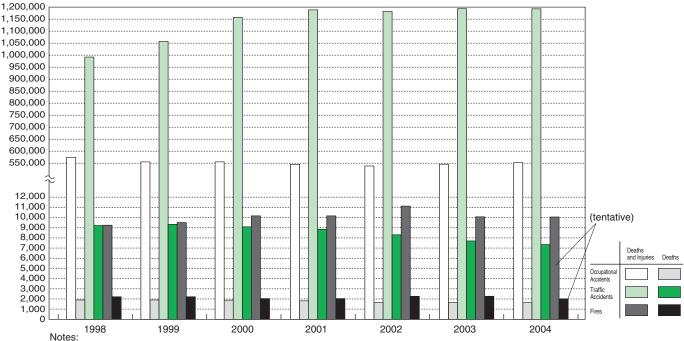
The number of deaths and injuries due to occupational accidents has declined since reaching a peak in 1961. In the three years from 1976, the number began to rise again, but then headed downward again in 1979.

The number of deaths in 2004 stood at 1,620, less than 2,000 for the seventh consecutive year. This was 8 fewer deaths compared to 2003.

While the number continues to drop, the situation is such that about 1,600 workers a year die as a result of occupational accidents. The total number of victims of occupational accidents (the number of workers newly receiving workmen's accident compensation insurance benefits) is still about 540,000 annually. This indicates that the social and economic losses caused by occupational accidents are colossal.



'60 '61 '62 '63 '64 '65 '66 '67 '68 '69 '70 '71 '72 '73 '74 '75 '76 '77 '78 '79 '80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 Source: Figures for 1998 and before are extracted from Data from the Worker Accident Compensation Insurance Benefits; those for 1999 and later are from the Report of Workers Casualties.



#### Fig. 1 Changes in the Number of Deaths and Injuries for All Industries

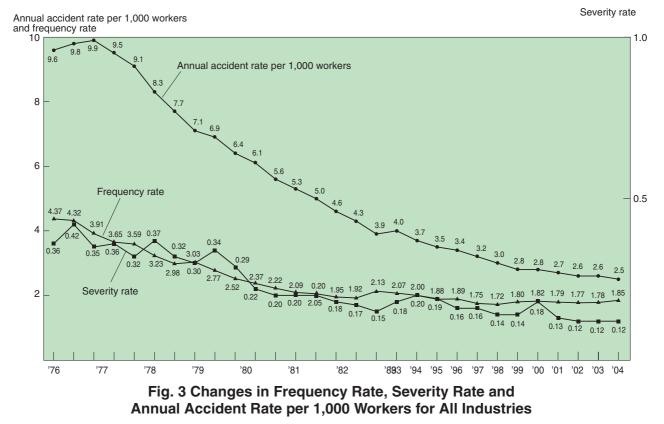
1. "Deaths and Injuries" from occupational accidents: New recipients of workmen's accident compensation insurance benefits.

2. "Deaths" from occupational accidents: based on the Report of Fatal Accidents.

3. "Traffic accidents": based on National Police Agency data.

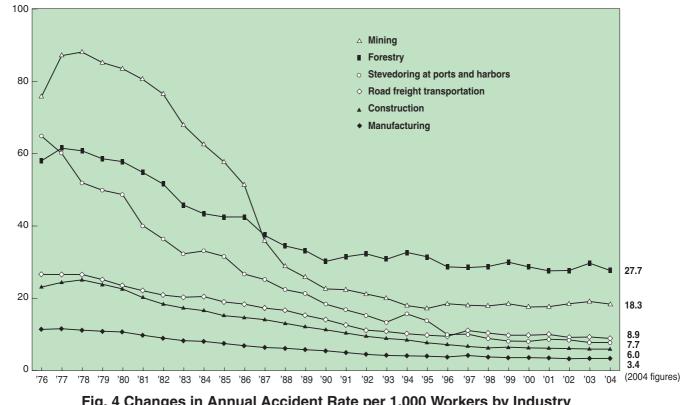
4. Deaths and injuries from occupational accidents excludes those incurred while commuting.

Fig. 2 Deaths and Injuries Caused by Occupational and Traffic Accidents, and Fires



Source: Figures for frequency rates and severity rates are from the Survey on Industrial Accidents, and those for the annual accident rates per 1,000 workers are from Data from the Workmen's Accident Compensation Insurance Benefits.

Compared with the preceding year, the frequency rate for all industries increased by 0.07, and the severity rate was unchanged in 2003. The annual accident rate for 1,000 workers increased over last year in forestry, stevedoring at ports and harbors and construction, while it decreased in mining and road freight transportation.



Annual accident rate per 1,000 workers

Fig. 4 Changes in Annual Accident Rate per 1,000 Workers by Industry Source: Data from the Workmen's Accident Compensation Insurance Benefits.

## 2. Breakdown of Occupational Accidents

## (1) Deaths by Industry

The number of deaths resulting from occupational accidents decreased by 8, or 0.5%, compared with the preceding year. Compared with 2003, by industry, the number of deaths increased by 46 (8.4%) in construction and by 2 (0.8%) for overland cargo transportation.

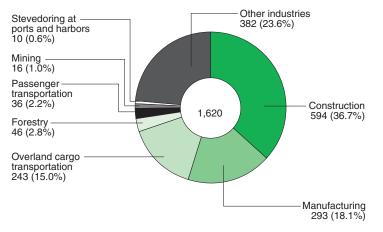
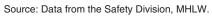


Fig. 5 Breakdown of Deaths by Industry (2004)



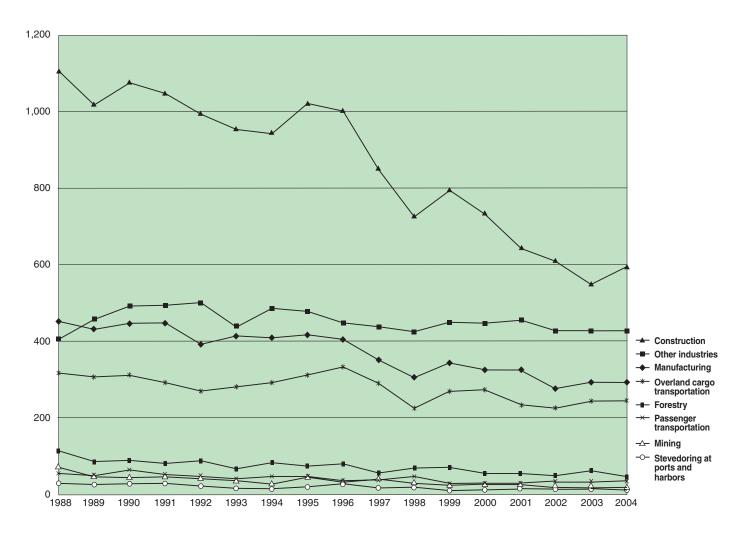
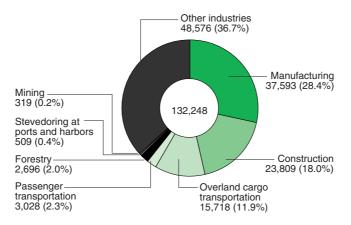
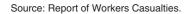


Fig. 6 Trends in the Number of Deaths by Industry (2004)

## (2) Deaths and Injuries by Industry



## Fig. 7 Breakdown of Deaths and Injuries Requiring an Absence of 4 Days or More by Industry (2004)



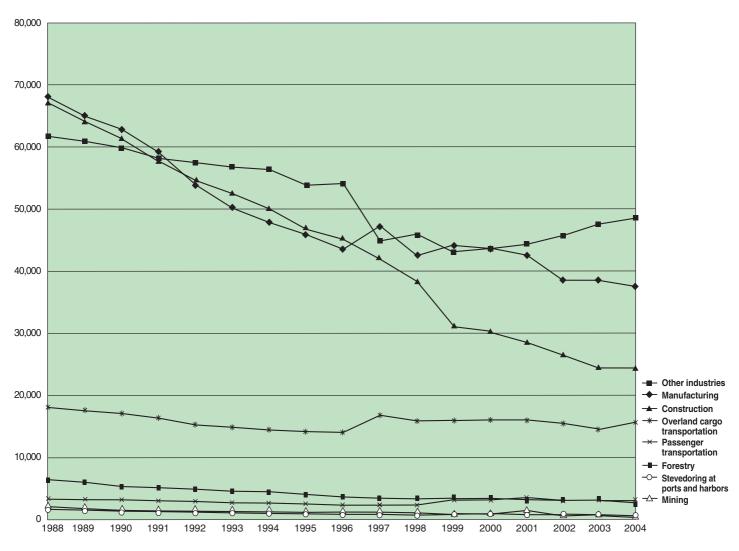
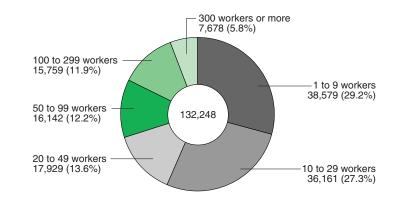


Fig. 8 Trends in the Number of Deaths and Injuries Requiring an Absence of 4 Days or More by Industry (2004)

## (3) Deaths and Injuries by Scale of Workplace



Workplaces with less than 100 workers account for about 82% of all occupational deaths and injuries requiring an absence for 4 days or more.

#### Fig. 9 Deaths and Injuries by Scale of Workplace (2004)

Source: Report of Workers Casualties.

#### (4) Annual Accident Rate per 1,000 Workes by Scale of Workplace

The annual accident rate per 1,000 workers by scale of workplace in manufacturing industries taken separately and for all industries in general show that the smaller the workplace, the higher the rate. In the manufacturing industries, the annual accident rate per 1,000 workers at workplaces with a workforce of one to nine people is about 8 times higher than at workplaces with 300 or more workers.

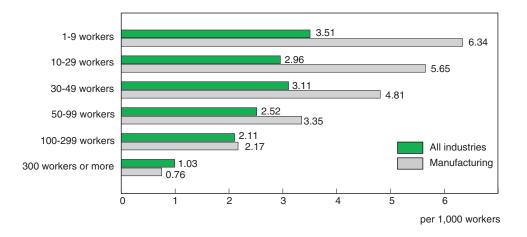


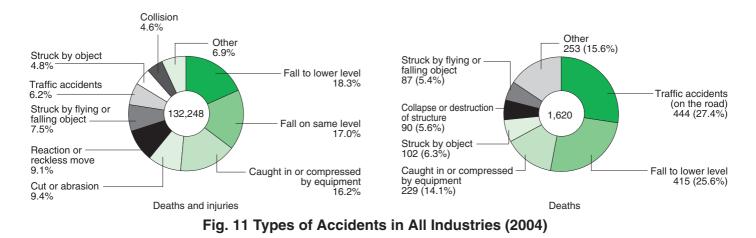
Fig. 10 Annual Accident Rate per 1,000 Workers by Scale of Workplace (2004)

Source: Data from Workmen's Accident Compensation Insurance Benefits.

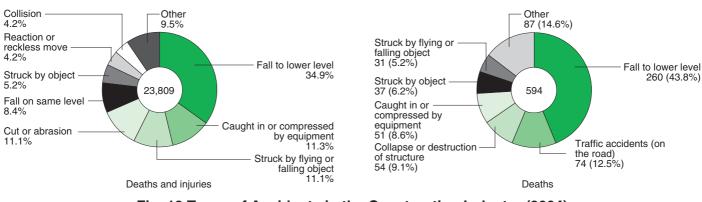
## (5) Deaths and Injuries by Type of Accident

The most common accident resulting in deaths and injuries in all industries was "a fall to lower level." This was followed by "a fall on same level," "caught in or compressed by equipment," "cut or abrasion," and "reaction or reckless move." These five types of accident account for about 70% of all accidents.

For all industries, "traffic accidents" and "falls to lower level" accounted for more than half of all deaths.

