



Workplace Safety and Health Report 2015

National Statistics



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NOTATIONS

- : Nil or negligible
- n.a. : Not applicable/Not available
- * : Estimated rates. The employment data excludes self-employed persons.

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KEY FACTS

WORKPLACE FATAL INJURY RATE INCREASED TO 1.9 PER 100,000 EMPLOYED PERSONS; WORKPLACE MAJOR AND WORKPLACE MINOR INJURY RATES REDUCED TO 17.6 AND 344 PER 100,000 EMPLOYED PERSONS RESPECTIVELY IN 2015

The overall number of workplace injury¹ cases decreased to 12,351 cases, compared to 13,595 cases in 2014. The number of workplace fatal injury cases increased 10% from 60 in 2014 to 66 cases in 2015. 935 occupational disease cases were confirmed in 2015, a decrease compared to 992 cases in 2014.

The number of workplace major and minor injury cases decreased in 2015 with 597 workers sustaining workplace major injuries and 11,688 workers with workplace minor injuries, compared to 672 workplace major injuries and 12,863 workplace minor injuries in 2014.

Table 1.1: Number of workplace injuries and occupational diseases, 2014 and 2015

	2015	2014
Workplace Injuries	12,351	13,595
Fatal Injuries	66	60
Major Injuries	597	672
Minor Injuries	11,688	12,863
Occupational Diseases (OD)	935	992

Table 1.2: Key safety and health indicators, 2014 and 2015

Per 100,000 employed persons

	2015	2014
Workplace Injury Rate²	364	405
Fatal Injury rate	1.9	1.8
Major Injury rate	17.6	20.0
Minor Injury rate	344	383
Accident Frequency Rate ³	1.5	1.7
Accident Severity Rate ⁴	85	84
Occupational Disease Incidence Rate⁵	27.5	29.5

¹ A **workplace injury** is any personal injury or death resulting from a workplace accident. Includes work-related traffic injuries. Please refer to Annexes D and E for the types of workplace injuries covered.

² Workplace Injury Rate = $\frac{\text{No. of Fatal and Non-Fatal Workplace Injuries}}{\text{No. of Employed Persons}} \times 100,000$

³ Accident Frequency Rate (AFR) = $\frac{\text{No. of Workplace Accidents Reported}}{\text{No. of Man-hours Worked}} \times 1,000,000$

⁴ Accident Severity Rate (ASR) = $\frac{\text{No. of Man Days Lost To Workplace Accidents}}{\text{No. of Man-hours Worked}} \times 1,000,000$

⁵ Occupational Disease Incidence Rate = $\frac{\text{No. of Occupational Disease Cases}}{\text{No. of Employed Persons}} \times 100,000$

In addition to reporting lagging indicators like workplace injury rates and occupational disease incidence rates, this report has included leading indicators from proactive activities. The proactive activities include workplace Medical and Hygiene surveillance which monitors health risks from exposures to physical and toxic or harmful substances at work, and Business under Surveillance (BUS), which guides poor performing companies to improve their WSH management system.

Overview of the 2015 statistics on workplace safety and health are:

WORKPLACE INJURIES

- 66 workers were fatally injured, a rate of 1.9 per 100,000 employed persons.
- 597 workers sustained workplace major injuries, a rate of 17.6 per 100,000 employed persons.
- 11,688 workers sustained less severe injuries (i.e. minor injuries), a rate of 344 per 100,000 employed persons.
- 685,379 man-days were lost, a rate of 85 man-days lost per million man-hours worked (i.e. accident severity rate).
- 1.5 incidents occurred for every million man-hours worked (i.e. accident frequency rate).

DANGEROUS OCCURRENCES

- 46 dangerous occurrences (DO) were reported to MOM in 2015.

OCCUPATIONAL DISEASES

- 935 occupational disease (OD) cases were confirmed in 2015, an incidence rate of 27.5 per 100,000 employed persons.
- Leading OD was noise-induced deafness with 498 cases.
- Second most common OD was work-related musculoskeletal disorders (WRMSD) with 304 cases, with inclusion of back injury cases due to ergonomic risks.

BUSINESS UNDER SURVEILLANCE

- 14 companies entered the surveillance phase under the Business under Surveillance (BUS) programme in 2015.

MEDICAL AND HYGIENE SURVEILLANCE

- 134,963 workers from 2,138 workplaces were monitored under the Medical Surveillance programme.
- Under the Hygiene Surveillance Programme, 74% of the workplaces had static noise levels greater than 85dBA, 79% of the workplaces had workers who were exposed to excessive noise and 3,431 chemical exposure results were received.

OVERVIEW OF TRENDS

WORKPLACE INJURIES

For 2015, the overall number of reported⁶ injuries decreased by 9.2% compared to 2014 (Figure 1). Manufacturing sector had the highest overall injury rate since 2011, followed by Construction sector (Figure 2).

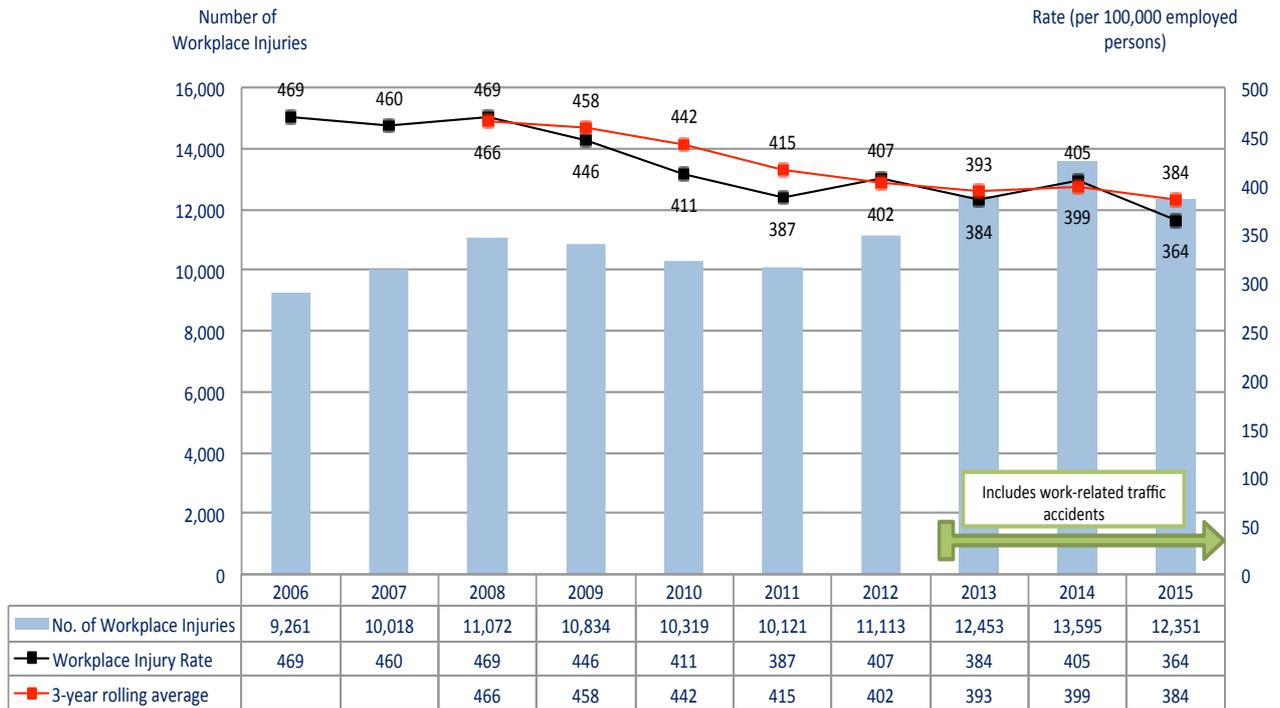


Figure 1: Workplace injury rate, 2006-2015

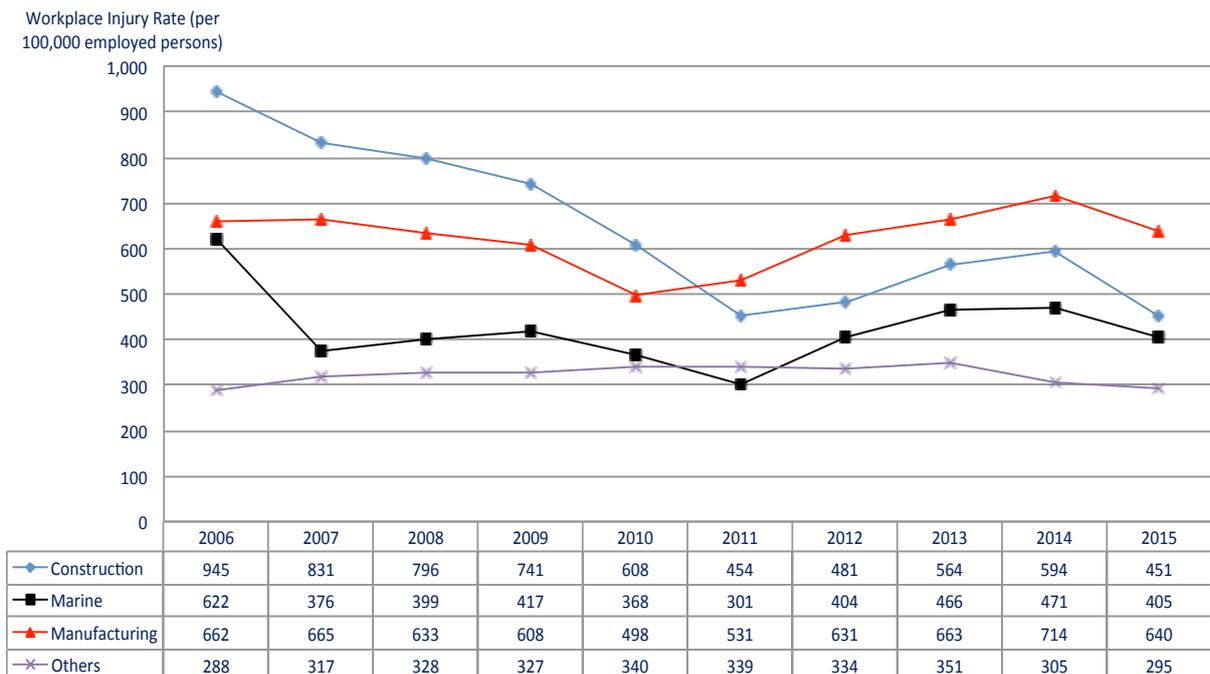


Figure 2: Workplace injury rate by industry, 2006-2015

⁶ Employer or Occupier has to report work incidents to the Ministry of Manpower under the WSH (Incident Reporting) Regulations.

WORKPLACE FATAL INJURIES

There was 10% increase in the number of workplace fatal injuries, from 60 in 2014 to 66 in 2015 (Table 1.1). Workplace fatal injury rate increased to 1.9 per 100,000 employed persons compared to 1.8 per 100,000 employed persons in 2014 (Figure 3). Overall, based on 3-year rolling average, the workplace fatal injury rate has been decreasing since 2006.

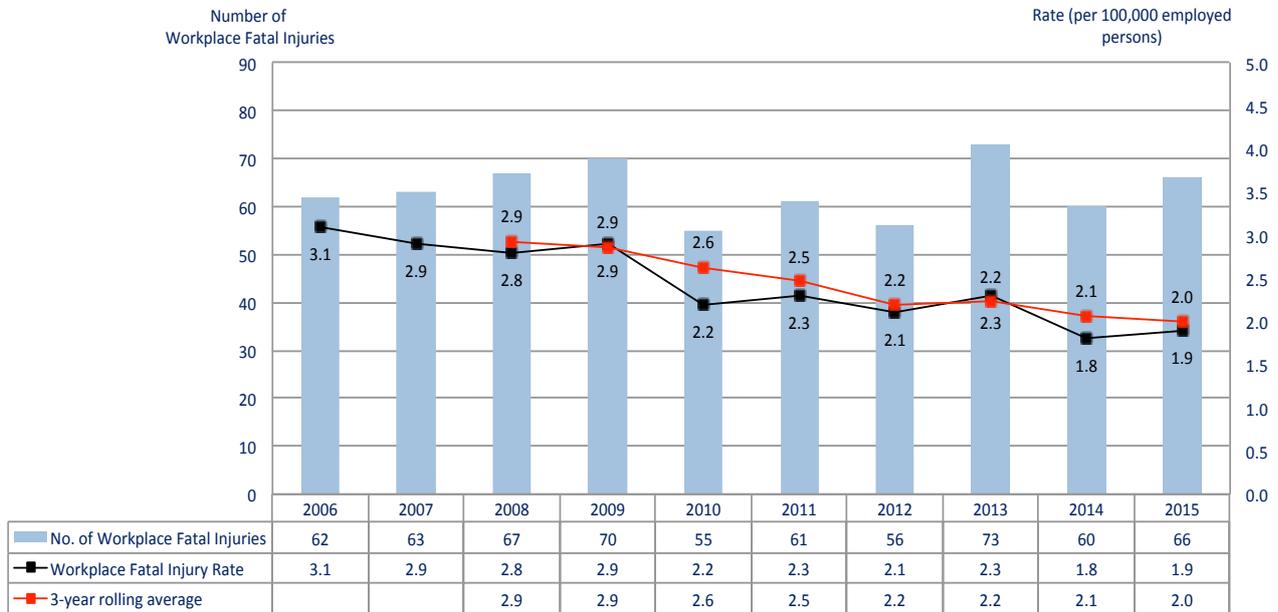


Figure 3: Workplace fatal injury rate, 2006-2015

Construction sector continues to be the top contributor with 41% of total workplace fatal injuries. The contribution from the Transportation & Storage sector has been increasing, from 4% in 2009 to 23% in 2015. In 2015, Transportation & Storage sector was the second highest contributor (Figure 4).