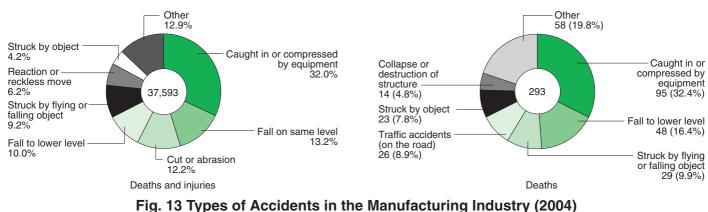


In the construction industry, "falls to lower level" were the most common accident, accounting for a large percentage of deaths and injuries.





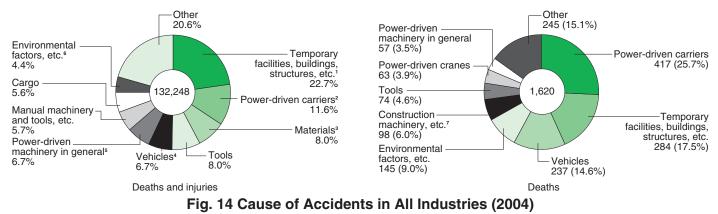
In the manufacturing industry, "caught in or compressed by equipment" was the most common accident.



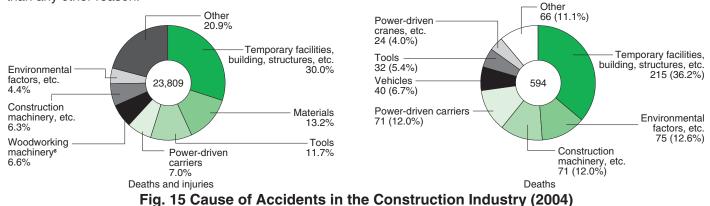
Source: For deaths and injuries: Report of Fatal Accidents. For deaths: Data from the Safety Division, MHLW.

## (6) Deaths and Injuries by Cause of Accident

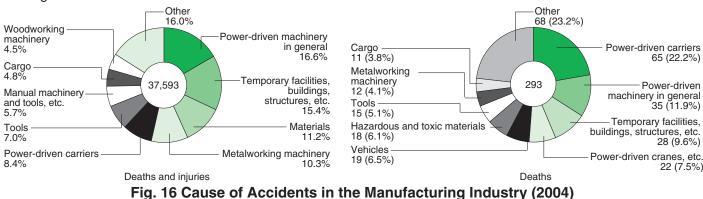
The highest number of occupational accidents resulting in deaths and injuries on an all-industry basis was caused by "temporary facilities, buildings, structures, etc." This was followed by "power-driven carriers" and "materials." Fatal accidents on an all-industry basis were mostly caused by "power-driven carriers," "temporary facilities, buildings, structures, etc." and "vehicles."



In the construction industry, "temporary facilities, buildings, structures, etc." caused the largest number of accidents. In addition, the percentage of accidents caused by "materials," and "tools" was higher than in any other industry. "Temporary facilities, buildings, structures, etc." caused 36.2% of the fatal accidents, overwhelmingly more than any other reason.



In the manufacturing industry, the most common cause of occupational accidents was "power-driven machinery in general," followed by "temporary facilities, buildings, structures, etc." and "materials." The percentage of accidents caused by "power-driven machinery in general" and "materials" was higher than the all-industry average. In manufacturing, the percentage of deaths caused by "power-driven carriers" and "power-driven machinery in general" was high.



Source: For deaths and injuries: Report of Fatal Accidents. For deaths: Data from the Safety Division, MHLW.

- Notes: 1. Scaffolds, stairs, bridges, etc.
  - 2. Trucks, forklifts, conveyors, etc.
    - 3. Metallic materials, wood, glass, etc.
    - 4. Passenger cars, railroad cars, aircraft, etc.

- 5. Power-driven presses, roll mixers, etc.
- 6. Natural ground, rivers, extraordinary air pressure, etc.
- 7. Bulldozers, drag shovels, pile drivers, etc.
- 8. Circular saws, band saws, planing and moulding machines, etc.

#### (7) Occupational Accidents Caused by Machinery and Equipment

A total of 37,982 workers were involved in occupational accidents caused by machinery and equipment in 2004, accounting for 28.7% of occupational accidents that year. These figures indicate that such accidents still occur frequently.

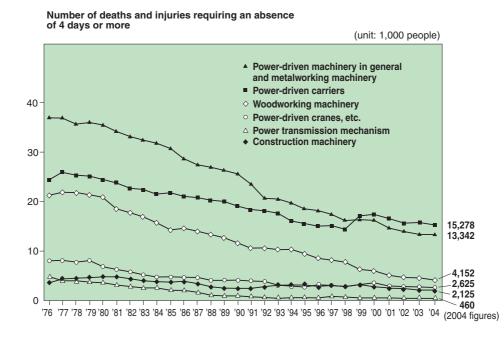


Fig. 17 Trends in the Number of Deaths and Injuries due to Machinery and Equipment

## (8) Occupational Accidents in Tertiary Industry

In conjunction with the development of service industries, the workforce in tertiary industries is increasing. As a result, the rate of accidents in tertiary industries is on the rise. Recently, accidents that result in death and injury (requiring an absence for 4 days or more) in tertiary industries accounted for about 40% of all accidents.

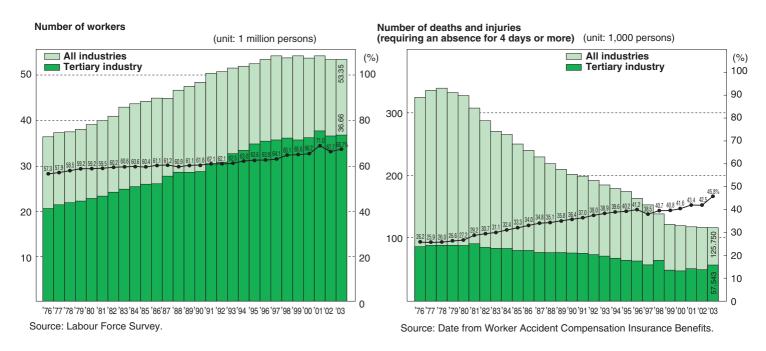


Fig. 18 Trends in the Number of Workers' Deaths and Injuries in Tertiary Industries

Source: (1976-1998) Data from Worker Accident Compensation Insurance Benefits. (1999-2004) Report of Workers Casualties.

## (9) Deaths and Injuries by Age Group

When the number of deaths and injuries requiring an absence of 4 days or more for all industries in 2004 is classified by age group, the over-60s category accounts for about 15% (19,809 workers).

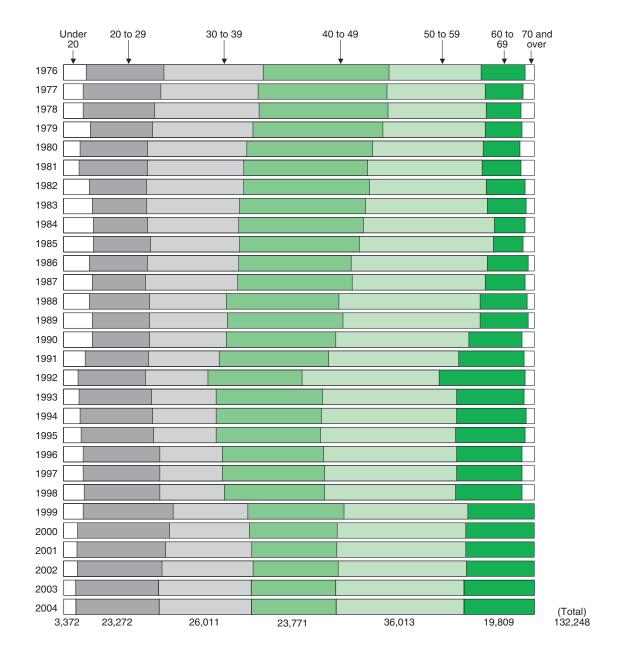


Fig. 19 Deaths and Injuries by Age of Worker

Source: (1976-1998) Data from the Workmen's Accident Compensation Insurance Benefits. (1999-2004) Report of Workers Casualties.

## Table 1 Accident Frequency Rates and Severity Rates by Industry (2003-2004)

<b>Classification</b> 2003						2004					
Classification			Frequency rate								
					Permanent		· · · · · · · · · · · · · · · · · · ·	nporary disab	oility		
	Frequency	Severity	Death	Deeth			Absence from	Absence from	Absence from	Severity	
	rate	rate	and injury	Death	total disability	partial disability	work of 8 days	work of 4-7	work of 1-3	rate	
Industry					uisability	uisability	or more	days	days		
All industries	1.78	0.12	1.85	0.01	0.00	0.03	1.14	0.24	0.43	0.12	
Forestry	—	—	*	*	*	*	*	*	*	*	
Forestation	—	—	*	*	*	*	*	*	*	*	
Mining	1.03	0.75	0.54	0.01	0.00	0.02	0.38	0.03	0.08	0.17	
Metal	1.33	0.04	0.62	0.16	0	0	0.40	0	0	1.20	
Coal	—	_	_	_	_		_	_	_	_	
Crude oil and natural gas	0.00	0.00	0	0	0	0	0	0	0	0	
Nonmetallic minerals	1.01	1.18	1.22	0.14	0	0	0.82	0.14	0.14	1.06	
Construction (General)	0.51	0.06	0.54	0.01	0.00	0.02	0.38	0.03	0.08	0.17	
Civil engineering	1.54	0.62	1.81	0.08	0.03	0.09	0.70	0.02	0.90	0.88	
Building work	1.63	0.16	1.76	0.06	0	0.01	0.72	0.05	0.93	0.49	
Manufacturing	0.98	0.11	0.99	0.01	0.00	0.04	0.60	0.08	0.26	0.11	
Food, drink, feed and tobacco	2.72	0.19	2.86	0.01	0	0.06	1.77	0.18	0.83	0.17	
Textiles (excluding clothing and other textile products)	1.52	0.19	1.77	0.02	0	0.08	0.91	0.05	0.72	0.18	
Clothing and other textile products	0.95	0.02	0.87	0	0	0.01	0.55	0.05	0.26	0.02	
Lumber and wood products (excluding furniture)	2.63	0.11	3.26	0	0	0.20	2.37	0.26	0.43	0.39	
Furniture and fixtures	1.45	0.13	1.42	0	0	0.10	0.73	0.12	0.48	0.08	
Pulp, paper and paper products	1.30	0.20	1.56	0.02	0.01	0.11	0.95	0.12	0.35	0.28	
Publishing, printing and related industries	1.03	0.17	1.49	0.01	0	0.02	0.84	0.15	0.46	0.08	
Chemicals	0.92	0.07	0.88	0.00	0	0.03	0.49	0.13	0.23	0.06	
Chemical fertilizers	0.85	0.03	0.59	0	0	0	0.40	0.20	0	0.01	
Inorganic chemical products	1.30	0.03	1.01	0	0	0	0.53	0.19	0.29	0.02	
Organic chemical products	0.93	0.08	0.68	0	0	0.03	0.38	0.12	0.15	0.02	
Chemical fiber products	0.28	0.31	1.00	0	0	0	0.76	0.07	0.17	0.05	
Medical supplies	0.90	0.03	1.05	0.01	0	0.06	0.53	0.15	0.30	0.08	
Other chemical products	0.73	0.07	0.62	0.02	0	0.02	0.36	0.04	0.18	0.18	
Petroleum and coal products	0.33	0.36	0.46	0	0	0	0.38	0.04	0.04	0.01	
Rubber products	0.93	0.24	0.90	0	0	0.04	0.59	0.08	0.19	0.04	
Tanned leather and fur products	0.77	0.01	1.33	0	0	0.19	0.38	0.19	0.57	0.03	
Ceramics, stone and clay products	1.40	0.45	1.17	0.01	0.01	0.06	0.73	0.16	0.20	0.27	
Iron and steel Nonferrous metal	0.89 0.75	0.37 0.03	1.17 0.86	0.05	0	0.10 0.06	0.75 0.58	0.11 0.06	0.17 0.13	0.47 0.18	
Metal products	1.11	0.03	1.08	0.01 0.01	0	0.08	0.58	0.06	0.13	0.18	
General machinery and equipment	0.79	0.13	0.74	0.01	0.00	0.08	0.02	0.08	0.20	0.19	
Electrical machinery and equipment	0.35	0.03	0.39	0.00	0.00	0.01	0.45	0.03	0.20	0.00	
Transportation equipment	0.56	0.01	0.55	0.01	0	0.01	0.25	0.04	0.09	0.02	
Precision machinery and instruments	0.55	0.13	0.55	0.01	0	0.04	0.36	0.03	0.10	0.05	
Weapons, etc.	1.02	0.01	0.84	0.00	0	0.01	0.53	0.00	0.20	0.03	
Information and communications	_		2.51	0.01	0	0.01	1.55	0.41	0.54	0.16	
Transportation	_	_	2.89	0.01	0.00	0.01	2.21	0.29	0.38	0.13	
Railroad transportation	0.87	0.02	1.27	0.01	0.00	0.01	0.82	0.16	0.29	0.03	
Road passenger transportation	3.71	0.23	4.02	0.00	0	0	3.25	0.48	0.29	0.14	
Road cargo transportation	3.07	0.23	2.99	0.01	0	0.00	2.22	0.20	0.57	0.13	
Water transportation	3.55	0.04	3.00	0	0	0	2.25	0.25	0.50	0.05	
Air transportation	3.01	0.06	2.20	0	0	0	1.53	0.42	0.25	0.06	
Warehousing	3.00	0.07	1.69	0	0	0	1.07	0.18	0.45	0.04	
Services related to transportation	1.42	0.15	1.55	0.02	0.01	0.04	1.08	0.13	0.27	0.30	
Postal services	12.14	0.44	12.04	0	0	0.02	7.50	2.21	2.31	0.23	