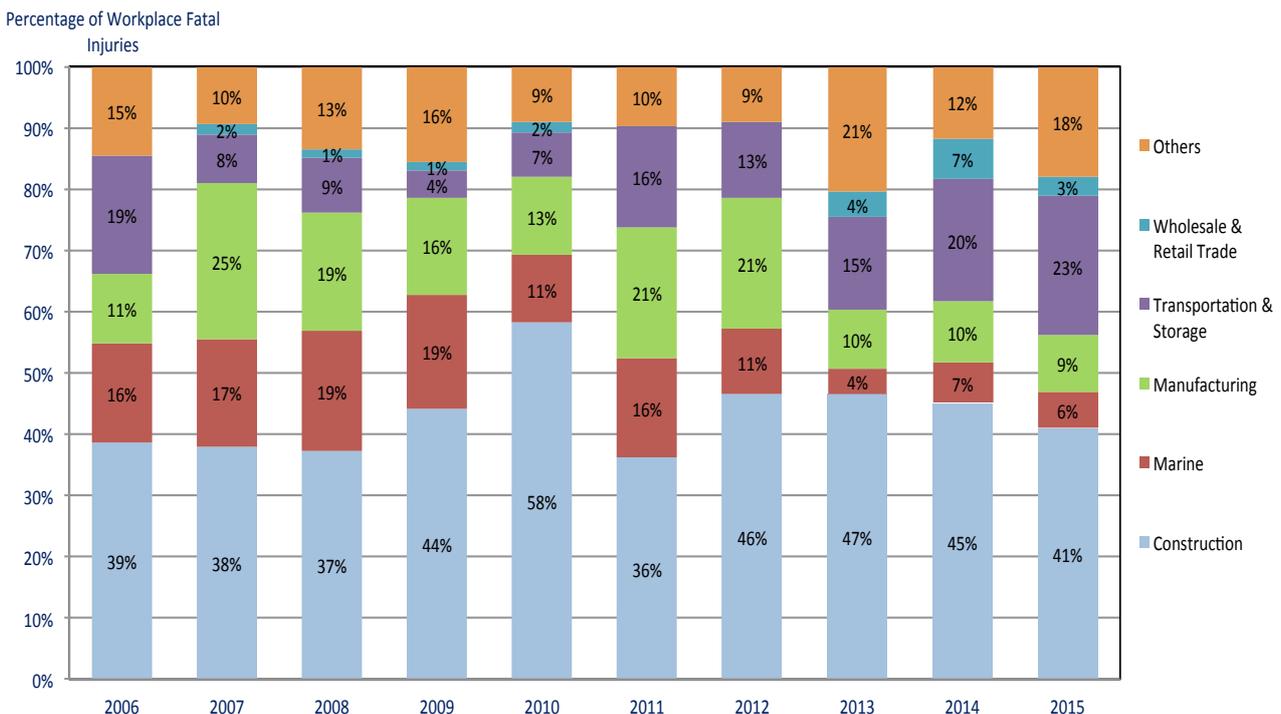


Figure 4: Proportion of workplace fatal injuries by industry, 2006-2015

Among the workplace fatal injuries, there were 10 work-related traffic fatal injuries in 2015, up from 6 cases in 2014. Work-related traffic fatal injuries contributed to 15% of total workplace fatal injuries in 2015, an increase from 10% in 2014. Falls contributed 35% of the workplace fatal injuries in 2015, up from 23% in 2014. An increasing trend was seen for Struck by moving objects cases, from 10% in 2011 to 15% in 2015 (Figure 5).

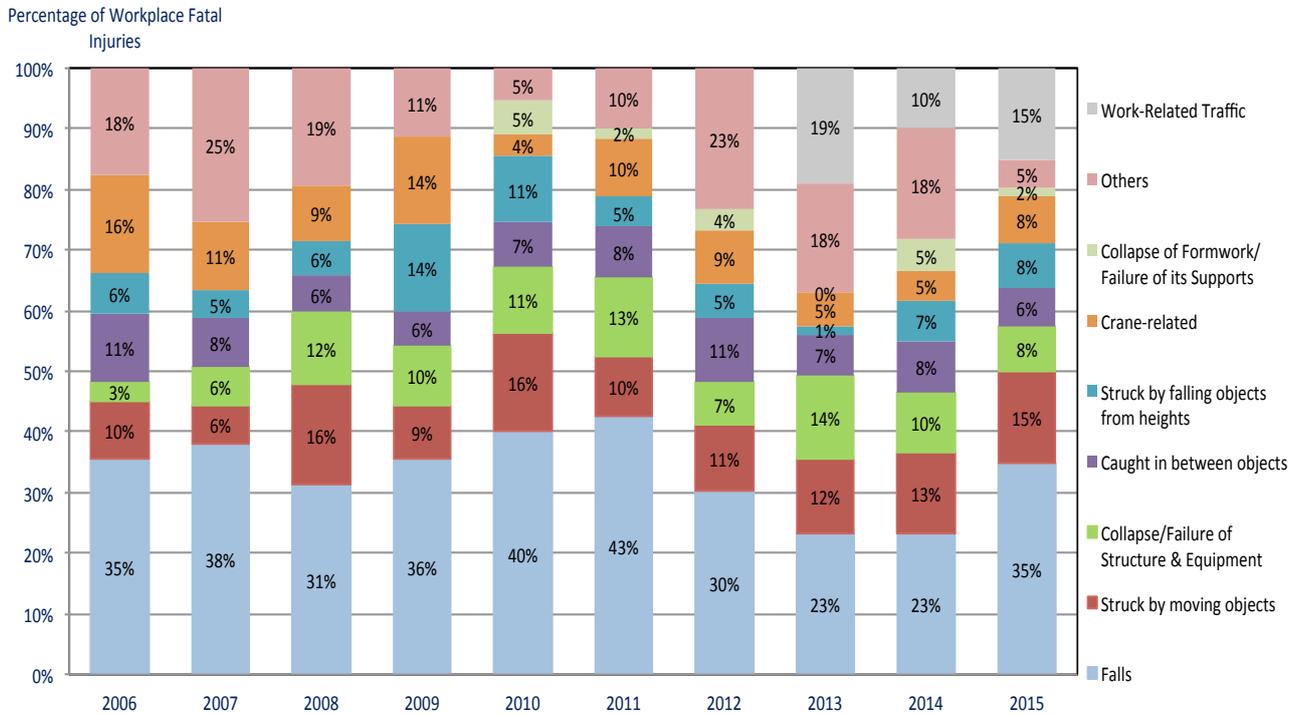


Figure 5: Proportion of workplace fatal Injuries by incident type, 2006-2015

Note:

Others included Drowning, Electrocution, Exposure to/contact with extreme temperatures, Fires & Explosion, Exposure to/contact with harmful substances, Physical Assault and Suffocation.

WORKPLACE MAJOR INJURIES

The number of workplace major injuries decreased 11% from 672 cases (20.0 per 100,000 employed persons) in 2014 to 597 cases (17.6 per 100,000 employed persons) in 2015 (Figure 6).

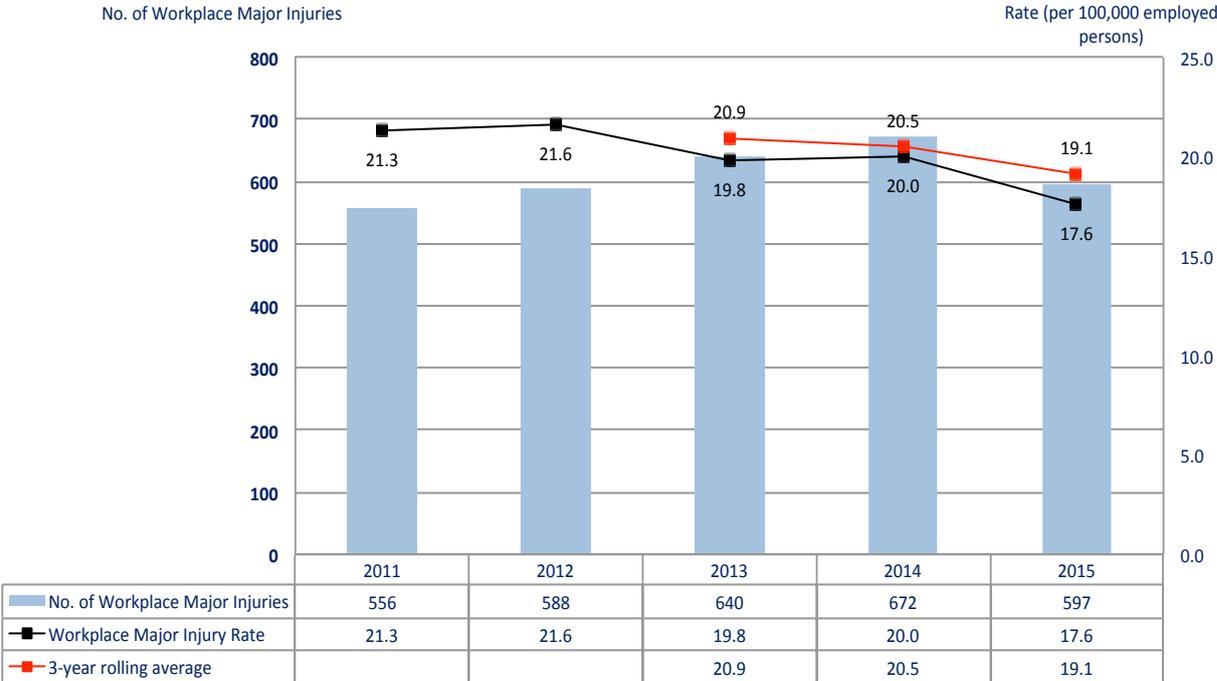


Figure 6: Workplace major injury rate, 2011-2015

WORKPLACE MINOR INJURIES

Compared to 2014, there was a 9.1% decrease in the number of workplace minor injuries, from 12,863 (383 per 100,000 employed persons) in 2014 to 11,688 (344 per 100,000 employed persons) in 2015 (Figure 7).

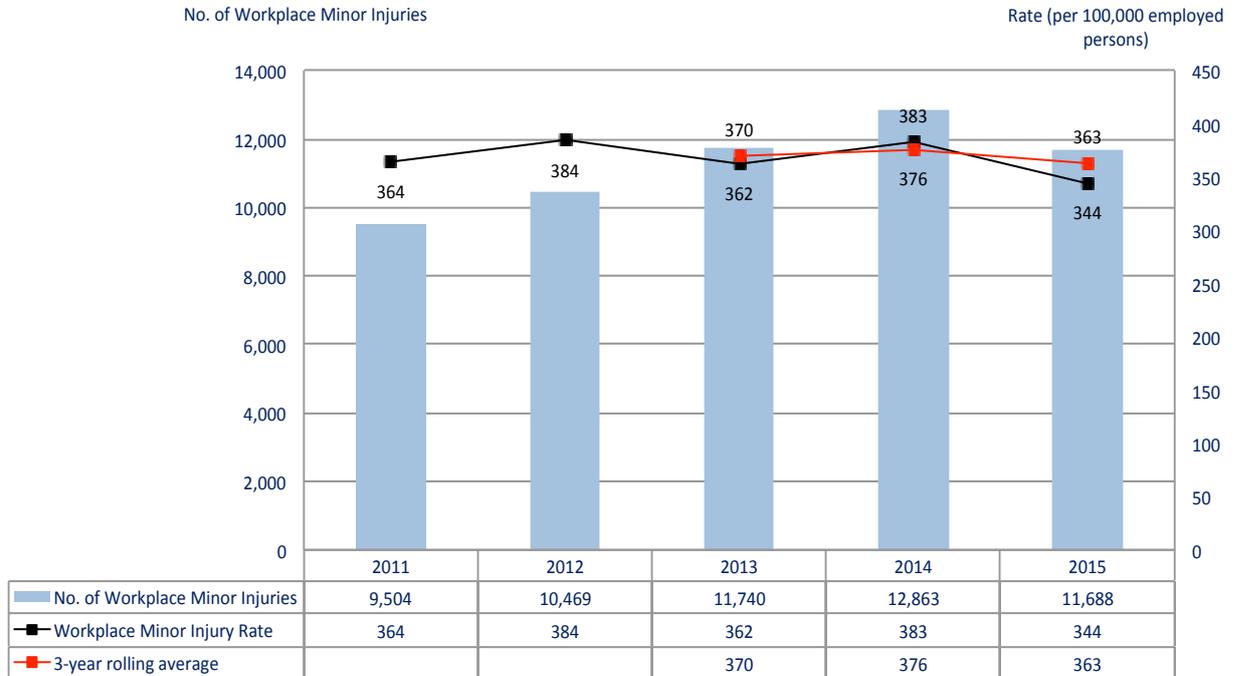


Figure 7: Workplace Minor injury rate, 2011-2015

ACCIDENT FREQUENCY RATE

The accident frequency rate (AFR), which measures how often work incidents occur, was 1.5 incidents per million man-hours worked in 2015.

ACCIDENT SEVERITY RATE

A total of 685,379 man-days were lost from workplace injuries, an increase of 0.9% from 2014. The accident severity rate (ASR) was 85 man-days lost for every million hours worked in 2015. Detailed industry breakdown of the AFR, ASR and man-days lost data can be found in Tables A-1 and A-2 in Annex A.



DANGEROUS OCCURRENCES

For dangerous occurrences, an increasing trend was observed with 46 cases in 2015 (Figure 8).

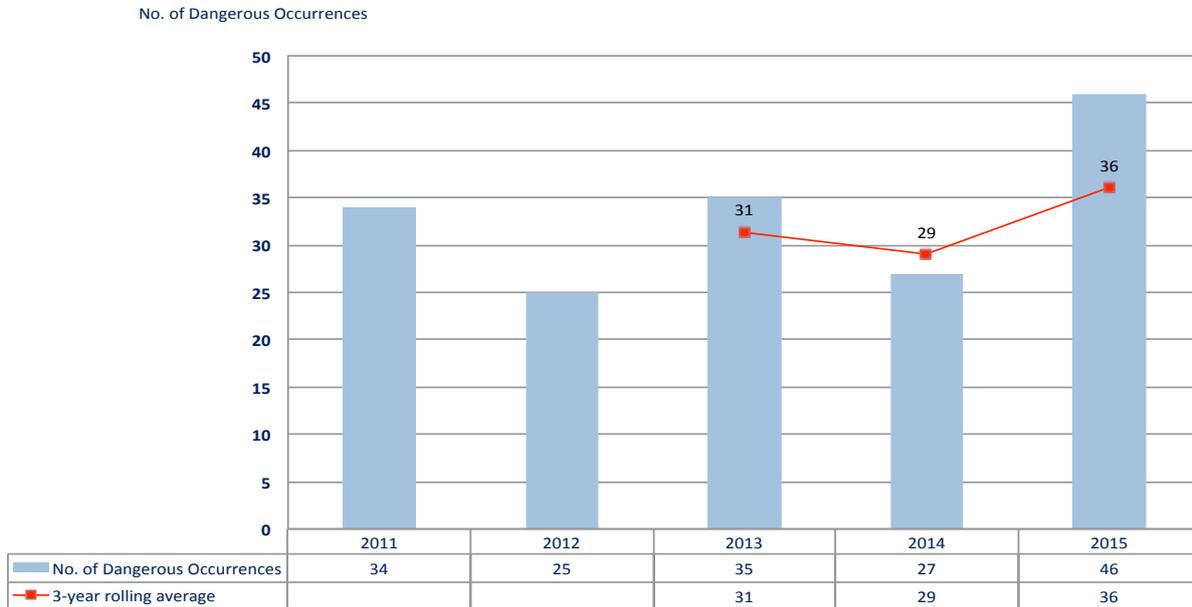


Figure 8: Number of dangerous occurrences, 2011-2015

OCCUPATIONAL DISEASES

For occupational diseases (OD)⁷, the number of cases confirmed was 935 in 2015, down from 992 in 2014. For 2015, OD incidence was 27.5 confirmed cases per 100,000 employed persons, a decrease compared to 29.5 in the previous year (Figure 9).



Figure 9: Occupational disease incidence rate, 2006-2015

⁷An occupational disease is a disease contracted as a result of exposure to risk factors arising from work.

Percentage of Confirmed OD Cases

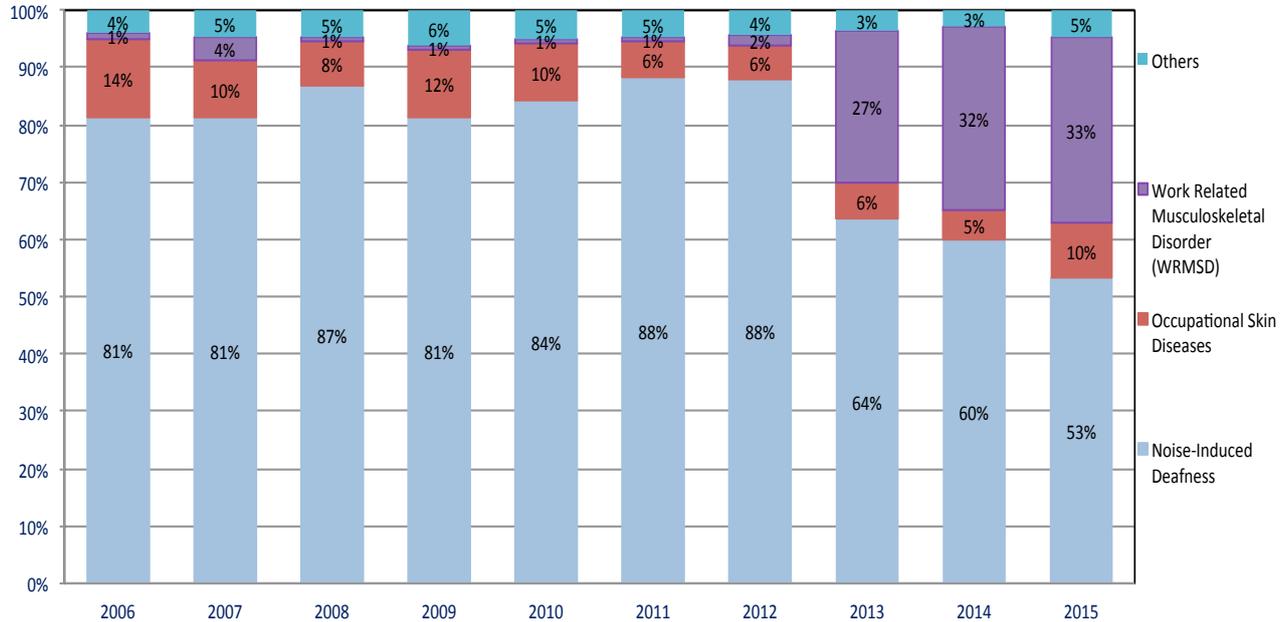


Figure 10: Proportion of occupational disease by type, 2006-2015

BUSINESS UNDER SURVEILLANCE

14 companies were placed into the Business under Surveillance (BUS) programme in 2015, a 26% decrease compared to 2014.

MEDICAL AND HYGIENE SURVEILLANCE

The number of workers and workplaces covered under the Medical Surveillance programme has decreased to 134,963 and 2,138 respectively (Figures 17 and 18).

74% of the workplaces had static noise levels greater than 85dBA, 79% of the workplaces had workers who were exposed to excessive noise and 3,431 chemical exposure results were received under the Hygiene Surveillance Programme.

ACCIDENTS AT WORK

WORKPLACE FATAL INJURIES

66 WORKPLACE FATAL INJURIES (INCLUDING 10 WORK-RELATED TRAFFIC FATAL INJURIES) IN 2015, 41% OF THE WORKPLACE FATAL INJURIES WERE FROM CONSTRUCTION SECTOR

There were 66 workplace fatal injuries in 2015, an increase from 60 workplace fatal injuries in 2014. Workplace fatal injury rate increased to 1.9 per 100,000 employed persons, compared to 1.8 per 100,000 employed persons in 2014 (Table 1.3 & Table 1.4).

WORKPLACE FATAL INJURIES BY SECTOR

CONSTRUCTION

While the workplace fatal injury rate in the Construction sector fell slightly from 5.5 per 100,000 employed persons in 2014 to 5.4 per 100,000 employed persons in 2015, it remained the top contributor in 2015 with 27 workplace fatal injuries or 41% of all workplace fatal injuries (Table 1.3).

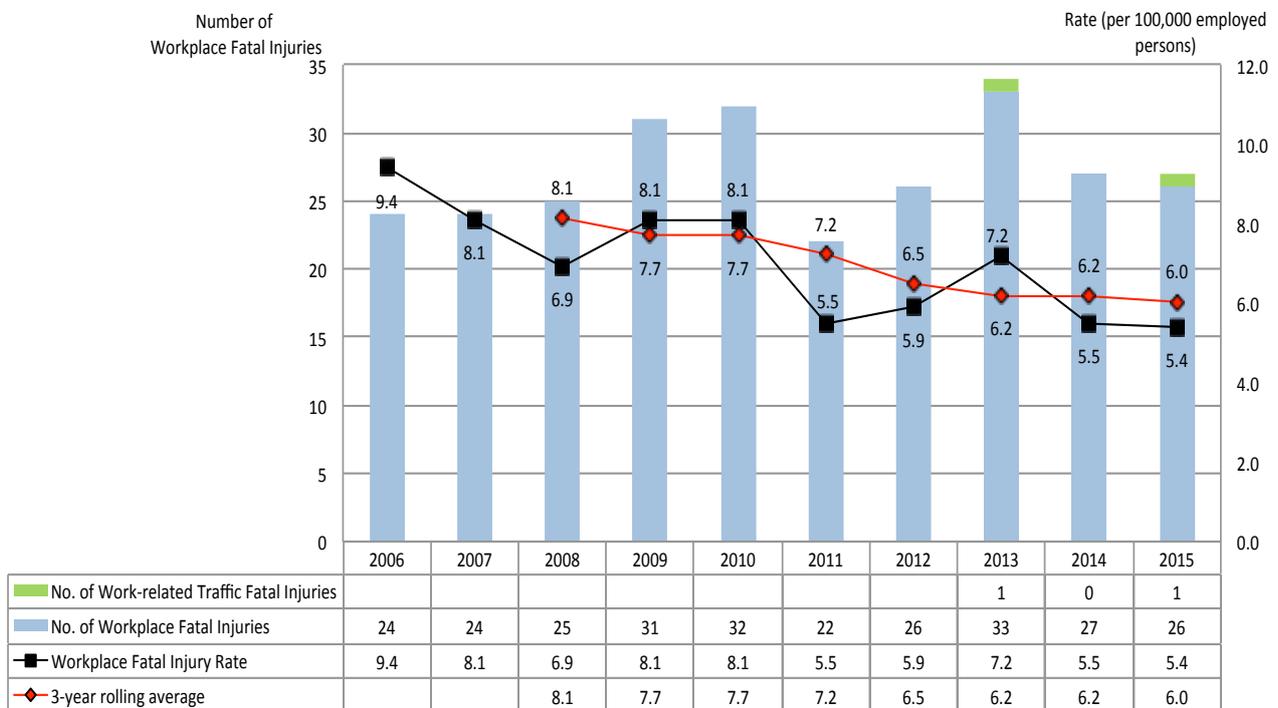


Figure 11: Workplace fatal injury rate for Construction sector, 2006-2015

MARINE

For the Marine⁸ sector, there were 4 workplace fatal injuries in 2015, similar to 2014 (Table 1.3). The workplace fatal injury rate rose from 3.8 per 100,000 employed persons in 2014 to 4.2 per 100,000 employed persons in 2015 (Table 1.4).