Classification	20	03	2004									
				Frequency rate								
					Permanent	Permanent	Ter	nporary disat	oility			
Industry	Frequency rate	Severity rate	Death and injury	Death	total disability	partial disability	Absence from work of 8 days or more	Absence from work of 4-7 days	Absence from work of 1-3 days	Severity rate		
Electricity, gas and water supply	0.58	0.01	0.53	0.00	0	0.00	0.32	0.09	0.11	0.04		
Electric power supply	0.33	0.01	0.30	0.01	0	0.01	0.16	0.02	0.11	0.06		
Gas supply	0.96	0.03	0.71	0	0	0	0.49	0.15	0.06	0.02		
Water supply	1.29	0.04	1.11	0	0	0	0.66	0.29	0.16	0.02		
Wholesale and retail trade	1.91	0.04	2.76	0.01	0	0.01	1.42	0.45	0.87	0.15		
Wholesale	0.93	0.02	1.55	0.03	0	0	0.75	0.20	0.58	0.23		
Merchandise wholesale	0.10	0.00	0.39	0	0	0	0.13	0.13	0.13	0.00		
Retail	2.76	0.06	3.40	0	0	0.01	1.77	0.59	1.02	0.11		
Merchandise retail	2.63	0.04	3.37	0	0	0.02	1.68	0.64	1.04	0.14		
Retail of furniture, home furnishings	2.21	0.43	1.30	0	0	0	0.55	0.19	0.55	0.01		
Services	3.75	0.19	3.26	0.01	0.01	0.02	2.31	0.55	0.37	0.19		
Hotels	3.05	0.05	3.06	0	0	0.01	1.55	0.33	1.17	0.05		
Laundry	3.66	0.12	3.33	0.06	0	0	2.40	0.31	0.56	0.57		
Golf courses	6.20	0.61	6.40	0	0	0	5.25	0.43	0.73	0.17		
Automobile maintenance	0.62	0.03	1.82	0	0	0.46	1.37	0	0	0.32		
Machinery repair	0.42	0.17	1.02	0	0	0	0.79	0.11	0.11	0.03		
Building management	3.09	0.18	1.85	0	0	0.02	1.51	0.18	0.15	0.06		
Waste disposal (including industrial	12.84	0.57	13.50	0.06	0.06	0.06	7.44	3.97	1.91	1.04		
waste disposal)												

Notes:

1. This table contains findings of a survey performed by the Statistics and Information Department of the Ministry of Health, Labour and Welfare, on the rates of deaths and injuries requiring an absence of 1 day or more in the calendar years 2003 and 2004 at about 14,000 workplaces which employed more than 100 workers and belonging to those lines of industry which are enumerated in this table.

2. From the 2005 edition, industries enumerated in this table are classified by the March 2002 revised version of Japan Standard Industry Classification (by the Ministry of Internal Affairs and Communications).

3. "Construction (General)" covers construction sites for which the contract price exceeds ¥190 million or where the approximate premiums under the Workmen's Accident Compensation Insurance were in excess of ¥1.6 million (As for constructions that were put under contract on or before March 31, 1999, "Construction (General)" covers construction sites for which the contract price exceeds ¥120 million or where the approximate premiums under the Workmen's Accident Compensation Insurance were in excess of ¥1 million). However, it does not cover projects for the installation of machinery and appliances, electric work and plumbing.

4. The totals for "All industries" are those of the surveyed industries. The totals for the surveyed industries do not include "Construction (General)."

5. The accident frequency rate is expressed in terms of the number of deaths and injuries in occupational accidents per 1 million work-hours in the aggregate. The rate is gained by dividing the number of deaths and injuries (multiplied by 1 million) in occupational accidents that occurred during the survey period by the aggregate number of work-hours for all workers who were exposed to risks in the same period.

	Number of deaths and injuries in occupational accidents	
Accident frequency rate =		-× 1,000,000

Aggregate number of work-hours

6. The accident severity rate is expressed in terms of the number of workdays lost per 1,000 work-hours in the aggregate. The rate is gained by dividing the number of workdays lost (multiplied by 1,000) in occupational accidents that occurred during the survey period by the aggregate number of work-hours for all workers who were exposed to risks in the same period.

Accident severity rate = Number of workdays lost

$$\frac{1}{\text{Aggregate number of work-hours}} \times 1,000$$

#### Number of workdays lost:

- (a) Deaths: 7,500 days
- (b) Workdays lost with physical disorders

Grade of physical disorder	1~3	4	5	6	7	8	9	10	11	12	13	14
Number of workdays lost	7,500	5,500	4,000	3,000	2,200	1,500	1,000	600	400	200	100	50

(c) Workdays lost without physical disorders

Number of workdays lost = Number of days off 
$$\times \frac{300}{365}$$

7. The rates have been rounded to the second decimal point.

8. "0" indicates that no occupational accidents occurred. "0.00" denotes a rate less than 0.005.

9. "--" indicates that there are no workplaces that fall under the category. "\*" indicates that the data are not shown because the number of workplaces was too small.

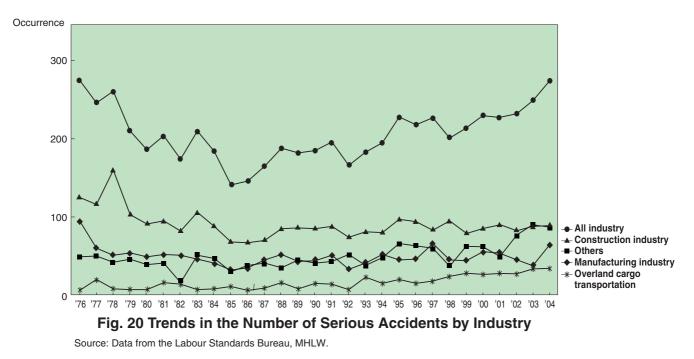
## 3. Serious Accidents

#### (1) Trends in Serious Occupational Accidents

The number of serious occupational accidents (accidents that involved three or more people at the same time) peaked at 480 in 1968, and then followed a downward trend. However, since 1985, there has been an increase in such accidents.

The year 2004 witnessed 274 serious occupational accidents. This was an increase of 25 cases or 10.0% from the previous year. A total of 1,431 workers were killed or injured in those accidents, a decrease of 289 people or 16.8%. The number of deaths was 97, an increase of 7 person or 1.1%.

By industry, the construction and manufacturing industries accounted for more than 50% of all serious accidents.



#### (2) Cause of Serious Accidents

When serious occupational accidents in 2003 are classified by cause, traffic accidents lead the list with 134 cases, followed by "poisoning and chemical injuries" at 49, "fires or contact with hot objects" at 21 and "explosions" at 14.

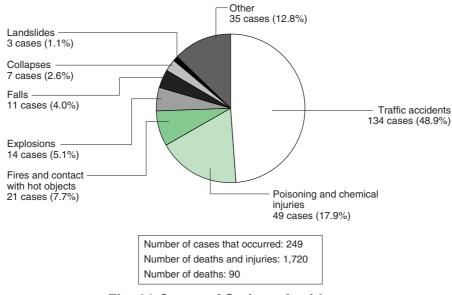


Fig. 21 Cause of Serious Accidents

Source: Data from the Safety Division, MHLW.

# (3) Outline of Serious Accidents in 2004 (January-December)

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths
Manufacturing	Falls	Ship and boat building and repairing> When workers were attaching parts to a gravel carrier on the scaffold in a dock, the belt of a chain block from which the parts were suspended snapped, and the parts fell on the scaffold. The scaffold collapsed under the impact, and three workers fell to the concrete floor about 3.5 meters below and were injured, some seriously.	3	0
	Struck by objects	<b>Non-ferrous metals&gt;</b> When workers were scaling off sulfite calcium scales from the top-most part of the eliminator of a desulfurization-absorption tower during regular repair work at a smeltery, workers were hit by falling scales and were injured.	3	0
	Collapses	<ship and="" boat="" building="" repairing=""> When workers working on a block of a hull for the construction of a containership, a clamp snapped, and the block toppled, and workers who were spilt from it fell to the bottom of the dock 20 meters below.</ship>	4	2
	Contact with hot objects or substances	<chemicals allied="" and="" products=""> Water was leaking from the check valve of a water-tube boiler. When workers were replacing the check valve, hot water escaped and the workers were scalded.</chemicals>	3	0
		<furniture and="" fixtures=""> Two workers fighting a fire that had started in a dust collector in the factory suffered burns, and another worker working on a wide belt sander, which had a duct connected to the dust collector, also suffered burns as the sander also caught fire.</furniture>	3	0
		<industrial and="" equipment="" machinary=""> A fire started in a silo, and workers who were in the silo for repair work suffered burns.</industrial>	3	0
		<b>Other products&gt;</b> After workers had removed the hopper from an injection molding machine and added new resin and were confirming the ejection, hot resin retrofired from the hopper's mouth, and three workers suffered burns.	3	0
	Exposure to harmful substances	<b>Food products&gt;</b> When workers were cooking dough in a gas oven at a bakery, four workers working near the oven suffered carbon monoxide poisoning as they had forgotten to switch on the ventilator.	4	0
		<b>Food products&gt;</b> When workers were making pastry in a bakery, carbon monoxide developed as a result of imperfect combustion, and three workers suffered carbon monoxide poisoning.	3	0
		<b>Iron and steel&gt;</b> Carbon monoxide found its way into a boiler via a water valve and spread into the boiler room, and workers suffered carbon monoxide poisoning.	6	1
		<b>Other products&gt;</b> When workers had removed a rail from a railway track and were taking it out with a truck crane, the arm of the crane touched an electric wire, and one worker who was touching the hook and two workers who were touching a different rail got an electric shock.	3	0
		<b>Other products&gt;</b> When workers were replacing a V-belt in a soundproofed room for the dust collecting fan of a cupola furnace, they suffered carbon monoxide poisoning caused by carbon monoxide which had leaked in the soundproofed room.	3	0
	Poisoning and chemical injuries	<chemicals allied="" and="" products=""> Workers who had test- produced an agricultural chemical and workers who had cleaned the dust collector of the production facility suffered dermatitis.</chemicals>	7	0
		<chemicals allied="" and="" products=""> Material leaked out during work, and workers complained of pain of the eyes, etc.</chemicals>	5	0
		Chemicals and allied products> Gas leaked from the valve of a fluoride tank and ignited in a fluorinated acid electrolysis plant. Workers who were nearby extinguished the flames, but workers who inhaled fluoride complained of cough and pain in their eyes.	5	0

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths
Manufacturing	Poisoning and chemical injuries	<chemicals allied="" and="" products=""> When workers were manufacturing dye, an abnormal reaction suddenly occurred, smoke burst forth, and four workers complained of pain of the throat and headache.</chemicals>	4	0
		<b>Chemicals and allied products&gt;</b> When workers were removing liquid from piping before the replacement of piping in a fluorosulfuric acid manufacturing factory, the liquid vaporized, and the workers suffered dermatitis.	3	0
		Chemicals and allied products> When workers mixed boric acid and dicyclohexylcarbodiimide with polylactic acid, cyclohexyl isocyanate was formed and three workers complained of pain in their eyes.	3	0
		<chemicals allied="" and="" products=""> When workers were filling bottles with a 5-6% solution of sodium hypochlorite from a 20-liter tank in a warehouse, the faucet of the tank came off, and about 10 liters of the chemical flowed out on the floor. Workers who diluted the chemical with water and tried to mop it up with cloths inhaled the vaporized chemical and complained of coughing and pain of the throat.</chemicals>	3	0
		<electric apparatus="" machinary="" or=""> Water in a tank evaporated at a test facility used to electrodeposit magnesium alloy, and the heater overheated. As a result, acrylic resin on the walls of the tank carbonized and emitted white smoke. Workers who fought the fire inhaled the white smoke and suffered injuries to the respiratory tract.</electric>	3	0
		<electric apparatus="" machinary="" or=""> When a worker was pouring chlorosulfonic acid into a measuring tank in a factory, he accidentally poured an excessive amount into it. The liquid that overflowed entered an external water distribution pipe, reacted with water and generated hydrogen chloride. The hydrogen chloride entered a nearby business establishment, and three workers complained of discomfort.</electric>		0
		<b>Food products&gt;</b> Workers who were working in a refrigerator inhaled chlorofluorocarbons, which had leaked, and felt sick.	5	0
		< <b>Food products</b> > In the tuna-processing room of a food factory, the timer for a gas-phase ozone generating device set to work only at night (when work is not done to prevent fungus generation) started to operate in the morning by mistake, and 13 workers inhaled ozone and suffered acute ozone poisoning.	13	0
		<b>Other products&gt;</b> When workers were repairing a pump and replacing material in the material tank room of a heat insulation material factory, they suffered eye inflammation.	7	0
		<other products=""> In the factory of a cleaning company, workers closed the windows because they smelled paint from outside the room, and stopped working, and three of them suffered pain in the eyes and throat.</other>	3	0
	Explosions and bursts	<b>Chemicals and allied products&gt;</b> When workers had brought the cartridges of semiconductor material gas detoxifying equipment to a factory and were carrying them after unloading, a caster (a wheel on a swivel frame) was caught in a ditch. When the wokers shook the caster, a cartridge exploded, and they were injured.	7	1
		<chemicals allied="" and="" products=""> A high-pressure gas plant used to increase the purity of polytetrafluoroethylene monomers, a processing material of fluoric resin, exploded, starting a fire, and workers were injured.</chemicals>	4	0
		<chemicals allied="" and="" products=""> A hydrogen fluoride absorption tower made of polypropylene exploded in an electrolytic fluorination plant, and workers were injured from exposure to acid and by the blast.</chemicals>	4	1

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths
Manufacturing	Explosions and bursts	<lumber and="" products="" wood=""> A dust collector exploded in a building material plant, and 12 workers were injured, some seriously.</lumber>	12	0
		<lumber and="" products="" wood=""> An explosion occurred while manufacturing building material boards by compressing pieces of wood and adhesives, and workers were injured.</lumber>	3	1
		< <b>Metal products&gt;</b> When workers were heating an aluminum section with a torch made from a gas cylinder sold in the market during the test of a wrapping machine, the cylinder exploded and three workers suffered burns.	3	0
		<ship and="" boat="" building="" repairing=""> An explosion occurred while workers were painting the interior of a ship, and two men died, one suffered a burn, and another worker engaged in rescue operations suffered carbon monoxide poisoning.</ship>	4	2
		<ship and="" boat="" building="" repairing=""> An explosion occurred when workers switched on a ventilator after completing painting of a ship's interior, and four of them were injured.</ship>	4	0
	<c qu en us for inc nc</c 	<ceramics, and="" clay="" products="" stone=""> When workers washed a quartz product with water during reshaping, water accidentally entered the product. They injected a methanol-mixed fluid and also used a gas burner to dry the product, the product exploded, and four workers were injured.</ceramics,>	4	0
		<ceramics, and="" clay="" products="" stone=""> Workers engaged in the incineration of rubbish threw a combustible into it as the rubbish did not burn well. An explosion occurred, and three workers suffered burns.</ceramics,>	3	0
		<b>Other products&gt;</b> On a line to produce cottony pulp from waste newsprint, sparks broke out from metal pieces in a secondary material crushing line. The sparks flew to the cottony pulp tank, causing an explosion of the tank, and workers were injured.	4	1
	Fires	<chemicals allied="" and="" products=""> A fire broke out from a mixer used to refine crude rubber and spread to the surrounding area, and 13 workers suffered burns.</chemicals>	13	0
		<chemicals allied="" and="" products=""> While mixing sodium hydride and liquid paraffin evenly in a mixer, ignition occurred when workers were inputting the two substances into the mixer, and four workers suffered burns.</chemicals>	4	0
		<chemicals allied="" and="" products=""> A fire broke out in a styrofoam plant, and workers fighting the fire suffered burns and other injuries.</chemicals>	3	0
		<lumber and="" products="" wood=""> A fire broke out in a sawmill, and five workers who were living in the second story of the sawmill jumped from the window to the ground 3 meters below, and were injured.</lumber>	5	0
		<non-ferrous metals=""> A fire broke out when workers were changing the mold of a die-casting machine, and three of them suffered burns.</non-ferrous>	3	0
		<non-ferrous metals=""> During a process to produce ferro- molybdenum by thermite reaction, workers put molybdenum trioxide into a mixing hopper and began to drop it into a vessel to be put into a mixer. They hit the steel frame of the hopper to release the material, and a fire suddenly started. Two workers suffered burns, and one inhaled gas.</non-ferrous>	3	0
	Food poisoning	<electric apparatus="" machinary="" or=""> Workers ate lunch at the company cafeteria, and 35 of them suffered food poisoning.</electric>	35	0
		<food products=""> Workers who ate a fixed-menu lunch at a company cafeteria suffered E. coli O159 infection.</food>	55	0

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths
Manufacturing	Other	<other products=""> When workers were making adjustment in a casting mold on a motor vehicle parts casting line, a worker who was on the outside switched on the casting line as he did not know there were people in the mold. So the line started, and the three workers in the mold were squeezed to death.</other>	3	3
Construction	Falls	<building construction=""> When workers who were constructing a wooden one-storied pigsty hoisted up the hut assembled on the ground with a crane, and were riveting the hut onto a floor joist, the hut fell, and four workers who were on it were injured.</building>	4	0
		<building construction=""> When workers had removed half of the canopy of a heavy oil tank (26.7 meters in diameter and 15.6 meters in height), which they were dismantling, the tank toppled and three workers who were working on the canopy fell to the bottom of the tank.</building>	3	2
		<building construction=""> When workers were attaching a projecting scaffold to a plant, a scaffold cramp got loose, the scaffold tilted, and three workers on it fell and were injured.</building>	3	0
		< <b>Civil engineering</b> > When workers were getting into a car on a breakwater to return because waves were high, they were caught by a wave, fell and were injured.	4	0
		< <b>Civil engineering&gt;</b> Workers working on an anchor for a free frame on the face of a slope were hoisting up tools, etc., on a work table from the ground to the working height by means of a crawler crane. When three workers were taken to the work table from the slope face, the rear part of the crawler crane rose, and two workers who were on the work table slammed into the ground with the table and died.	3	2
		< <b>Civil engineering</b> > When four workers who were returning to a forest road on a monorack after completing a check on the monorack, the monorack fell 15 meters.	3	1
		<other construction=""> When 18 workers were dismantling the ceiling of an office building to repair air conditioning equipment, the entire ceiling (6 meters by 5 meters) fell, and four workers making preparations to erect column supports to prevent the fall of the ceiling were injured.</other>	4	0
		< <b>Other construction&gt;</b> When nine workers were temporarily placing cement bags (each weighing about 25kg) and tile boxes (each weighing about 20kg) on a mobile pallet of a two-story parking garage to prepare for a private view of a newly-built building to be held the same day, the central part of the upper pallet deformed under the load, the wheels on one side came off, and the upper pallet fell with the workers (including those working on the pallet) and the freight onto the lower pallet about 1.6 meters below, and the workers were injured.	4	0
		<other construction=""> When three workers were cleaning a smoke vent by setting a ladder on the lid, the lock on the lid suddenly came off, and the workers fell together with the ladder.</other>	3	0
	Struck by objects	objects <b><building construction=""></building></b> When workers were pressure- transporting raw concrete by using a concrete mixer truck with a boom in concrete placement work on the antiseismic foundations for hospital construction work, the boom of the concrete mixer truck snapped, and one end of the falling boom hit workers, and three were injured.	3	0
	Collapses	<building construction=""> A slab formwork collapsed and fell when workers were placing concrete on a slope in one sector of the third basement of a building under construction, and eight workers fell about 2.5 meters together with the slab reinforcement.</building>	8	0
		<building construction=""> When workers were dismantling a four- layer two-span scaffold erected in a park, strong winds from Typhoon No. 16 blew and the scaffold toppled, and three workers on it were injured.</building>	3	0

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths				
Construction	Collapses	<building construction=""> Workers placed three steel sheets on an internal scaffold and an external scaffold when they were fixing an ALC sheet on a wall of a middle school building, placed five scaffold boards in parallel to each other on the three steel sheets, and put a concrete-formwork panel on them as a work floor, and five workers were working on it. When workers raised a 90-kilogram board, the scaffold collapsed, and three workers were injured.</building>	3	0				
		<building construction="">The deckplate fell off a formwork and workers were injured.</building>						
		<civil engineering=""> A waterway under construction collapsed, and three workers who were placing ready-mixed concrete on the waterway fell into a river 8 meters below.</civil>	3	0				
		<other construction=""> As workers had cut off a beam from the second story during the dismantling of a building, the imbalance of weight affected part of the second floor, the floor fell, and workers were injured.</other>	3	0				
	Landslides	< <b>Civil engineering</b> > Four workers working in a ditch dug out to bury a conduit pipe were buried under earth and sand and were injured.	4	0				
		< <b>Civil engineering&gt;</b> When workers were removing a formwork near the fore levee of a mud control dam, the ground of the slope on the left bank gave way, and four workers were caught in the landslide. One died of suffocation, two others were injured. One escaped uninjured.						
	Contact with hot objects or substances	<b><other construction=""></other></b> When workers were making preparations for a regular check of an electric power plant, a pipe of hot water near the ceiling exploded, and five workers were killed by hot vapor and six were scalded.	11	5				
		<b>Other construction&gt;</b> During the replacement of a gas pipe, natural gas that had settled in a ditch ignited for an unknown cause, and four workers suffered burns.	4	0				
	Exposure to harmful substances	<building construction=""> Six workers suffered carbon monoxide poisoning when they were using a power cutter at a construction site.</building>	6	0				
		<building construction=""> When workers were using a partly damaged fluorescent lamp to install the piping of an air conditioner, they were exposed to ultraviolet rays and contracted keratitis and derrmatitis.</building>	3	0				
		<civil engineering=""> Six workers were explosed to ammonia generated from an impregnating agent of the urea group and suffered keratitis.</civil>	6	0				
		<civil engineering=""> Workers who were using a power welder at a drain tunnel construction site suffered carbon monoxide poisoning.</civil>	6	0				
		<civil engineering=""> Three workers who were welding in a multipurpose underground conduit suffered carbon monoxide poisoning.</civil>	3	0				
		<b>Other construction&gt;</b> When workers were dismantling a shop with a power cutter, air compressor, concrete breaker, etc., the shop was filled with waste gas, and they suffered carbon monoxide poisoning.	4	0				
		<other construction=""> When a worker was using a power cutter in a studio, three workers suffered carbon monoxide poisoning.</other>	3	0				
	Poisoning and chemical injuries	<b>Civil engineering</b> > When workers at a field site were using urethane to be foamed as roadbed material from about 8 meters below to expand a mountainside road, smoke arose from urethane placed the previous day. Seven workers fought the fire, and suffered nausea in the afternoon.	7	0				