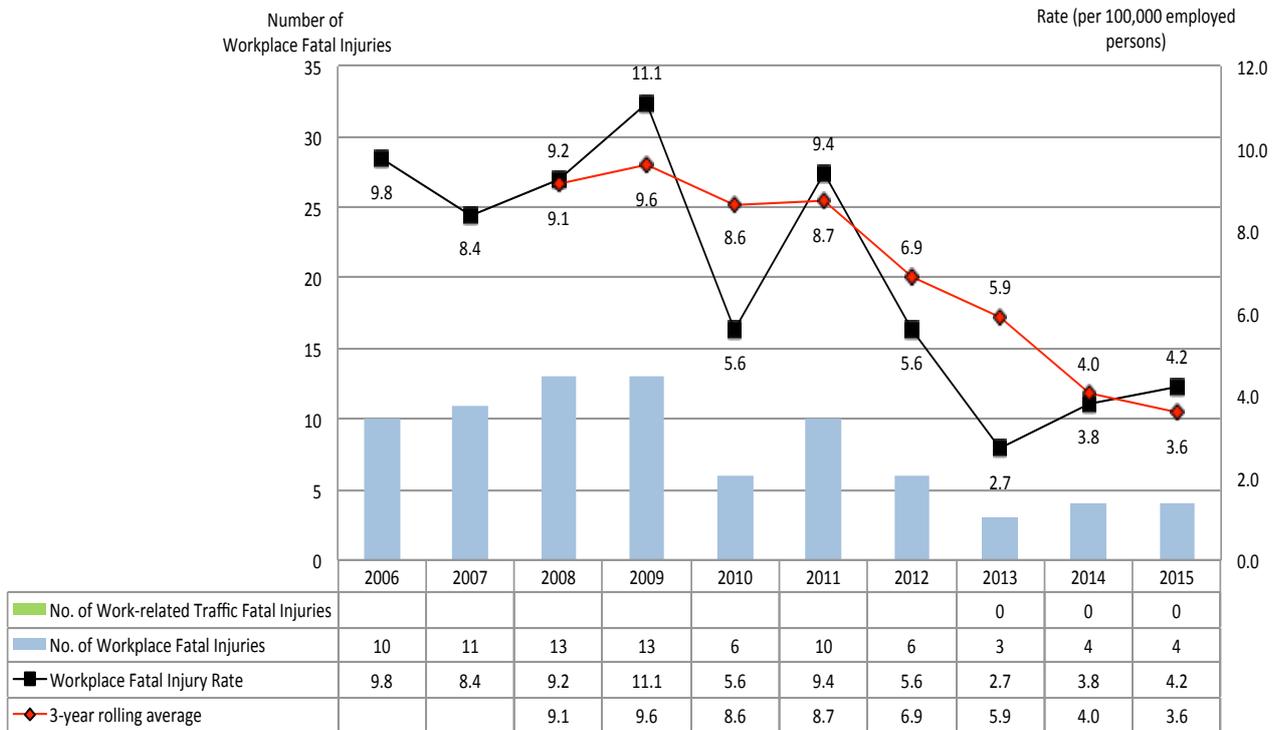


Figure 12: Workplace fatal injury rate for Marine sector, 2006-2015

⁸ The marine sector includes the following activities:

- Shipbuilding and Ship Repair
- Marine Surveying Services (other than classification societies)
- Salvaging of distressed vessels and cargo

Works carried out in the anchorage are also included.

MANUFACTURING

There were 6 workplace fatal injuries in 2015 similar to 2014 (Table 1.3). The workplace fatal injury rate remained the same at 1.4 per 100,000 employed persons in 2015 (Table 1.4).

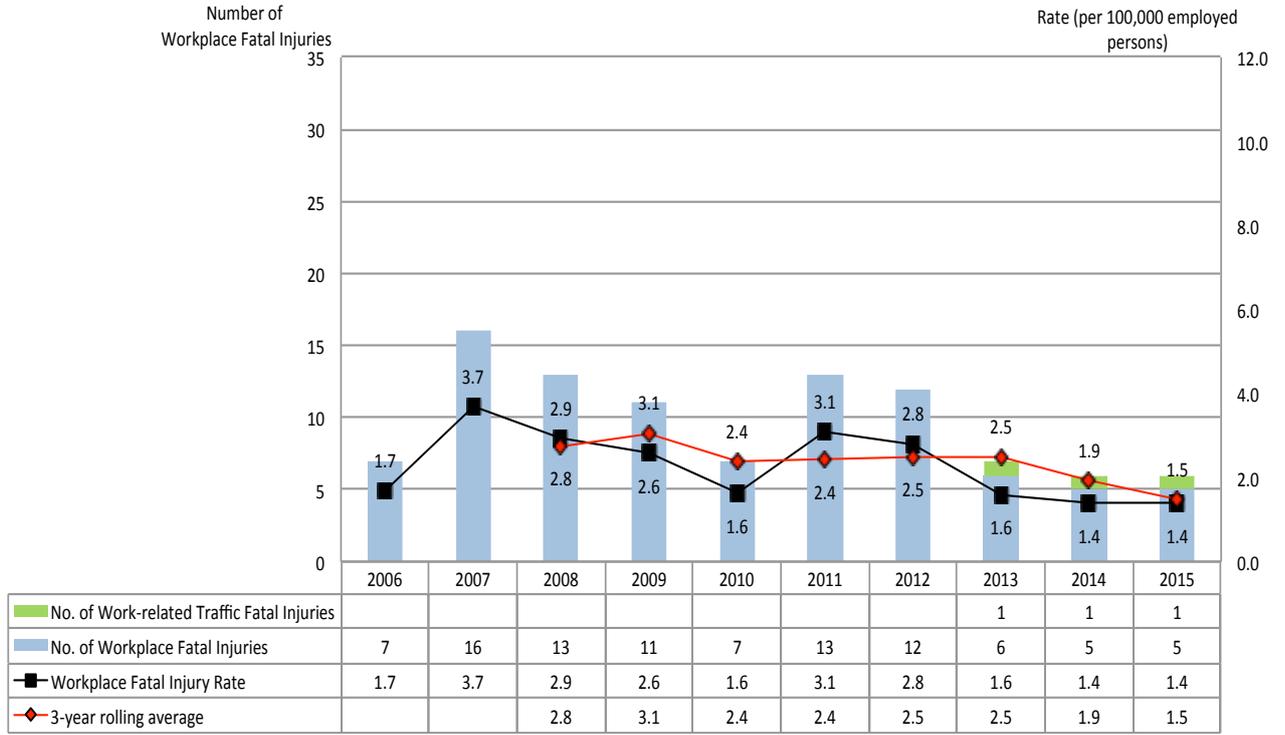


Figure 13: Workplace fatal injury rate for Manufacturing sector, 2006-2015

TRANSPORTATION & STORAGE

An increasing trend was seen for the Transportation & Storage sector. The number of workplace fatal injuries increased from 12 cases in 2014 to 15 cases in 2015 (Table 1.3). The workplace fatal injury rate rose from 5.1 per 100,000 employed persons in 2014 to 6.3 per 100,000 employed persons in 2015.

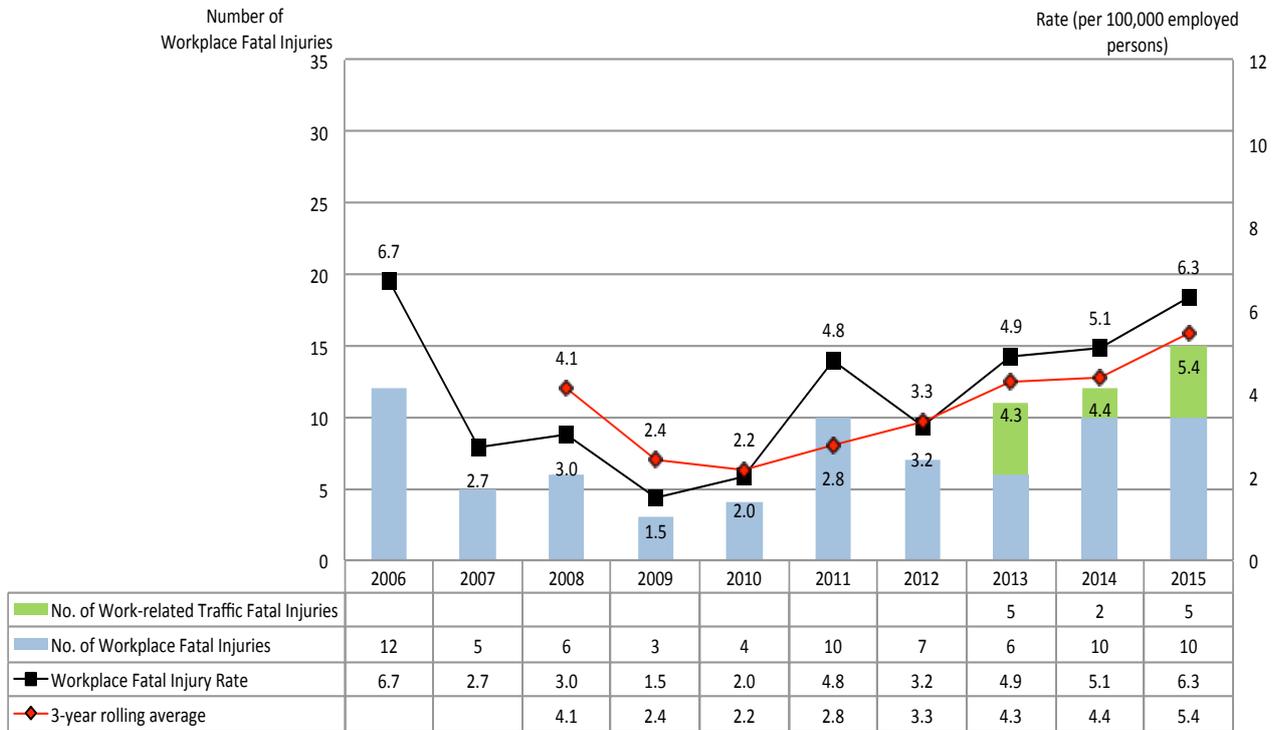


Figure 14: Workplace fatal injury rate for Transportation & Storage sector, 2006-2015

OTHERS

Cleaning & Landscape Maintenance Activities sector had almost tripled its workplace fatal injuries, from 2 workplace fatal injuries in 2014 to 5 workplace fatal injuries in 2015.

Food & Beverage Service Activities, Telecommunications, Office Administrative, Office Support & Other Business Support Activities and Repair & Maintenance of Vehicles sectors which had no workplace fatal injuries in 2014, saw a total of 5 workplace fatal injuries in 2015 (Table 1.3).

Water Supply, Sewerage & Waste Management and Remediation Activities, Retail Trade, Activities Auxiliary to Financial Service and Insurance Activities and Travel Agencies and Tour Operators Activities Sectors which had a total of 5 workplace fatal injuries in 2014, had no workplace fatal injury in 2015 (Table 1.3).