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Construction	Poisoning and chemical injuries	<b>Other construction&gt;</b> During a regular check, when a worker removed a bolt used to insert and fix a partition board in the flange of piping, gas leaked out, and two workers who were on the stage fell unconscious and one who was descending a ladder fell to the ground.	3	0
		<b>Other construction&gt;</b> When workers were removing sludge from a waste fluid tank, both the infusion hose and suction hose fell off. As a result, hydrogen chloride belched out, and three workers inhaled it and suffered damage to their respiratory tract.	3	0
		<b>Other construction&gt;</b> When three workers, in order to remove a temporary pipe from a temporary pump in a waste fluid treatment plant, were taking out the bolts on a flange and placing a pail can to receive the remaining fluid under the flange that connects a pump with a pipe, they inhaled harmful gases (hydrogen sulfide, ammonia and carbon monoxide) and suffered nausea.	3	0
	Explosions and bursts	<building construction=""> A gas pipe broke during the dismantling of a building, and the gas that leaked out ignited and exploded. Two workers died and one was injured.</building>	3	2
		<b>Civil engineering</b> > When workers were bailing out water from a manhole with buckets for the installation of a cesspipe, one worker who was in the manhole tried to light a cigarette. An unidentified gas caught fire and flamed up, and three workers suffered burns.	3	0
		<b>Other construction&gt;</b> When a worker sprayed a dye penetrant into a waste heat boiler pipe during the cleaning and checking of a boiler, which is part of a garbage incineration facility in a recycling center, an explosion occured in the pipe, and three workers were injured.	3	1
	Fires	<building construction=""> When a worker was doing gas cutting in a herbicide plant, residual toluene caught fire, and three workers suffered burns.</building>	3	0
		< <b>Civil engineering</b> > A fire broke out in the dormitory of a business establishment, and three workers suffered burns.	3	0
	Traffic accidents	<building construction=""> When a microbus carrying workers was halted on a side strip as the left front tire had become flat and workers were changing the tire, the vehicle was hit from behind by a station wagon.</building>	18	3
	Other	<building construction=""> A construction worker suddenly attacked other workers with a crowbar.</building>	4	1
		<building construction=""> Three workers engaged in the arrangement of reinforcement at a depth of 2 meters under the ground complained of indisposition, which was diagnosed as heatstroke.</building>	3	0
		<b>Civil engineering&gt;</b> Three workers engaged in rail placement on an elevated rail line complained of indisposition, which was diagnosed as heatstroke.	3	0
		<b>Civil engineering&gt;</b> Two workers working on the edge of dike of a fishing port were carried away by waves and died, and one who tried to rescue them was injured.	3	2
		<b><other construction=""></other></b> A ship carrying workers who had completed the installation of receivers of a disaster prevention system developed engine trouble, began to drift and capsized, leaving the workers injured.	5	0
Transportation	Struck by objects	<railroad transportation=""> Sulfuric acid leaked from a plastic bottle in a train and melted the train's vinyl floor. Crewmen and passengers complained of indisposition.</railroad>	8	0
Cargo Handling	Falls	<overland cargo="" transportation=""> When workers had taken out a copying machine to a veranda, the verandah collapsed, and three workers fell and were injured.</overland>	3	0

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths			
Cargo Handling	Poisoning and chemical injuries	<b>Overland cargo transportation&gt;</b> When a truck driver was loading drums and an 18.04-liter can containing ethyl acrylate on a truck on an indoor platform of a transportation company, he accidentally dropped a drum, and the drum touched the 18.04-liter can, which toppled on the platform. The stop cock of the can got loose, and the ethyl acrylate liquid leaked out. Eight workers who were on the platform inhaled the vaporized chemical and suffered ethyl acrylate poisoning.	8	0			
	Traffic accidents	<overland cargo="" transportation=""> Two taxis with workers in them were hit from behind by a truck when the taxis were waiting at a red light.</overland>	11	0			
Other	Falls	<b>Cleaning</b> >A worker doing painting on a scaffold lost his balance and fell to the ground. The scaffold also toppled, and another worker who was on it also fell. Moreover, the scaffold hit the worker who was working below in the head.	3	0			
	Landslides	<b><other></other></b> When workers in a prefabricated hut at a construction site were collecting information about casualties and damage due to a typhoon, the hut was washed away in a landslide, and four workers were injured.	4	0			
Contact with hot objects or substances							
Exposure to harmful substances		<b>Cleaning&gt;</b> When a worker raked out ashes that clogged up an ash cooling facility at an incinerating plant, the hot ashes fell, and three workers were exposed to the ashes and suffered burns.	3	0			
	<hotels and="" restaurants=""> Boiling water was released when the lid on a caldron in a kitchen came off, and three workers were scalded.</hotels>	3	0				
	<cleaning> When workers were polishing the floor using an internal combustion engine and were painting wax on it in the selling space in the first story of a supermarket, a job that is usually done twice a year, carbon monoxide was generated from the propane-powered engine. Eight workers inhaled the poisonous gas for about three hours and suffered carbon monoxide poisoning.</cleaning>	8	0				
		<b>Cleaning&gt;</b> When a worker was cleaning a distribution board in the panel room on the first story of a multi-tenant building, he accidentally approached the point where the lead wire is connected with a cable. As a result, an electric arc was generated, and he and two others working nearby suffered burns.	3	0			
		<b>Commerce&gt;</b> The fluorescent lamp on an insect collector was changed to a bactericidal lamp by mistake, and seven workers who were working under the lamp suffered eye abnormality and received medical treatment.	7	0			
		<b>Commerce&gt;</b> When workers were test-baking bread in a gas oven afer a change in the layout of the bakery, five workers began to complain of a physical disorder, which was diagnosed as carbon monoxide poisoning.	5	0			
		<commerce> When customers were receiving a warm water shower at a beauty parlor, carbon monoxide arose as a result of imperfect combustion of a gas water heater, and five workers suffered carbon monoxide poisoning.</commerce>	5	0			
		<commerce> When workers started a water heater in a kitchen and were supplying hot water while cooking, three of them who were cooking in the kitchen complained of a physical disorder and were rushed to hospital, where the trouble was diagnosed as carbon monoxide poisoning.</commerce>	3	0			
		<health services=""> A bactericidal lamp was being used instead of an insecticidal lamp in a kitchen by mistake, and workers who were exposed to ultraviolet rays suffered from eye inflammation and dermatitis.</health>	6	0			

Exposure to harmful substances	<health services=""> Hypochlorous acid for sterilization was accidently spilt on the floor, and six workers who were mopping the floor inhaled the vaporized chemical and suffered from what was diagnosed as trouble of the respiratory tract mucous membranes. <health services=""> When workers were cooking lunch in a kitchen, burning propane gas, oxygen ran short because of insufficient ventilation, and four workers inhaled carbon monoxide generated by imperfect combustion of propane gas and suffered carbon monoxide poisoning. <hotels and="" restaurants=""> As a water heating and space cooling system was operated without switching on its smoke elimination damper, carbon monoxide poisoning. <hotels and="" restaurants=""> When bread was being baked in a kitchen, the outlet of a ventilator for a kettle was clogged up, causing insufficient ventilation, and five workers suffered carbon monoxide poisoning.  Other&gt; When a bactericidal lamp in an underground linen room was changed, five workers complained of pain of the eyes and suffered from electrical ophthalmia and contact dermatitis as the cover of the lamp was directed downward by mistake, and the workers were exposed to ultraviolet rays.</hotels></hotels></health></health>	6 4 6 5 5 5 8	0 0 0 0 0 0 0 0 0 0 0				
Poisoning and chemical injuries	<ul> <li>burning propane gas, oxygen ran short because of insufficient ventilation, and four workers inhaled carbon monoxide generated by imperfect combustion of propane gas and suffered carbon monoxide poisoning.</li> <li><b><hotels and="" restaurants=""></hotels></b> As a water heating and space cooling system was operated without switching on its smoke elimination damper, carbon monoxide poisoning.</li> <li><b><hotels and="" restaurants=""></hotels></b> When bread was being baked in a kitchen, the outlet of a ventilation for a kettle was clogged up, causing insufficient ventilation, and five workers suffered carbon monoxide poisoning.</li> <li><b><other></other></b> When a bactericidal lamp in an underground linen room was changed, five workers complained of pain of the eyes and suffered from electrical ophthalmia and contact dermatitis as the cover of the lamp was directed downward by mistake, and the workers were exposed to ultraviolet rays.</li> <li><b><cleaning></cleaning></b> Eight workers hardening industrial waste with cement</li> </ul>	6	0				
Poisoning and chemical injuries	<ul> <li>system was operated without switching on its smoke elimination damper, carbon monoxide escaped into a facility, and six workers suffered carbon monoxide poisoning.</li> <li><hotels and="" restaurants=""> When bread was being baked in a kitchen, the outlet of a ventilator for a kettle was clogged up, causing insufficient ventilation, and five workers suffered carbon monoxide poisoning.</hotels></li> <li><other> When a bactericidal lamp in an underground linen room was changed, five workers complained of pain of the eyes and suffered from electrical ophthalmia and contact dermatitis as the cover of the lamp was directed downward by mistake, and the workers were exposed to ultraviolet rays.</other></li> <li><cleaning> Eight workers hardening industrial waste with cement</cleaning></li> </ul>	5	0				
Poisoning and chemical injuries	kitchen, the outlet of a ventilator for a kettle was clogged up, causing insufficient ventilation, and five workers suffered carbon monoxide poisoning. <b>Other&gt;</b> When a bactericidal lamp in an underground linen room was changed, five workers complained of pain of the eyes and suffered from electrical ophthalmia and contact dermatitis as the cover of the lamp was directed downward by mistake, and the workers were exposed to ultraviolet rays. <b>Cleaning&gt;</b> Eight workers hardening industrial waste with cement	5	0				
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Poisoning and chemical injuries	<cleaning> Eight workers hardening industrial waste with cement</cleaning>	8					
Poisoning and chemical injuries	g and chemical injuries <b>Cleaning&gt;</b> Eight workers hardening industrial waste with cement suffered from superficial keratitis.						
	<cleaning> When a worker brought an abandoned tank into a factory and cut it, an abnormal odor spread, and six workers complained of an abnormal condition of the eyes.</cleaning>	6	0				
	<cleaning> When waste that emitted abnormal odor was brought into an incineration plant, three employees who noticed the odor at the slot, opened the gate, grabbed the suspected waste with a crane's grab bucket, and examined the waste near the slot of the incinerating furnace above the pit but could not detect the waste that emitted the foul smell. On that occasion, the three workers who examined the waste and another worker who was engaged in facility inspection work above the pit complained of drowsiness.</cleaning>	4	0				
	< <b>Cleaning</b> > An insectide contained in household garbage began to leak in a garbage truck, and three workers who inhaled it were afflicted.						
	<cleaning> Three workers who were cleaning a waste liquid tank without wearing an oxygen mask complained of sick feeling.</cleaning>	3	0				
	<educational services=""> Acrolein discarded during an experiment vaporized, and six workers who inhaled it complained of irritation of the eyes and nose, headache, and a feeling of suffocation.</educational>	6	0				
	<health services=""> When a worker opened a gas cylinder containing ethylene oxide placed outdoors in order to start sterilization, the gas leaked out from a joint in the piping, and workers who were in the room were afflicted.</health>	12	0				
	<health services=""> When a worker opened the lid on a vessel containing a disinfectant (calcium hypochlorite) to check on the day of opening the pool at a day nursery, gas with a highly pungent smell, believed to be chlorine, leaked out from the vessel, and four workers who were in the room inhaled it and suffered poisoning.</health>	4	0				
	<health services=""> One of the residents at a home for the eldery discarded in a trash box a brown bottle containing an unidentified object he had found in his room. Later, when one member of the staff opened the lid to ascertain the content, a foul odor spread, and four staff members who were nearby suffered poisoning by an organophosphorus compound.</health>	4	0				
		factory and cut it, an abnormal odor spread, and six workers complained of an abnormal condition of the eyes. <cleaning> When waste that emitted abnormal odor was brought into an incineration plant, three employees who noticed the odor at the slot, opened the gate, grabbed the suspected waste with a crane's grab bucket, and examined the waste near the slot of the incinerating furnace above the pit but could not detect the waste that emitted the foul smell. On that occasion, the three workers who examined the waste and another worker who was engaged in facility inspection work above the pit complained of drowsiness.         <cleaning> An insectide contained in household garbage began to leak in a garbage truck, and three workers who inhaled it were afflicted.         <cleaning> Three workers who were cleaning a waste liquid tank without wearing an oxygen mask complained of sick feeling.         <educational services=""> Acrolein discarded during an experiment vaporized, and six worker opened a gas cylinder containing ethylene oxide placed outdoors in order to start sterilization, the gas leaked out from a joint in the piping, and workers who were in the room were afflicted.         <health services=""> When a worker opened the lid on a vessel containing a disinfectant (calcium hypochlorite) to check on the day of opening the pool at a day nursery, gas with a highly pungent smell, believed to be chlorine, leaked out from the vessel, and four workers who were in the room workers who were in the iden an vessel containing an unidentified object he had found in his room. Later, when one member of the staff opened the lid to a scerain the containt, a foul door spread, and four workers who were in the room inhaled it and suffered poisoning by an four staff opened the lid to a scerain the containt, a foul door spread, and four workers who were in the room were</health></educational></cleaning></cleaning></cleaning>	factory and cut it, an abnormal odor spread, and six workers complained of an abnormal condition of the eyes. <ul> <li>Ccleaning&gt; When waste that emitted abnormal odor was brought into an incineration plant, three employees who noticed the odor at the slot, opened the gate, grabbed the suspected waste with a crane's grab bucket, and examined the waste near the slot of the incinerating furnace above the pit but could not detect the waste that emitted the foul smell. On that occasion, the three workers who examined the waste and another worker who was engaged in facility inspection work above the pit but could not detect the waste that emitted the foul smell. On that occasion, the three workers who examined the waste and another workers who inhaled it were afflicted.                      3               3                 3               3</li></ul>				

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths
Other	Poisoning and chemical injuries	<hotels and="" restaurants=""> Workers who mixed chemicals by mistake when cleaning a room inhaled chlorine gas generated from the mixture and suffered from poisoning.</hotels>	4	0
		< <b>Other&gt;</b> When a worker put aluminium polychloride into the sodium hypochlorite tank of a swimming pool water filtration system by mistake, five workers inhaled chlorine gas and suffered from poisoning.	5	0
		<b>Other&gt;</b> When workers were clearing up a traffic accident that had occurred on an expressway, drums on the truck that had caused the accident scattered, and the acrylic resin paint in them began to leak. After clearing up the accident, four workers complained of physical discomfort and received a medical examination and treatment at a hospital.	4	0
	Fires	<b>Golf courses&gt;</b> A worker committed suicide at a golf course by pouring gasoline for a lawn mower on himself and setting fire to it with a cigarette lighter. Other workers suffered burns and respiratory trouble when they tried to extinguish the fire.	5	1
		<hotels and="" restaurants=""> When a worker was degassing the steel cylinder of a portable gas stove in a store kitchen, the gas drifting to the floor caught fire, and three workers suffered burns.</hotels>	3	0
		< <b>Other&gt;</b> During work operations, a fire started from a washing machine for dry cleaning, and workers suffered burns.	3	0
	Food poisoning	<commerce> Workers who ate bean cake at a company cafeteria suffered food poisoning by Bacillus cereus.</commerce>	22	0
		<health services=""> Workers suffered food poisoning by eating food contaminated with norovirus.</health>	75	0
		<health services=""> Employees and inmates of a facility suffered food poisoning after eating sliced raw fish furnished from the kitchen of a business establishment.</health>	37	0
		<health services=""> Careworkers, nurses and patients totaling 59 people, complained of diarrhea and vomiting believed to be due to norovirus.</health>	22	0
		<health services=""> Hospital employees contracted norovirus infection.</health>	21	0
		<health services=""> Workers who ate dinner complained of such symptoms of food poisoning as fever and vomiting the next day.</health>	5	0
		<b>Other&gt;</b> Workers who ate lunch prepared at a company cafeteria suffered food poisoning due to vibrio parahaemolyticus.	3	0
	Other	<cleaning> Workers engaged in weeding a park were stung by bees.</cleaning>	4	0
		<commerce> A fire of an unknown cause started in a household electrical appliance mass-sale shop; employees and firemen inhaled smoke, and three employees died and six were injured.</commerce>	9	3
		<educational services=""> Workers making preparations for an athletic meet from the morning, carrying tools and drawing lines, complained of a bad physical condition, which was diagnosed as a heat stroke and dehydration.</educational>	4	0
		<b>Health services&gt;</b> In-patients of a hospital complained of itching and developed a skin rash, and received a medical examination at the dermatological department. Neither itch mites nor their eggs were found on the patients, but the doctors who examined them began to complain of itching from the following day, and their trouble was diagnosed as scabies.	14	0
		<health services=""> At a home for the elderly, employees contracted norovirus infection.</health>	12	0

By Industry	Type of Accident	Description of Accident	Deaths and Injuries	Deaths
Other	Other	<health services=""> Influenza from a patient spread to doctors and nurses at a hospital.</health>	9	0
		<health services=""> Hospital employees were infected with scabies by a patient.</health>	4	0
		<health services=""> Scabies of an in-patient spread to hospital employees.</health>	4	0
		<health services=""> Workers who were taking care of tuberculosis patients contracted tuberculosis.</health>	3	0
		<health services=""> Workers engaged in home bathing services were infected with scabies.</health>	3	0
		<livestock and="" farming="" fishery=""> Three workers returning to a home port on a fish breeding raft were thrown out into the sea when the raft collided with a fishing boat and capsized, and two drowned.</livestock>	3	2
		<b><other></other></b> A man entered a consumer credit shop, sprayed combustible liquid in a plastic bottle over the counter, set fire to it, and fled. The fire was soon extinguished, but three employees inhaled the smoke and were injured.	3	0

(Note: In the case of road traffic accidents, only those that killed or injured 10 or more persons are included in the list.)

## 4. Occupational Diseases

#### (1) Trends in Occupational Diseases

The number of patients with occupational diseases that required an absence of four days or more exceeded 20,000 in 1979, but then steadily declined. The figure for 2004 was 7,609, down 446 people, a 5,5% decrease from the preceding year.

By cause, diseases stemming from occupational injuries came to 5,370 in 2004, representing 70.6% of the total. The number of patients with lumbago caused by accidents was 4,377, representing 81.5%. Patients with pneumoconiosis and its complications represented 10.7% of all patients with occupational diseases diagnosed in 2004.

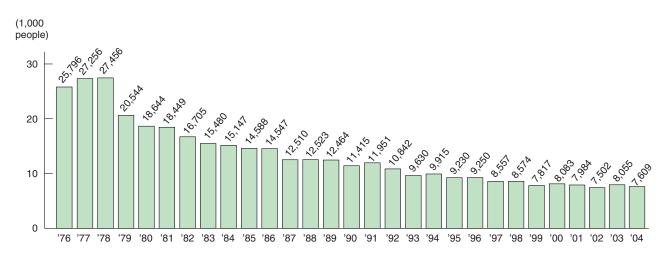


Fig. 22 Occupational Diseases by Year

Source: Survey of Occupational Diseases, MHLW.

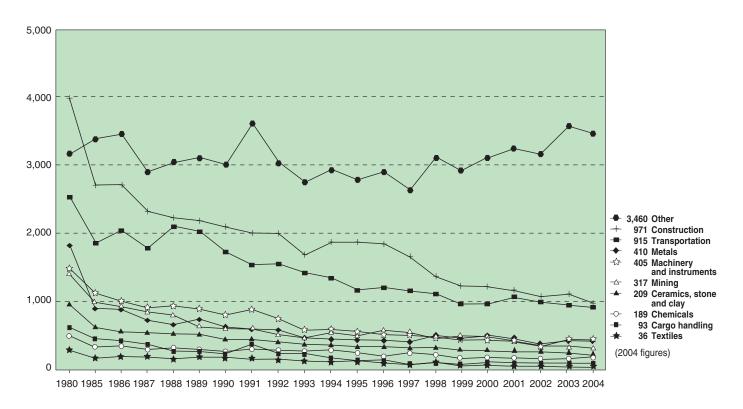


Fig. 23 Trends in the Number of Occupational Diseases by Industry

Source: Survey of Occupational Diseases, MHLW.

## Table 2 Occupational Diseases by Year and Industry

																(01111.	person)
Year Industry	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
All manufacturing industries	7,020	5,298	3,824	3,927	3,587	3,154	3,123	2,844	2,631	2,517	2,457	2,136	2,208	2,054	1,853	1,965	1,853
	(0.6)	(0.4)	(0.3)	(0.3)	(0.3)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.2)	(0.2)
Textiles	263	162	163	156	134	114	106	113	92	72	87	52	71	50	52	39	36
	(0.2)	(0.1)	(0.1)	(0.1)	(0.3)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Chemicals	493	325	243	290	289	268	282	235	189	246	221	162	184	176	155	166	189
	(0.6)	(0.4)	(0.3)	(0.4)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.2)	(0.2)	(0.1)	(0.2)	(0.1)	(0.1)	(0.1)	(0.2)
Ceramics, stone	947	600	425	435	383	340	344	320	322	306	306	284	272	254	245	231	209
and clay products	(1.7)	(1.1)	(0.9)	(0.9)	(0.8)	(0.7)	(0.7)	(0.6)	(0.6)	(0.7)	(0.7)	(0.6)	(0.6)	(0.6)	(0.3)	(0.6)	(0.6)
Metal products	1,811	881	624	553	564	451	439	418	427	388	490	465	489	428	377	416	410
	(1.2)	(1.0)	(0.8)	(0.7)	(0.6)	(0.5)	(0.5)	(0.4)	(0.5)	(0.4)	(0.4)	(0.4)	(0.4)	(0.3)	(0.1)	(0.4)	(0.4)
Machinery and instruments	1,473	1,110	785	872	734	572	560	543	490	498	470	418	445	405	364	410	405
	(0.4)	(0.3)	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Mining	1,394	974	583	572	507	462	539	482	572	543	468	490	480	386	359	356	317
	(11.6)	(8.5)	(6.4)	(6.2)	(7.5)	(6.8)	(8.0)	(7.1)	(8.4)	(10.0)	(8.7)	(9.1)	(8.9)	(7.1)	(6.6)	(9.0)	(8.1)
Construction	3,965	2,679	2,078	1,983	1,982	1,661	1,846	1,843	1,834	1,653	1,364	1,230	1,216	1,157	1,055	1,093	971
	(1.1)	(0.7)	(0.6)	(0.5)	(0.5)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.3)	(0.3)	(0.3)	(0.3)	(0.2)	(0.3)	(0.3)
Transportation	2,518	1,835	1,708	1,523	1,533	1,400	1,329	1,157	1,187	1,143	1,100	963	971	1,062	998	969	915
	(1.2)	(0.9)	(0.8)	(0.7)	(0.7)	(0.6)	(0.6)	(0.5)	(0.5)	(0.5)	(0.5)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)	(0.4)
Cargo handling	600	433	233	354	217	221	159	131	138	86	87	82	107	85	73	99	93
	(2.8)	(2.3)	(1.4)	(2.2)	(0.9)	(0.9)	(0.7)	(0.6)	(0.6)	(0.6)	(0.6)	(0.6)	(0.7)	(0.6)	(0.5)	(0.8)	(0.8)
Other	3,147	3,369	2,989	3,592	3,016	2,732	2,919	2,773	2,888	2,615	3,098	2,916	3,101	3,240	3,164	3,573	3,460
	(0.2)	(0.2)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Total	18,644	14,588	11,415	11,951	10,842	9,630	9,915	9,230	9,250	8,557	8,574	7,817	8,083	7,984	7,502	8,055	7,609
	(0.5)	(0.4)	(0.3)	(0.3)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.2)	(0.1)	(0.2)	(0.2)

Source: Survey of Occupational Diseases, MHLW.