Table 1.3: Number of workplace fatal injuries by industry, 2014 and 2015

Industry	2015	2014
All Sectors	66	60
Construction	27	27
Marine	4	4
Manufacturing	6	6
<i>Metalworking</i>	3	2
<i>Manufacture of Food Products</i>	1	2
<i>Manufacture of Petrochemical Products</i>	1	0
<i>Manufacture of Rubber and Plastic Products</i>	1	0
<i>Manufacture of Computer, Electronic and Optical Products</i>	0	1
<i>Manufacture of Non-metallic Mineral Products</i>	0	1
Water Supply, Sewerage & Waste Management and Remediation Activities	0	1
Wholesale & Retail Trade	2	4
<i>Wholesale Trade</i>	2	2
<i>Retail Trade</i>	0	2
Transportation & Storage	15	12
<i>Logistics & Transport⁹</i>	11	9
Food & Beverage Service Activities	1	0
Telecommunications	1	0
Activities Auxiliary to Financial Service and Insurance Activities	0	1
Travel Agencies and Tour Operators Activities	0	1
Security & Investigation Activities	1	2
Cleaning & Landscape Maintenance Activities	5	2
Office Administrative, Office Support & Other Business Support Activities	1	0
Repair & Maintenance of Vehicles	2	0
Activities not Adequately Defined	1	0

⁹The logistics & transport sector includes the following activities:

- Warehousing and Storage
- Supporting services to land transport (exclude car management services, taxi booking services, towing services)
- Supporting services to water transport (exclude marine surveying services, salvaging distressed vessels & cargo)
- Supporting services to air transport

Table 1.4: Workplace fatal injury rates by industry, 2014 and 2015

Per 100,000 employed persons

Industry	2015	2014
All Sectors	1.9	1.8
Construction	5.4	5.5
Marine	4.2	3.8
Manufacturing	1.4	1.4
<i>Metalworking</i>	2.5	1.6
<i>Manufacture of Food Products</i>	2.4	5.1
<i>Manufacture of Petrochemical Products</i>	2.0	0.0
<i>Manufacture of Rubber and Plastic Products</i>	8.1	0.0
<i>Manufacture of Computer, Electronic and Optical Products</i>	0.0	1.1
<i>Manufacture of Non-metallic Mineral Products</i>	0.0	18.9
Water Supply, Sewerage & Waste Management and Remediation Activities	0.0	6.1
Wholesale & Retail Trade	0.4	0.8
<i>Wholesale Trade</i>	0.6	0.6
<i>Retail Trade</i>	0.0	1.2
Transportation & Storage	6.3	5.1
<i>Logistics & Transport</i>	11.1	9.2
Food & Beverage Service Activities	0.5	0.0
Telecommunications	n.a.	n.a.
Activities Auxiliary to Financial Service and Insurance Activities	n.a.	n.a.
Travel Agencies and Tour Operators Activities	n.a.	n.a.
Security & Investigation Activities	2.4	5.0
Cleaning & Landscape Maintenance Activities	8.7	4.0
Office Administrative, Office Support & Other Business Support Activities	n.a.	n.a.
Repair & Maintenance of Vehicles*	n.a.	n.a.
Activities not Adequately Defined	n.a.	n.a.

WORKPLACE FATAL INJURIES BY INCIDENT TYPES AND INCIDENT AGENTS

FALLS WAS THE LEADING INCIDENT TYPE, FOLLOWED BY STRUCK BY MOVING OBJECTS, AND WORK-RELATED TRAFFIC

The top three incident types which accounted for 65% of all workplace fatal injuries in 2015 were (Table 1.5):

- Falls (Falls from Heights (FFH)¹⁰, Slips, Trips & Falls¹¹) (23 fatal injuries, 35%)
- Struck by Moving Objects (10 fatal injuries, 15%)
- Work-related Traffic (10 fatal injuries, 15%)

Falls (Falls from Heights (FFH), Slips, Trips & Falls) was the leading incident type in 2015, with 23 workplace fatal injuries. Slips, Trips & Falls saw a significant increase from 4 workplace fatal injuries to 9 in 2015. Slips and Trips from floor/ level surfaces, falling from means of access and vehicle were some of the main causes.

Struck by Moving Objects saw 10 workplace fatal injuries in 2015, a slight increase from 8 workplace fatal injuries in 2014. All of these workplace fatal injuries were due to being hit by vehicles such as trucks and prime movers inside workplace premises. The cases were from the Construction and Logistics & Transport sectors.

Work-related Traffic saw an increase from 6 work-related traffic fatal injuries in 2014 to 10 work-related traffic fatal injuries in 2015. 6 out of the 10 work-related traffic fatal injuries in 2015 involved vocational riders. These cases involved riders from the Construction, Food & Beverage Service Activities, Transportation & Storage and Activities not Adequately Defined sectors.

Other than the above, Crane-related workplace fatal injuries also increased from 3 cases to 5 cases. There were 2 cases from Marine and 1 case each from Construction, Manufacturing and Logistics & Transport sectors.

¹⁰ Falls from heights (FFH) includes fall from roof, fall from mobile work platform, fall from scaffold, fall from ladder, fall from structure and fall into depths.

¹¹ Slips, Trips and Falls includes Slips and Trips on same level/Fall from vehicle/stairs/steps/machines/other locations.

Table 1.5: Number of workplace fatal injuries by incident type and incident agent, 2014 and 2015

Incident Type		Incident Agent	2015	2014
Total Workplace Fatal Injuries			66	60
Falls	Total		23	14
<i>Falls from Heights</i>	Total		14	10
	Physical Workplace - Structures		7	4
	Physical Workplace - Formwork		3	1
	Means of Access - Ladders		2	2
	Lifting Equipment - Mobile Work Platform		1	0
	Physical Workplace - Roofs		1	2
	Means of Access - Scaffold		0	1
<i>Slips, Trips & Falls</i>	Total		9	4
	Physical Workplace - Floor/Level Surfaces		3	0
	Lifting Equipment - Lifts & Hoists		1	0
	Means of Access - Gangway		1	0
	Means of Access - Others		1	0
	Means of Access - Stairs or Steps		1	1
	Metal Items		1	0
	Vehicles - Excavator, Forklift, Lorry, Truck		1	3
Struck by Moving Objects	Total		10	8
	Vehicles - Bus, Car, Excavator, Forklift, Prime Mover, Lorry, Truck		10	6
	Lifting Equipment - Others		0	1
	Pressurised Equipment - Pressurised Piping/Accessories		0	1
Work-related Traffic	Total		10	6
	Motorcycle		6	3
	Large Goods Vehicles (LGVs) - Lorry, Prime Mover, Truck		2	1
	Taxi		1	1
	Van		1	0
	Industrial Trucks - Cement Mixer		0	1
Collapse/Failure of Structure & Equipment	Total		5	6
	Industrial Machines		1	0
	Lifting Equipment - Mobile Work Platform		1	1
	Means of Access - Scaffold		1	0
	Physical Workplace - Structures		1	5
	Vehicles - Prime Mover		1	0
Crane-related	Total		5	3
	Lifting Equipment - Cranes		5	3

(continued) Table 1.5: Number of workplace fatal injuries by incident type and incident agent, 2014 and 2015

Incident Type	Incident Agent	2015	2014
Total Workplace Fatal Injuries		66	60
Struck by Falling Objects From Heights	Total	5	4
	Animals, Plants and Insects	1	0
	Lifting Equipment - Lifts & Hoists	1	0
	Other Incident Agents	1	0
	Physical Workplace - Formwork	1	1
	Vehicles - Excavator, Forklift	1	1
	Industrial Machines	0	1
	Metal Items	0	1
Caught in/ between Objects	Total	4	5
	Electrical Installation	1	0
	Goods/ Cargo	1	0
	Lifting Equipment - Mobile Work Platform	1	1
	Vehicles - Lorry, Truck, Prime Mover	1	3
	Metal Items	0	1
Cave-in	Total	1	0
	Other Incident Agents	1	0
Collapse of Formwork/Failure of its Supports	Total	1	3
	Physical Workplace - Formwork	1	3
Fires & Explosion	Total	1	2
	Dust, Gas, Liquid and Chemicals	1	0
	Explosives/Flammable Substances	0	2
Suffocation	Total	1	1
	Dust, Gas, Liquid and Chemicals	1	1
Drowning	Total	0	2
Electrocution	Total	0	2
	Electrical Installation	0	2
Exposure to/contact with extreme temperatures	Total	0	2
	Hot scalding liquid/Steam	0	2
Exposure to/contact with harmful substances	Total	0	1
	Corrosives	0	1
Physical Assault	Total	0	1
	Human Factors	0	1

Table 1.6: Number of workplace fatal injuries by industry and incident type, 2015

Industry	All	Construction	Marine	Manufacturing	Wholesale & Retail Trade	Transportation & Storage	Logistics & Transport
Total	66	27	4	6	2	15	11
Falls	23	12	0	3	1	4	4
<i>Falls from Heights</i>	14	10	0	1	1	0	0
<i>Slips, Trips & Falls</i>	9	2	0	2	0	4	4
Struck by Moving Objects	10	3	1	0	0	3	2
Work-related Traffic	10	1	0	1	0	5	2
Collapse/Failure of Structure & Equipment	5	3	0	0	1	1	1
Crane-related	5	1	2	1	0	1	1
Struck by Falling Objects From Heights	5	3	0	0	0	0	0
Caught in/between objects	4	2	0	0	0	1	1
Cave-in	1	1	0	0	0	0	0
Collapse of Formwork/Failure of its Supports	1	1	0	0	0	0	0
Fires & Explosion	1	0	0	1	0	0	0
Suffocation	1	0	1	0	0	0	0

Note:

Logistics & Transport is a sub sector of Transportation & Storage.

(continued) Table 1.6: Number of workplace fatal injuries by industry and incident type, 2015

Industry	Food & Beverages Service Activities	Tele-communications	Security & Investigation Activities	Cleaning & Landscape Maintenance Activities	Office Administrative, Office Support & Other Business Support Activities	Repair & Maintenance of Vehicles	Activities not Adequately Defined
Total	1	1	1	5	1	2	1
Falls	0	1	0	2	0	0	0
<i>Falls from Heights</i>	0	0	0	2	0	0	0
<i>Slips, Trips & Falls</i>	0	1	0	0	0	0	0
Struck by Moving Objects	0	0	1	1	0	1	0
Work-related Traffic	1	0	0	0	1	0	1
Collapse/Failure of Structure & Equipment	0	0	0	0	0	0	0
Crane-related	0	0	0	0	0	0	0
Struck by Falling Objects From Heights	0	0	0	2	0	0	0
Caught in/between objects	0	0	0	0	0	1	0
Cave-in	0	0	0	0	0	0	0
Collapse of Formwork/Failure of its Supports	0	0	0	0	0	0	0
Fires & Explosion	0	0	0	0	0	0	0
Suffocation	0	0	0	0	0	0	0

WORKPLACE MAJOR INJURIES

NUMBER OF WORKPLACE MAJOR INJURIES DECREASED BY 11% IN 2015, CONSTRUCTION SECTOR WAS THE TOP CONTRIBUTOR

597 workers (17.6 per 100,000 employed persons) sustained workplace major injuries¹² in 2015, compared to 672 workers (20.0 per 100,000 employed persons) in 2014 (Table 1.7 & 1.8). 66,671 man-days were lost as a result of these incidents.

WORKPLACE MAJOR INJURIES BY SECTOR

The Construction, Manufacturing and Marine sectors accounted for 315 (53%) of the workplace major injuries reported (Table 1.7).

Marine sector saw an increase, with 32 cases (33.2 per 100,000 employed persons) in 2015, up from 29 cases (27.2 per 100,000 employed persons) in 2014. Increased workplace major injury rate was also seen in the Accommodation & Food Service Activities, from 11.6 per 100,000 employed persons in 2014 to 19.2 per 100,000 employed persons in 2015 and Health Activities sectors (6.9 per 100,000 employed persons in 2014 to 10.0 per 100,000 employed persons in 2015).

Financial & Insurance Activities sector saw the most reduction in workplace major injury rate from 5.1 per 100,000 employed persons in 2014 to 0.5 per 100,000 employed persons in 2015. Construction sector saw a reduction, with 157 cases (31.3 per 100,000 employed persons) in 2015, down from 202 cases (41.2 per 100,000 employed persons) in 2014. Manufacturing sector also saw a reduction in workplace major injury rate to 30.0 per 100,000 employed persons from 32.6 per 100,000 employed persons in 2014. Workplace major injury rates decreased for the Logistics & Transport (30.8 per 100,000 employed persons in 2014 to 25.3 per 100,000 employed persons in 2015), Wholesale & Retail Trade (8.9 per 100,000 employed persons in 2014 to 6.1 per 100,000 employed persons in 2015) and Real Estate Activities (14.6 per 100,000 employed persons in 2014 to 11.0 per 100,000 employed persons in 2015) and to a lesser degree in Water Supply, Sewerage & Waste Management and Remediation Activities, Professional, Scientific & Technical Activities and Administrative & Support Service Activities sectors compared to 2014.

¹² Refer to Annex F for definition.

Table 1.7: Number of workplace major injuries by industry, 2014 and 2015

Industry	2015	2014
All Sectors	597	672
Construction	157	202
Marine	32	29
Manufacturing	126	140
<i>Metalworking</i>	38	51
<i>Manufacture of Food, Beverages & Tobacco</i>	28	20
<i>Manufacture of Petrochemical Products</i>	13	10
Water Supply, Sewerage & Waste Management and Remediation Activities	10	10
Wholesale & Retail Trade	30	44
<i>Wholesale Trade</i>	21	28
<i>Retail Trade</i>	9	16
Transportation & Storage	37	39
<i>Logistics & Transport</i>	25	30
Accommodation & Food Service Activities	46	27
<i>Accommodation</i>	4	4
<i>Food & Beverage Service Activities</i>	42	23
Financial & Insurance Activities ¹³	1	10
Real Estate Activities	10	14
Professional, Scientific & Technical Activities	16	16
Administrative & Support Service Activities	10	13
Community, Social & Personal Services	41	35
<i>Education</i>	13	10
<i>Health Activities</i>	9	6
<i>Public Administration and Defence</i>	8	3
<i>Arts, Entertainment and Recreation</i>	3	3
<i>Repair & Maintenance of Vehicles</i>	3	7

¹³ Financial & Insurance Activities include banks, finance companies and activities of holding companies.

Table 1.8: Workplace major injury rates by industry, 2014 and 2015

Per 100,000 employed persons

Industry	2015	2014
All Sectors	17.6	20.0
Construction	31.3	41.2
Marine	33.2	27.2
Manufacturing	30.0	32.6
<i>Metalworking</i>	32.0	41.3
<i>Manufacture of Food, Beverages & Tobacco</i>	62.4	47.6
<i>Manufacture of Petrochemical Products</i>	26.2	18.3
Water Supply, Sewerage & Waste Management and Remediation Activities	59.5	60.6
Wholesale & Retail Trade	6.1	8.9
<i>Wholesale Trade</i>	6.5	8.6
<i>Retail Trade</i>	5.5	9.4
Transportation & Storage	15.6	16.7
<i>Logistics & Transport</i>	25.3	30.8
Accommodation & Food Service Activities	19.2	11.6
<i>Accommodation</i>	11.4	11.4
<i>Food & Beverage Service Activities</i>	20.5	11.6
Financial & Insurance Activities	0.5	5.1
Real Estate Activities	11.0	14.6
Professional, Scientific & Technical Activities	6.5	6.8
Administrative & Support Service Activities	4.7	6.5
Community, Social & Personal Services	5.3	4.7
<i>Education</i>	<i>n.a.</i>	<i>n.a.</i>
<i>Health Activities*</i>	10.0	6.9
<i>Public Administration and Defence</i>	<i>n.a.</i>	<i>n.a.</i>
<i>Arts, Entertainment and Recreation</i>	5.4	5.4
<i>Repair & Maintenance of Vehicles*</i>	<i>n.a.</i>	<i>n.a.</i>

Table 1.9: Types of workplace major injury, 2014 and 2015

Workplace Major Injury Types	2015	2014
Total	597	672
Crushing, Fractures and Dislocations	323	354
Amputations	117	129
Hypothermia/Burns, with more than 20 MC days	73	73
Multiple Injuries	45	57
Concussion, with more than 20 MC days	20	23
Exposure to Electric Current	16	24
Blindness	3	5
Asphyxia/Drowning	0	4
Paralysis	0	2
Deafness	0	1

WORKPLACE MAJOR INJURIES BY INJURY TYPES

Crushing, Fractures and Dislocations were the leading types of injury, accounting for 54% of all workplace major injuries. This was followed by Amputations, with 117 workers suffering from complete loss or loss of use of any member/part of a member of the injured person’s body in 2015. The number of Hypothermia/Burns cases with more than 20 MC days was the same as last year with 73 cases in 2015 (Table 1.9).

WORKPLACE MAJOR INJURIES BY INCIDENT TYPES AND INCIDENT AGENTS

The top three incident types, accounting for 64% of workplace major injuries were (Table 1.10):

- Falls (Falls from Heights (FFH) (102 injuries, 17%), Slips, Trips and Falls (153 injuries, 26%))
- Caught in/between Objects (66 injuries, 11%)
- Struck by Falling Objects (63 injuries, 11%)

Falls (Falls from Heights (FFH), Slips, Trips and Falls) was the leading incident type for workplace major injuries, contributing 43%. For Falls from Heights, Means of Access - Scaffolds had increased from 9 workplace major injuries in 2014 to 20 workplace major injuries in 2015. For Caught in/between Objects, the top incident agent was Industrial Machines. 77% of the Caught in/between Objects cases resulted in amputations. For Struck by Falling Objects, the top incident agent was Metal Items.

Table 1.10: Number of workplace major injuries by key incident type and key incident agent, 2014 and 2015

Incident Type	Incident Agent	2015	2014
Total Workplace Major Injuries		597	672
Falls	Total	255	259
<i>Slips, Trips & Falls</i>	Total	153	171
	Physical Workplace - Floor/Level Surfaces	68	66
<i>Falls from Heights</i>	Means of Access - Stairs or Steps	16	26
	Vehicles	16	25
	Furniture and Fittings	14	10
	Total	102	88
	Means of Access - Ladders	48	30
	Means of Access - Scaffold	20	9
	Physical Workplace - Structures	10	17
Caught in/ between Objects	Total	66	69
	Industrial Machines	27	26
	Lifting Equipment Including Cranes	13	8
Struck by Falling Objects	Total	63	56
	Metal Items (excluding knives/needles)	17	12
	Lifting Equipment Including Cranes	8	5
Struck by Moving Objects	Total	55	53
	Vehicles	14	17
	Metal Items	10	2
	Industrial Hand Tools	9	6
Exposure to Extreme Temperatures	Total	45	35
	Hot scalding liquid/Steam	32	22
	Pressurised Equipment	5	2
Cut/Stabbed by Objects	Total	26	35
	Industrial Machines	19	23
	Industrial Hand Tools	7	6
Work-related Traffic	Total	25	57
Exposure to Electric current	Total	20	32
	Electrical Installation	10	17
	Industrial Machines	4	8
	Hot scalding liquid/Steam	1	0
	Industrial Hand Tools	1	2

Table 1.11: Top 3 incident types for workplace major injuries by industry, 2015

Industry	Top 3 Incident Types		
	1 st	2 nd	3 rd
All Sectors	STF	FFH	CIBO
Construction	FFH	SBFO	STF
Marine	CIBO	ETET, FFH, SBMO	STF
Manufacturing	STF	CIBO	CSBO
<i>Metalworking</i>	<i>STF</i>	<i>CIBO, CSBO</i>	<i>FFH</i>
<i>Manufacture of Food, Beverages & Tobacco</i>	<i>STF</i>	<i>CSBO, ETET, SBFO</i>	<i>CIBO, FE, FFH, SBMO</i>
<i>Manufacture of Petrochemical Products</i>	<i>FE</i>	<i>STF</i>	<i>ETHS, FFH</i>
Water Supply, Sewerage & Waste Management and Remediation Activities	STF, WRT	CIBO, CFS, ETEC, FE, SBFO, SBMO	-
Wholesale & Retail Trade	STF	FFH	SBFO, WRT
<i>Wholesale Trade</i>	<i>STF</i>	<i>SBFO, WRT</i>	<i>FFH</i>
<i>Retail Trade</i>	<i>FFH, SBMO</i>	<i>ETEC, PA, OESM, SAO, STF</i>	-
Transportation & Storage	STF	WRT	CIBO, FFH, SBFO
<i>Logistics & Transport</i>	<i>STF</i>	<i>CIBO, FFH</i>	<i>SBFO, WRT</i>
Accommodation & Food Services	ETET	STF	WRT
<i>Accommodation</i>	<i>ETEC</i>	<i>FE, STF</i>	-
<i>Food & Beverage Service Activities</i>	<i>ETET</i>	<i>STF</i>	<i>WRT</i>
Financial & Insurance Activities	WRT	-	-
Real Estate Activities	STF	ETEC	ETET, FFH
Professional, Scientific & Technical Activities	STF	CIBO	SBFO
Administrative & Support Service Activities	STF, SBMO	OESM	FFH, WRT
Community, Social & Personal Services	STF	FFH	SBFO
<i>Education</i>	<i>STF</i>	<i>SBFO</i>	<i>ETHS</i>
<i>Health Activities</i>	<i>STF</i>	<i>ETEC, SBMO</i>	-
<i>Public Administration and Defence</i>	<i>STF</i>	<i>SAO</i>	-
<i>Arts, Entertainment and Recreation</i>	<i>ETEC, FFH, STF</i>	-	-
<i>Repair & Maintenance of Vehicles</i>	<i>CIBO, FFH, STF</i>	-	-

Legend:

- | | | | | | |
|------|----------------------------------|------|---------------------------------------|------|--|
| CIBO | Caught In/Between Objects | FE | Fires & Explosion | SBMO | Struck by Moving Objects ¹⁴ |
| CFS | Collapse/Failure of Structure | FFH | Falls (Falls from Heights) | STF | Falls (Slips, Trips and Falls) |
| CSBO | Cut/Stabbed by Objects | OESM | Over-exertion and Strenuous Movements | WRT | Work-related Traffic |
| ETEC | Exposure to Electric Current | PA | Physical Assault | | |
| ETET | Exposure to Extreme Temperature | SAO | Strike Against Objects | | |
| ETHS | Exposure to Hazardous Substances | SBFO | Struck by Falling Objects | | |

¹⁴ This includes flying fragments but excludes falling objects.

WORKPLACE MINOR INJURIES

WORKPLACE MINOR INJURIES SAW A DECREASE OF 9.1% IN 2015

Workplace minor injuries include all other reportable injuries that did not result in death or major injuries. Workplace minor injuries decreased from 12,863 cases in 2014 (383 per 100,000 employed persons) to 11,688 cases (344 per 100,000 employed persons) in 2015 (Table 1.12 & 1.13).

WORKPLACE MINOR INJURIES BY SECTOR

The Construction, Manufacturing and Marine sectors accounted for 43% of workplace minor injuries. Manufacturing sector remained the highest contributor to the number of workplace minor injuries with the workplace minor injury rate decreasing from 680 per 100,000 employed persons in 2014 to 609 per 100,000 employed persons in 2015 (Table 1.12 and 1.13). Construction sector recorded 23% decrease in workplace minor injuries and its rates decreased from 547 per 100,000 employed persons in 2014 to 414 per 100,000 employed persons in 2015. The number of workplace minor injuries for Marine sector also saw a 25% decrease in 2015 with the corresponding decrease in the minor injury rate, from 440 per 100,000 employed persons in 2014 to 368 per 100,000 employed persons in 2015.

Other sectors such as Financial & Insurance Activities, Real Estate Activities, Professional, Scientific & Technical Activities and Health Activities saw an increase in workplace minor injury rates (Table 1.13).

Table 1.12: Number of workplace minor injuries by industry, 2014 and 2015

Industry	2015	2014
All Sectors	11,688	12,863
Construction	2,076	2,686
Marine	354	469
Manufacturing	2,556	2,922
<i>Metalworking</i>	1,099	1,289
<i>Manufacture of Food, Beverages & Tobacco</i>	402	460
<i>Manufacture of Non-Metallic Mineral Products</i>	172	178
Water Supply, Sewerage & Waste Management and Remediation	135	141
Activities		
Wholesale & Retail Trade	594	631
<i>Wholesale Trade</i>	322	350
<i>Retail Trade</i>	272	281
Transportation & Storage	1,051	1,062
<i>Logistics & Transport</i>	656	649
Accommodation & Food Service Activities	923	920
<i>Accommodation</i>	226	228
<i>Food & Beverage Service Activities</i>	697	692
Information & Communications ¹⁵	36	52
Financial & Insurance Activities	141	123
Real Estate Activities	284	284
Professional, Scientific & Technical Activities	418	383
<i>Legal, Accounting & Management Activities</i>	200	148
<i>Architectural & Engineering Activities</i>	163	179
Administrative & Support Service Activities	343	406
<i>Office Administrative, Office Support & Other Business Support Activities</i>	141	143
<i>Cleaning & Landscape Maintenance Activities</i>	126	122
<i>Security and Investigation Activities</i>	50	98
Community, Social & Personal Services	1,114	1,043
<i>Health Activities</i>	383	320
<i>Education</i>	206	189
<i>Other Personal Service Activities</i>	154	157
<i>Repair & Maintenance of Vehicles</i>	112	124

¹⁵ Information and Communication includes publishing activities, motion picture, video and television programme production, sound recording & music publishing activities, radio & television broadcasting activities, telecommunications.