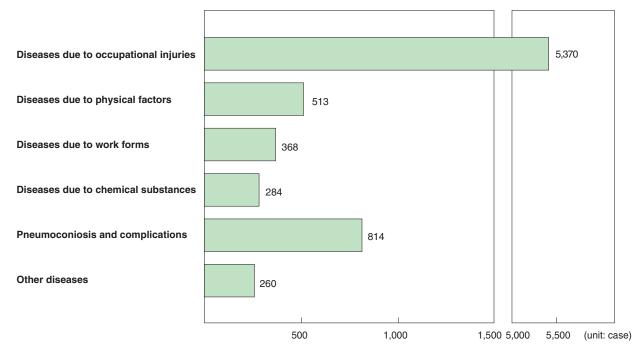
Notes: 1) The table covers only occupational diseases requiring an absence of 4 days or more.

2) The figures in parentheses show the number of occupational disease cases per 1,000 workers.

Patients of occupational diseases

Occupational diseases per 1,000 workers = Workers to whom the Labour Standards Law is applied -×1,000 (Unit: person)

#### (2) Breakdown of Occupational Diseases



Source: Survey of Occupational Diseases and a Report of Pneumoconiosis Screenings, MHLW. Note: The number of "pneumoconiosis and complications" cases is the sum of the number of cases diagnosed as supervision 4 (needing medical treatment) and complication cases (including the cases diagnosed by checkups other than compulsory regular examinations for pneumoconiosis).

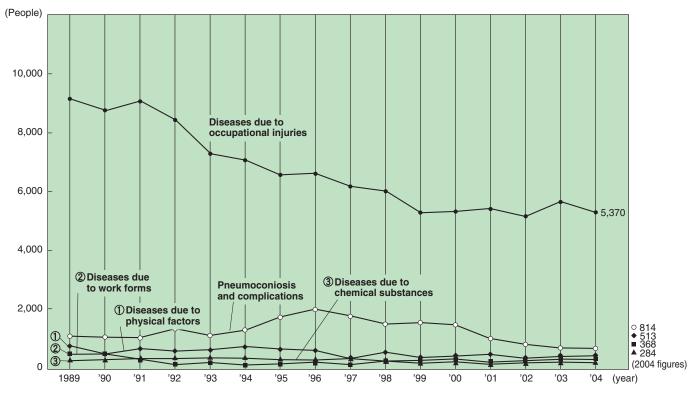


Fig. 24 Breakdown of Occupational Diseases by Industry (2004)

Source: Survey of Occupational Diseases and a Report of Pneumoconiosis Screenings, MHLW. Note: The number of "pneumoconiosis and complications" cases is the sum of the number of cases diagnosed as supervision 4 (needing medical treatment) and complication cases (including the cases diagnosed by checkups other than compulsory regular examinations for pneumoconiosis).

Fig. 25 Occupational Diseases by Year

	Industry				Manufa	octuring			
Disease classi	fication	Food	Textile	Lumber, wood products and furniture	Pulp, paper, printing and binding	Chemicals	Ceramics, stone and clay products	Steel and nonferrous metals	Metal products
Total		320	36	58	80	189	209	126	284
(1) Diseases	due to occupational injuries	236 (184)	31 (24)	46 (35)	61 (50)	112 (86)	50 (37)	40 (24)	198 (142)
	(2) Diseases due to hazardous rays	0	0	0	0	0	0	0	0
	(3) Diseases due to ionizing radiation	0	0	0	0	0	0	0	0
Diseases due to physical	(4) Diseases due to abnormal atmospheric pressure	0	0	0	0	0	0	0	0
factors	(5) Diseases due to abnormal temperature	35	2	3	4	13	9	46	18
	(6) Ear diseases due to noise	0	0	0	1	1	0	0	1
	(7) Diseases due to factors other than (2) to (6)	2	0	0	0	2	0	0	2
	(8) Diseases of locomotion and internal organs due to heavy and excessive work load	4	0	1	4	2	2	0	7
	(9) Occupational lower back pain excluding that caused by occupational injuries	3	0	2	1	0	1	0	1
Diseases due to work forms	(10) Diseases due to vibration	0	0	0	0	0	0	0	1
	(11) Disorders in fingers and forearms, and cervico-bronchial disorder	12	3	3	1	8	2	2	11
	(12) Diseases due to causes other than (8) to (11)	3	0	0	0	4	0	0	1
(13) Anoxia		0	0	0	0	4	0	0	0
(14) Diseases	due to chemical substances (excluding cancer)	18	0	3	7	36	4	3	28
(15) Pneumoc	oniosis and complications	0	0	0	0	7	140	34	15
(16) Diseases	due to pathogenic organisms	2	0	0	0	0	0	0	0
	(17) Cancer due to ionizing radiation	0	0	0	0	0	0	0	0
Cancer	(18) Cancer due to chemical substances	0	0	0	0	0	1	0	0
	(19) Cancer due to causes other than (17) and (18)	0	0	0	0	0	0	0	0
(20) Other dise	eases evidently due to occupational causes	5	0	0	1	0	0	1	1

## Table 3 Types of Diseases by Industry (2004)

Source: Survey of Occupational Diseases, MHLW.

Note:

(1) The table covers only those requiring an absence of 4 days or more.

(2) The disease classification is based on the method set forth in Article 35 of Enforcement Ordinance of Labour Standards Law.

(3) The figures in the parentheses in "(1) Diseases due to occupational injuries" are those of lower back pain and are included in the bare figures.

(unit: person)

General/electric/ transport machinery and equipment	Electricity, gas and water supply	Other manufacturing	Subtotal	Mining	Construction	Transportation	Cargo handling	Agriculture, forestry and fisheries	Commerce, finance and advertising	Public health	Entertainment	Cleaning and slaughtering	Other industries	Total
405	9	137	1,853	317	971	915	93	184	1,120	1,022	408	368	358	7,609
251 (197)	4 (3)	94 (65)	1,123 (847)	4 (4)	510 (313)	817 (720)	85 (74)	135 (84)	948 (829)	853 (770)	313 (249)	311 (259)	271 (228)	5,370 (4,377)
1	0	0	1	0	2	0	0	0	1	0	1	1	1	7
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	3	3	0	1	0	0	2	0	2	11
13	1	13	157	0	117	27	3	11	43	5	53	19	32	467
1	0	0	4	0	4	1	0	0	0	0	0	0	0	9
2	0	0	8	0	3	2	0	1	2	0	0	2	1	19
6	1	1	28	0	9	23	0	4	10	7	4	2	2	89
4	0	3	15	0	6	4	2	3	15	7	1	0	1	54
2	0	0	3	0	0	0	0	4	0	0	0	1	1	9
21	0	4	67	0	5	9	0	9	27	12	10	5	10	154
6	0	2	16	0	6	7	1	0	10	9	6	4	3	62
0	0	0	4	0	5	2	0	0	0	0	0	0	0	11
35	2	12	148	0	44	12	2	5	23	12	10	17	11	284
46	0	7	249	313	241	0	0	0	0	0	0	0	11	814
9	1	0	12	0	4	1	0	5	23	108	4	2	6	165
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	1	17	0	12	7	0	6	18	9	4	4	6	83

(4) The chemical substances in column (18) are those specified in No. 7, Appendix 1-2, Enforcement Ordinance of Labour Standards Law.

(5) The table covers only those cases found during 2004 and reported by the end of March 2005.

(6) Public health, entertainment, and cleaning and slaughtering are usually included in "other industries" but are handled separately in this table.

## (3) Medical Examinations

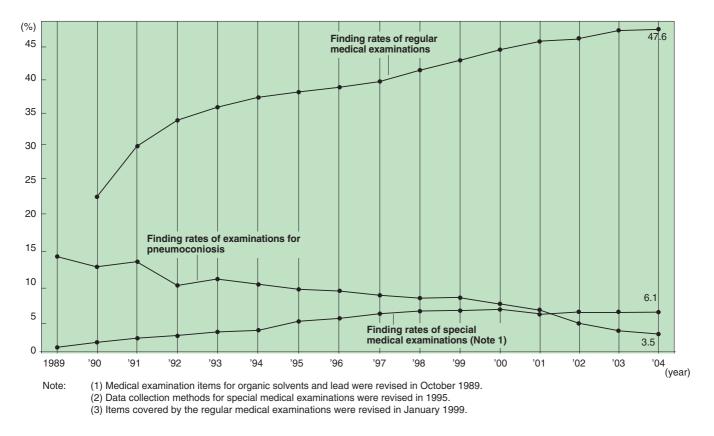


Fig. 26 Finding Rates of Medical Examinations

## Table 4 Chronological Statistics of Special Medical Examinations

ltems Year	Establishments covered	Workers who underwent a special medical examination (A)	Workers with abnormal findings (B)	Finding rate (%) (B)/(A)×100
1965	8,927	226,979	24,048	10.6
1970	14,865	304,793	30,735	10.1
1975	30,446	557,224	29,962	5.4
1980	71,976	1,213,867	30,546	2.5
1985	81,689	1,436,463	24,429	1.7
1986	81,573	1,441,636	22,583	1.6
1987	81,245	1,425,720	21,447	1.5
1988	81,069	1,418,294	19,971	1.4
1989	80,242	1,415,940	25,015	1.8
1990	75,746	1,376,847	31,994	2.3
1991	73,617	1,385,573	41,844	3.0
1992	75,131	1,509,273	47,995	3.2
1993	76,986	1,553,650	52,353	3.4
1994	76,051	1,558,666	55,969	3.6
1995	76,041	1,536,770	78,198	5.1
1996	76,355	1,554,080	80,661	5.2
1997	77,503	1,585,063	84,125	5.3
1998	78,099	1,606,353	93,438	5.8
1999	79,421	1,608,603	94,686	5.9
2000	80,153	1,609,154	96,656	6.0
2001	79,628	1,596,593	92,718	5.8
2002	80,989	1,626,958	96,795	5.9
2003	79,055	1,637,878	97,328	5.9
2004	82,037	1,661,775	101,045	6.1

Source: Report of Special Medical Examinations, MHLW. Note: The items in medical examinations for organic solvents and lead were changed in October 1989.