Table 1.13: Workplace minor injury rates by industry, 2014 and 2015

Per 100,000 employed persons

Industry	2015	2014
All Sectors	344	383
Construction	414	547
Marine	368	440
Manufacturing	609	680
<i>Metalworking</i>	927	1,044
<i>Manufacture of Food, Beverages & Tobacco</i>	895	1,095
<i>Manufacture of Non-Metallic Mineral Products</i>	3,245	3,358
Water Supply, Sewerage & Waste Management and Remediation	804	855
Activities		
Wholesale & Retail Trade	122	128
<i>Wholesale Trade</i>	99	108
<i>Retail Trade</i>	167	166
Transportation & Storage	443	456
<i>Logistics & Transport</i>	665	666
Accommodation & Food Service Activities	385	395
<i>Accommodation</i>	646	650
<i>Food & Beverage Service Activities</i>	341	350
Information & Communications ¹⁷	29	44
Financial & Insurance Activities	70	63
Real Estate Activities	313	297
Professional, Scientific & Technical Activities	171	163
<i>Legal, Accounting & Management Activities</i>	161	131
<i>Architectural & Engineering Activities</i>	257	276
Administrative & Support Service Activities	161	202
<i>Office Administrative, Office Support & Other Business Support Activities</i>	<i>n.a.</i>	<i>n.a.</i>
<i>Cleaning & Landscape Maintenance Activities</i>	219	244
<i>Security and Investigation Activities</i>	119	245
Community, Social & Personal Services	145	140
<i>Health Activities*</i>	426	368
<i>Education</i>	<i>n.a.</i>	<i>n.a.</i>
<i>Other Personal Service Activities</i>	<i>n.a.</i>	<i>n.a.</i>
<i>Repair & Maintenance of Vehicles*</i>	<i>n.a.</i>	<i>n.a.</i>

WORKPLACE MINOR INJURIES BY INCIDENT TYPES AND INCIDENT AGENTS

FALLS (SLIPS, TRIPS AND FALLS) REMAINED THE MAIN AREA OF CONCERN FOR WORKPLACE MINOR INJURIES

The top three incident types that accounted for 53% of workplace minor injuries in 2015 were (Table 1.14):

- Falls (Slips, Trips and Falls (STF)) (2,863 injuries, 24%)
- Struck by Moving Objects (SBMO) (1,911 injuries, 16%)
- Cut/Stabbed by Objects (CSBO) (1,430 injuries, 12%)

STF which was the top incident type for workplace minor injuries were common in many sectors including Water Supply, Sewerage & Waste Management and Remediation Activities, Wholesale & Retail Trade, Logistics & Transport, Accommodation, Information & Communications, Financial & Insurance Activities, Real Estate Activities, Professional, Scientific & Technical Activities, Administrative & Support Service Activities, Health Activities, Education and Other Personal Service Activities sectors (Table 1.15). The injuries were mainly seen in workers who were exposed to wet or contaminated surfaces. The top incident agent for STF in 2015 was Physical Workplace - Floors/Level Surfaces, accounting for 47% of STF injuries (Table 1.14).

SBMO, which continued to be one of the leading incident types, accounted for 16% of the total workplace minor injuries in 2015. It was also the top incident type for the Construction, Manufacturing and Marine sectors. 24% of SBMO injuries were caused by work involving industrial hand tools.

CSBO was commonly seen in Manufacturing, Wholesale & Retail Trade, Accommodation & Food Service Activities, Financial & Insurance Activities, Real Estate Activities, Architectural & Engineering Activities, Office Administrative, Office Support & Other Business Support Activities and Other Personal Service Activities sectors. The top incident agent for CSBO was knives and needles, accounting for 30% of CSBO injuries.

WORKPLACE MINOR INJURIES BY INJURY TYPES

The top three types of injury that accounted for 79% of all workplace minor injuries were (Table 1.16):

- Cuts and Bruises (4,453 injuries, 38%)
- Crushing, Fractures and Dislocations (2,860 injuries, 24%)
- Sprains and Strains (1,965 injuries, 17%)

Table 1.14: Number of workplace minor injuries by key incident type and key incident agent, 2014 and 2015

Incident Type	Incident Agent	2015	2014
Total Workplace Minor Injuries		11,688	12,863
Falls	Total	3,434	3,653
	<i>Slips, Trips & Falls</i> Total	2,863	2,962
<i>Falls from Heights</i>	Physical Workplace - Floor/Level Surfaces	1,341	1,420
	Means of Access - Stairs or Steps	457	466
	Vehicles	283	304
	Total	571	691
	Means of Access - Ladders	360	413
	Means of Access - Scaffold	64	93
Struck by Moving Objects	Total	1,911	1,965
	Industrial Hand Tools	454	476
	Vehicles	341	340
	Metal Items (excluding knives/needles)	311	291
Cut/Stabbed by Objects	Total	1,430	1,623
	Knives and Needles	422	425
	Industrial Machines	338	341
	Industrial Hand Tools	301	361
Struck by Falling Objects	Total	1,221	1,347
	Metal Items (excluding knives/needles)	390	423
	Furniture and Fittings	162	156
	Goods/Cargo	161	161
Caught in/ between Objects	Total	1,112	1,266
	Industrial Machines	342	373
	Metal Items (excluding knives/needles)	199	229
	Vehicles	155	155
Over-exertion/ Strenuous Movements	Total	791	833
	Human Factors	282	271
	Goods/Cargo	174	206
	Furniture and Fittings	58	57
Strike against Objects	Total	644	689
	Metal Items (excluding knives/needles)	172	176
	Furniture & Fittings	157	151
	Industrial Machines	63	66
Exposure to Extreme Temperatures	Total	300	328
	Hot scalding liquid/steam	209	214
	Industrial Machines	43	53
	Vehicles	12	13
Work-related Traffic	Total	219	502

Table 1.15: Top 3 incident types for workplace minor injuries by industry, 2015

Industry	Top 3 Incident Types		
	1 st	2 nd	3 rd
All Sectors	STF	SBMO	CSBO
Construction	SBMO	STF	SBFO
Marine	SBMO	CIBO	STF
Manufacturing	SBMO	CSBO	STF
<i>Metalworking</i>	<i>SBMO</i>	<i>CIBO</i>	<i>SBFO</i>
<i>Manufacture of Food, Beverages & Tobacco</i>	<i>CSBO</i>	<i>STF</i>	<i>SBMO</i>
<i>Manufacture of Non-Metallic Mineral Products</i>	<i>SBMO</i>	<i>CSBO</i>	<i>STF</i>
Water Supply, Sewerage & Waste Management and Remediation Activities	STF	SBMO	CIBO, OESM
Wholesale & Retail Trade	STF	CSBO, SBMO	SBFO
<i>Wholesale Trade</i>	<i>STF</i>	<i>SBMO</i>	<i>CSBO</i>
<i>Retail Trade</i>	<i>STF</i>	<i>CSBO</i>	<i>SBFO</i>
Transportation & Storage	STF	SBMO	OESM
<i>Logistics & Transport</i>	<i>STF</i>	<i>SBMO</i>	<i>CIBO</i>
Accommodation & Food Service Activities	CSBO	STF	ETET
<i>Accommodation</i>	<i>STF</i>	<i>CSBO</i>	<i>SBFO</i>
<i>Food & Beverage Service Activities</i>	<i>CSBO</i>	<i>STF</i>	<i>ETET</i>
Information & Communications ¹⁷	STF	SBFO	CIBO
Financial & Insurance Activities	STF	CSBO	SBMO
Real Estate Activities	STF	CSBO	SBMO
Professional, Scientific & Technical Activities	STF	SBMO	OESM
<i>Legal, Accounting & Management Activities</i>	<i>STF</i>	<i>OESM</i>	<i>SBFO</i>
<i>Architectural & Engineering Activities</i>	<i>STF</i>	<i>SBMO</i>	<i>CSBO, SBFO</i>
Administrative & Support Service Activities	STF	SBMO	CSBO
<i>Office Administrative, Office Support & Other Business Support Activities</i>	<i>CSBO, SBMO</i>	<i>STF</i>	<i>SBFO</i>
<i>Cleaning & Landscape Maintenance Activities</i>	<i>STF</i>	<i>SBMO</i>	<i>SBFO</i>
<i>Security and Investigation Activities</i>	<i>STF</i>	<i>WRT</i>	<i>PA</i>
Community, Social & Personal Services	STF	OESM	SBMO
<i>Health Activities</i>	<i>STF</i>	<i>OESM</i>	<i>SBMO</i>
<i>Education</i>	<i>STF</i>	<i>OESM</i>	<i>SBMO</i>
<i>Other Personal Service Activities</i>	<i>STF</i>	<i>CSBO</i>	<i>ETBM, ETET, SAO, SBMO</i>
<i>Repair & Maintenance of Vehicles</i>	<i>SBMO</i>	<i>STF</i>	<i>CIBO</i>

Legend:

- | | | | |
|------|---------------------------------------|------|--|
| CIBO | Caught In/Between Objects | SAO | Strike Against Objects |
| CSBO | Cut/Stabbed by Objects | SBFO | Struck by Falling Objects |
| ETBM | Exposure to Biological Materials | SBMO | Struck by Moving Objects ¹⁶ |
| ETET | Exposure to Extreme Temperature | STF | Falls (Slips, Trips and Falls) |
| OESM | Over-exertion and Strenuous Movements | WRT | Work-related Traffic |
| PA | Physical Assault | | |

¹⁶ This includes flying fragments but excludes falling objects.

Table 1.16: Types of workplace minor injury, 2014 and 2015

Workplace Minor Injury Types	2015	2014
Total	11,688	12,863
Cuts and Bruises	4,453	5,101
Crushing, Fractures and Dislocations	2,860	3,128
Sprains & Strains	1,965	2,146
Burns	410	437
Multiple Injuries	251	292
Puncture Wound	212	257
Bites and Stings	77	72
Concussion	62	66
Others	1,398	1,364

DANGEROUS OCCURRENCES

NUMBER OF DANGEROUS OCCURRENCES INCREASED

46 cases of dangerous occurrences (DO) were reported to MOM in 2015, up from 27 cases in 2014 (Table 1.17). Collapse/Failure of Structures & Equipment was the top DO (67%) with Collapse of Cranes contributing to 46% of the total DOs. The second top DO was Fires and Explosion which contributed to 33% of the total DOs confirmed.

DANGEROUS OCCURRENCES BY SECTOR

Construction sector was the top contributor for the DO cases, accounting for 50% of total DO cases reported in 2015 (Table 1.17). It increased from 12 cases in 2014 to 23 cases in 2015. Manufacturing sector was the second top contributor with 12 cases in 2015, up from 9 cases in 2014.

Table 1.17: Dangerous occurrences by industry, 2014 and 2015

Industry	2015	2014
All Sectors	46	27
Construction	23	12
Marine	1	2
Manufacturing	12	9
<i>Manufacture of Petrochemical Products</i>	4	3
<i>Metalworking</i>	3	4
<i>Manufacture of Food, Beverages & Tobacco</i>	2	0
Water Supply, Sewerage & Waste Management and Remediation Activities	0	1
Transportation & Storage	2	2
<i>Logistics & Transport</i>	1	2
Accommodation & Food Service Activities	1	0
Professional, Scientific & Technical Activities	1	0
Education	3	1
Activities not Adequately Defined	3	0

Table 1.18: Types of dangerous Occurrences, 2014 and 2015

Incident Type	Incident Agent	2015	2014
Total Dangerous Occurrences		46	27
Collapse/Failure of Structure & Equipment	Total	31	17
	Lifting Equipment - Cranes	21	12
	Lifting Equipment - Mobile Work Platform	4	1
	Lifting Equipment - Piling Machines	3	2
	Physical Workplace - Formwork	1	0
	Pressurised Equipment	2	1
	Lifting Equipment - Others	0	1
Fires & Explosion	Total	15	10
	Industrial Machines	6	2
	Dust, Gas, Liquid and Chemicals	2	2
	Explosives/ Flammable Substances	2	1
	Pressurised Equipment	2	1
	Lifting Equipment - Cranes	1	0
	Electrical Installation	1	2
	Other Incident Agents	1	1
Industrial Hand Tools	0	1	

OCCUPATIONAL DISEASES

NUMBER OF CONFIRMED OCCUPATIONAL DISEASES DECREASED BY 5.7%

935 cases (27.5 cases per 100,000 employed persons) of occupational diseases (OD) were confirmed in 2015, down from 992 cases (29.5 cases per 100,000 employed persons) in 2014 (Table 1.19 & 1.20). There was a decrease in the number of NID cases. However, the number of occupational skin disease cases saw an increase of 65%, due to an outbreak of skin rashes at a construction site.

OCCUPATIONAL DISEASES BY SECTOR

Manufacturing continued to record the highest number of OD cases, accounting for 33% of total OD cases confirmed in 2015 (Table 1.19). 57% of the OD cases confirmed in this sector were from Metalworking. Metalworking also posted the highest incidence of OD cases (150.9 per 100,000 employed persons), followed by Marine (129.8 cases per 100,000 employed persons). Health Activities sector had a 64% increase with 41 cases in 2015 compared to 25 cases in 2014. Logistics & Transport sector had a 62% increase with 47 cases in 2015 compared to 29 cases in 2014.