## Table 5 Breakdown of Special Medical Examinations (2004)

Substance work cat	Items	Establishments covered	Those who underwent special medical examinations	Those who needed medical advice	Finding rate (%)
	egory				
Organic solvents Lead	edical examinations	33,100 5,206	510,422 87,270	29,177 1,474	5.7 1.7
Tetraalkyl lead Ionizing radiation		13 11,712	99 206,907	5 9,642	5.1 4.7
High	High pressure working place	34	465	13	2.8
atmospheric pressure	Dive (Subtotal)	210 244	1,387 1,852	59 72	4.3 3.9
	Benzidine	48	176	3	1.7
	4-Aminodiphenyl 4-Nitrodiphenyl	11	51	1 0	2.0 0.0
Manufacturing- prohibited	Bis (chloromethyl) ether	22	96	1	1.0
substances	$\beta$ -Naphthylamine	22	68	0	0.0
	Amosite Crocidolite	-	-	-	-
	(Subtotal)	3 107	4 396	0 5	0.0 1.3
	Dichlorobenzidine	33	326	35	10.7
	α -Naphthylamine	91	420	23	5.5
	Chlorinated biphenyl o-Tolidine	70 95	565 510	16 52	2.8 10.2
	Dianisidine	26	278	14	5.0
	Beryllium	85	650	3	0.5
	Benzotrichloride	13	156	0	0.0
	Acrylamide Acrylonitrile	364 264	5,053 5,230	28	0.6 0.7
	Alkyl mercury compounds	47	176	1	0.7
	Asbestos	2,022	17,873	154	0.9
	Ethyleneimine	53	465	19	4.1
	Vinyl chloride Chlorine	180	3,457 18,278	31 129	0.9 0.7
	Auramine	1,084 31	181	6	3.3
	o-Phthalodinitrile	16	192	1	0.5
	Cadmium	344	3,315	83	2.5
	Chromic acid	2,481 38	21,823 305	249 0	1.1 0.0
	Chloromethyl methyl ether Vanadium pentoxide	178	1,869	17	0.0
	Coal tar	641	12,153	82	0.7
Specified chemical	Arsentic trioxide	234	2,981	46	1.5
substances	Potassium cyanide	669 156	6,745 2,083	65 39	1.0 1.9
	Hydrogen cyanide Sodium cyanide	705	5,639	113	2.0
	3,3'-Dichloro-4, 4'-diamino diphenyl methane	122	1,190	47	3.9
	Methyl bromide	169	1,360	25	1.8
	Dichromic acid	372	3,638	34	0.9
	Mercury Tolylenediisocyanate	439 359	3,788 6,153	82 52	2.2 0.8
	Nickel carbonyl	11	123	6	4.9
	Nitroglycol	9	76	0	0.0
	p-Dimethylaminoazobenzene	6	11	0	0.0
	p-Nitrochlorobenzene Hydrogen fluoride	21 1,610	334 41,067	9 271	2.7 0.7
β-Ριομ	$\beta$ -Propiolactone	9	269	0	0.0
	Benzene	709	13,708	174	1.3
	Pentachlorophenol	16	79	1	1.3
	Magenta Manganese	22 1,168	68 14,879	1 86	1.5 0.6
	Manganese Methyl iodide	110	684	0	0.0
	Hydrogen sulfide	387	7,369	13	0.0
	Dimethyl sulfate	146	1,244	12	1.0
	(Subtotal)	15,605	206,763	2,053	1.0
Total		65,987	1,013,709	42,428	4.2

Table 5 Breakdown of Special Medical Examinations (	(2004) (continued)
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Items Substance work category	Establishments covered	Those who underwent special medical examinations	Those who needed medical advice	Finding rate (%)
Special medical examinations by administrative recommendation				
Ultraviolet and infrared ray	3,063	61,633	1,254	2.0
Noise	4,433	200,278	34,231	17.1
Manganese compounds (basic manganese oxides)	30	272	13	4.8
Yellow phosphorus	20	290	16	5.5
Organophosphorus pesticide	62	960	24	2.5
Sulfurous acid gas	49	795	12	1.5
Carbon disulfide (excluding those related to work which uses	9	291	41	14.1
organic solvents)				
Nitroamide compounds of benzene	11	217	48	22.1
Chloro/bromo aliphatic hydrocarbons	34	1,142	83	7.3
Arsenic or arsenic compounds (excluding arsenic trioxide)	91	2,745	26	0.9
Phenylmercury compounds	-	-	-	-
Alkyl mercury compounds (excluding those	1	13	0	0.0
covered by Ordinance on Prevention of Hazards				
due to Specified Chemical Substances)				
Chloronaphatalene	1	0	0	0.0
lodine	25	257	2	0.8
Red cedar, etc.	5	97	0	0.0
Ultrasonic depositing machine	53	730	46	6.3
Key punching, VDT work	3,929	256,024	17,012	6.6
Vibration	2,490	38,302	1,945	5.1
Handling heavy goods and care work that puts a significant	223	10,976	1,702	15.5
burden on the waist				
Cashier	90	1,202	261	21.7
Tools with trigger	658	55,312	1,656	3.0
Laser equipment	602	13,692	142	1.0
Others	120	2,264	97	4.3
Total	15,999	647,492	58,611	9.1
Grand total	81,986	1,661,201	101,039	6.1

Source: Report of Special Medical Examinations, MHLW.

Note: There were some changes in the contents of medical examinations for organic solvents and lead in October 1989. In 1996, amosite and crocidolite began to be handled separately from asbestos in reports.

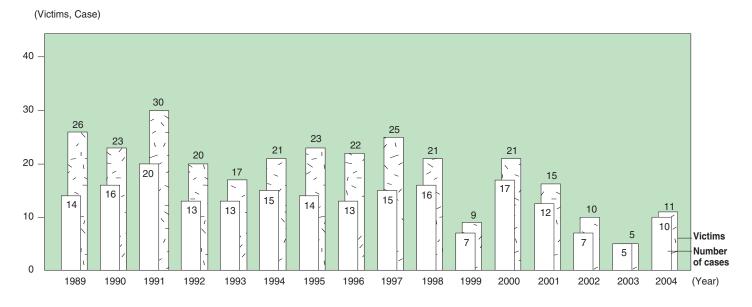
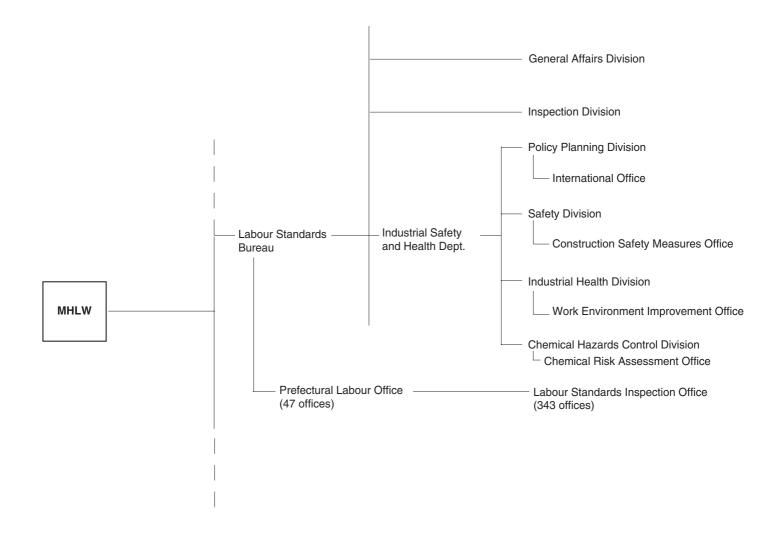


Fig. 27 Cases of Anoxia

## 1. Government Organizations Involved in Industrial Safety and Health

Industrial safety and health administration in Japan is under the direct control of the government. The relevant authorities are the Ministry of Health, Labour and Welfare (MHLW), with its headquarters in Tokyo, the 47 prefectural labour offices located in different administrative divisions throughout the country, and 343 labour standards inspection offices under the supervision of the prefectural labour offices.

The MHLW formulates policies, and the prefectural labour offices and the labour standards inspection offices carry out the policies and ensure compliance with the laws.



# 2. Industrial Safety and Health-related Non-governmental Organizations in Japan

In addition to the administrative agencies, various industrial safety and health-related non-governmental organizations play important roles in upgrading industrial safety and health in Japan.

They are mainly: (1) JISHA and five sector-specific industrial accident prevention associations, (2) safety and healthrelated organizations designated by the government to play the role of authorized inspection agencies, authorized qualifying examination institutions, authorized education/training institutions, and (3) associations for specialists and technical institutions. These organizations are listed on the next page. Industrial Accident Prevention Associations
 Japan Industrial Safety and Health Association
 Japan Construction Safety and Health Association
 Japan Land Transportation Industry Safety and Health Association
 Japan Port Transportation Industry Safety and Health Association
 Japan Forestry and Timber Manufacturing Labour Accident Prevention Association
 Japan Mining Safety and Health Association

 Authorized inspection/examination agencies Japan Boiler Association
 Japan Crane Association
 Boiler and Crane Safety Association
 Technology Institution of Industrial Safety and others

 Authorized qualifying examination institution Institute for Safety and Health Qualifying Examinations

 Association for Specialists and Technical Institutions Japan Association for Working Environment Measurement Japan Association of Safety and Health Consultants and others

## 3. Safety and Health Laws and Regulations

#### Industrial Safety and Health Law (1972)

Enforcement Order of Industrial Safety and Health Law Ordinance on Industrial Safety and Health Ordinance on Safety of Boilers and Pressure Vessels Ordinance on Safety of Cranes and Other Similar Equipment Ordinance on Safety of Gondolas Ordinance on Prevention of Organic Solvent Poisoning Ordinance on Prevention of Lead Poisoning Ordinance on Prevention of Tetraalkyl Lead Poisoning Ordinance on Prevention of Hazards due to Specified Chemical Substances Ordinance on Safety and Health of Work under High Pressure Ordinance on Prevention of Ionizing Radiation Hazards Ordinance on Prevention of Anoxia, etc. Ordinance on Health Standards in the Office Ordinance on Prevention of Hazards due to Dust Ordinance on Authorized Inspection Agencies, etc. Ordinance on Examination of Machines and Other Equipment Ordinance on Industrial Safety Consultants and Industrial Health Consultants

#### Working Environment Measurement Law (1975)

Enforcement Order of Working Environment Measurement Law Enforcement Ordinance of Working Environment Measurement Law

#### Pneumoconiosis Law (1960)

Enforcement Ordinance of Pneumoconiosis Law

Industrial Accident Prevention Organizations Law (1964)

## 4. Outline of Japan Industrial Safety and Health Association (JISHA)

#### <Purpose of Establishment>

JISHA was established in 1964 under the Industrial Accident Prevention Organizations Law. The purpose of JISHA's operations is to prevent occupational accidents and diseases and achieve a high quality working life by upgrading the standards of occupational safety and health through promoting voluntary activities by employers and other concerned people in the private sector.

#### <Membership> (March 2005)

Industrial Accident Prevention Associations for specified industries (5) Nationwide employers' organizations (56) Prefectural safety and health promotion organizations (48) Other organizations engaged in occupational accident prevention activities (15) Honorary members (178 persons) Associate members (5,031 companies)

#### <Organization> (July 2004)

Chairperson Vice-Chairperson President Executive Director Senior Managing Director Head Office Administration / Finance and Accounting / Research and Surveys / Education / Publishing and Sales / Zero-Accident Promotion / Technical / Health Promotion / Comfortable Workplace Promotion / Small and Medium-sized Enterprises / Business Promotion Team Branches Regional Safety and Health Service Centers (9) Occupational Safety and Health Education Centers (2: Tokyo, Osaka) Occupational Health Service Centers (2: Tokyo, Osaka) Japan Bioassay Research Center Prefectural associations (48 affiliated associations)

#### <Budget>

- Total Budget: 11.45 billion yen for FY 2005
  - General Account:9.58Special Account (Education Centers):0.59(Japan Bioassay Research Center):1.28



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