Table 1.19: Number of confirmed occupational disease cases by industry, 2014 and 2015

Industry	2015	2014
All Sectors	935	992
Construction	145	140
Marine	125	151
Manufacturing	312	356
<i>Metalworking</i>	179	232
<i>Manufacture of Food, Beverages & Tobacco</i>	30	16
<i>Manufacture of Petrochemical Products</i>	28	25
Electricity, Gas & Air Conditioning Supply	0	5
Water Supply, Sewerage & Waste Management and Remediation	5	2
Activities		
Wholesale & Retail Trade	28	32
Transportation & Storage	97	75
<i>Logistics & Transport</i>	47	29
Accommodation & Food Service Activities	19	35
<i>Accommodation</i>	5	9
<i>Food & Beverage Service Activities</i>	14	26
Information & Communications	3	4
Financial & Insurance Activities	22	20
Real Estate Activities	9	8
Professional, Scientific & Technical Activities	31	41
<i>Architectural & Engineering Activities</i>	14	32
Administrative & Support Service Activities	22	19
Community, Social & Personal Services	78	68
<i>Health Activities</i>	41	25
<i>Other Personal Service Activities</i>	14	12
<i>Education</i>	6	3
<i>Repair and Maintenance of Vehicles</i>	6	15

Table 1.20: Occupational disease incidence rates by industry, 2014 and 2015

Per 100,000 employed persons

Industry	2015	2014
All Sectors	27.5	29.5
Construction	28.9	28.5
Marine	129.8	141.7
Manufacturing	74.3	82.9
<i>Metalworking</i>	150.9	187.9
<i>Manufacture of Food, Beverages & Tobacco</i>	66.8	38.1
<i>Manufacture of Petrochemical Products</i>	56.3	45.9
Electricity, Gas & Air Conditioning Supply	n.a.	n.a.
Water Supply, Sewerage & Waste Management and Remediation Activities	29.8	12.1
Wholesale & Retail Trade	5.7	6.5
Transportation & Storage	40.9	32.2
<i>Logistics & Transport</i>	47.6	29.8
Accommodation & Food Service Activities	7.9	15.0
<i>Accommodation</i>	14.3	25.6
<i>Food & Beverage Service Activities</i>	6.8	13.2
Information & Communications	2.4	3.4
Financial & Insurance Activities	10.9	10.2
Real Estate Activities	9.9	8.4
Professional, Scientific & Technical Activities	12.7	17.4
<i>Architectural & Engineering Activities</i>	22.1	49.3
Administrative & Support Service Activities	10.3	9.5
Community, Social & Personal Services	10.1	9.1
<i>Health Activities*</i>	45.6	28.7
<i>Other Personal Service Activities</i>	n.a.	n.a.
<i>Education</i>	n.a.	n.a.
<i>Repair and Maintenance of Vehicles*</i>	n.a.	n.a.

OCCUPATIONAL DISEASES BY DISEASE TYPE

Noise-induced deafness (NID) was the leading OD in 2015 with 498 cases or 53% of the total OD cases confirmed. 96% of the NID cases were diagnosed at the early stage of the disease. 22 workers suffered from severe hearing loss (Table 1.21). Work-related musculoskeletal disorders (WRMSD) was the second leading occupational disease (Table 1.21).

Table 1.21: Number of confirmed occupational diseases by type, 2014 and 2015

	2015	2014
Total	935	992
Noise Induced Deafness	498	594
<i>NID (E) - Early</i>	476	580
<i>NID (A) - Advanced</i>	22	14
Work-related Musculoskeletal Disorders	304	315
<i>Back injuries due to ergonomic risks</i>	281	302
<i>Tendinitis</i>	8	4
<i>Cervical Spondylosis</i>	4	1
<i>Trigger Finger/Thumb</i>	4	2
<i>Nerve Disorder such as Carpal Tunnel Syndrome, Cubital Tunnel Syndrome</i>	3	2
<i>Lateral Epicondylitis (Tennis Elbow)</i>	2	0
<i>Musculoskeletal Disorder of the Back</i>	0	3
<i>Others</i>	2	1
Occupational Skin Disease	89	54
<i>Eczema</i>	68	52
<i>Others</i>	21	2
Compressed Air Illness	18	7
<i>CAI Type 1</i>	15	6
<i>CAI Type 2</i>	3	1
Barotrauma	7	8
<i>Aural</i>	6	4
<i>Sinus</i>	1	4
Cancers	7	5
<i>Mesothelioma¹⁷</i>	7	5
Occupational Lung Disease	5	5
<i>Occupational Asthma</i>	5	1
<i>Silicosis</i>	0	3
<i>Tuberculosis (pulmonary)</i>	0	1
Heat Disorder	3	0
Infectious Disease	2	1
Chemical Poisoning	1	0
<i>Methyl Bromide</i>	1	0
Excessive Absorption of Chemicals	1	2
<i>Cadmium</i>	1	0
<i>Lead</i>	0	2
Upper Respiratory Tract Irritation	0	1

¹⁷ Mesothelioma is a cancer involving the lining of the internal organs.

NOISE-INDUCED DEAFNESS (NID)

MANUFACTURING SECTOR CONTINUED TO HAVE HIGHEST NUMBER OF NID CASES

The Manufacturing sector continued to have the highest number of NID cases. It saw a decrease of 20%, from 288 in 2014 to 229 in 2015 (Table 1.22). 65% of these cases were from Metalworking. Logistic & Transport sector saw an increase in NID cases from 10 in 2014 to 24 in 2015.

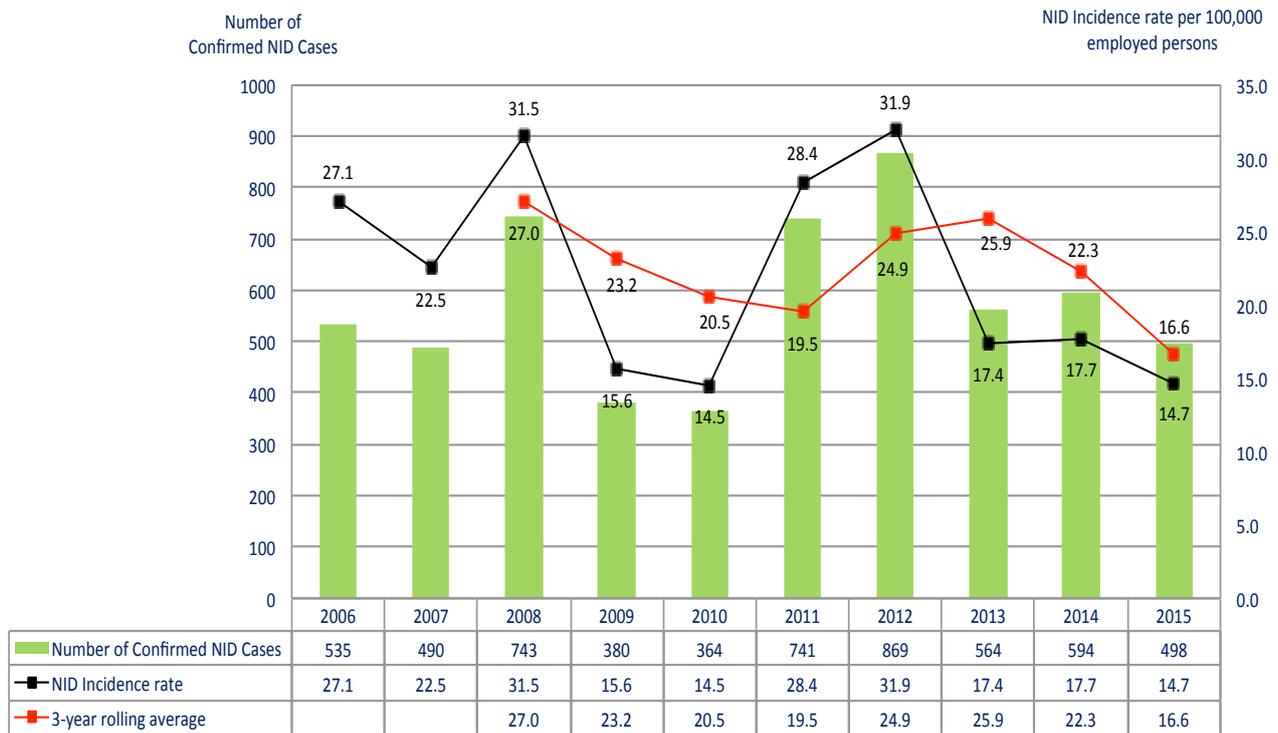


Figure 15: Noise-Induced Deafness incidence rate, 2006-2015

Table 1.22: Number of confirmed NID cases by industry, 2014 and 2015

Industry	2015	2014
All Sectors	498	594
Construction	63	79
Marine	113	139
Manufacturing	229	288
<i>Metalworking</i>	148	200
<i>Manufacture of Petrochemical Products</i>	22	22
<i>Manufacture of Other Transport Equipment</i>	18	16
Electricity, Gas & Air Conditioning Supply	0	5
Water Supply, Sewerage & Waste Management and Remediation Activities	4	0
Wholesale & Retail Trade	10	4
Transportation & Storage	31	22
<i>Logistics & Transport</i>	24	10
Financial & Insurance Activities	18	8
Professional, Scientific & Technical Activities	11	29
<i>Architectural & Engineering Activities</i>	10	28
Administrative & Support Service Activities	12	5
Community, Social & Personal Services	7	15
<i>Activities of Households as Employers of Domestic Personnel</i>	3	0
<i>Arts, Entertainment and Recreation</i>	1	0
<i>Education</i>	1	0
<i>Other Personal Service Activities</i>	1	1
<i>Repair and Maintenance of Vehicles</i>	1	10

Table 1.23: NID incidence rates by industry, 2014 and 2015

Per 100,000 employed persons

Industry	2015	2014
All Sectors	14.7	17.7
Construction	12.6	16.1
Marine	117.3	130.4
Manufacturing	54.6	67.0
<i>Metalworking</i>	124.8	161.9
<i>Manufacture of Petrochemical Products</i>	44.3	40.4
<i>Manufacture of Other Transport Equipment</i>	78.9	68.7
Electricity, Gas & Air Conditioning Supply	n.a.	n.a.
Water Supply, Sewerage & Waste Management and Remediation Activities	23.8	0.0
Wholesale & Retail Trade	2.0	0.8
Transportation & Storage	13.1	9.4
<i>Logistics & Transport</i>	24.3	10.3
Financial & Insurance Activities	8.9	4.1
Professional, Scientific & Technical Activities	4.5	12.3
<i>Architectural & Engineering Activities</i>	15.8	43.1
Administrative & Support Service Activities	5.6	2.5
Community, Social & Personal Services	0.9	2.0
<i>Activities of Households as Employers of Domestic Personnel</i>	n.a.	n.a.
<i>Arts, Entertainment and Recreation</i>	1.8	0.0
<i>Education</i>	n.a.	n.a.
<i>Other Personal Service Activities</i>	n.a.	n.a.
<i>Repair and Maintenance of Vehicles*</i>	n.a.	n.a.

WORK-RELATED MUSCULOSKELETAL DISORDERS (WRMSD)

SECOND LEADING OCCUPATIONAL DISEASE; TRANSPORTATION & STORAGE SECTOR WAS THE TOP CONTRIBUTOR

About 21% of the cases were from the Transportation & Storage sector (Table 1.24), followed by Manufacturing sector contributing 19% of the cases. There was a 58% increase in WRMSD cases for Air Transport sector in 2015. Most of these cases were involved in manual handling activities such as carrying, lifting, pulling and pushing.

Table 1.24: Number of confirmed WRMSD cases by industry, 2014 and 2015

Industry	2015	2014
All Sectors	304	315
Construction	25	39
Marine	6	9
Manufacturing	58	50
<i>Metalworking</i>	22	24
<i>Manufacture of Food, Beverages & Tobacco</i>	10	8
<i>Other Manufacturing Industries</i>	7	3
Wholesale & Retail Trade	18	23
<i>Wholesale Trade</i>	8	13
<i>Retail Trade</i>	10	10
Transportation & Storage	64	53
<i>Air Transport</i>	38	24
<i>Logistics & Transport</i>	22	19
Accommodation & Food Service Activities	15	28
<i>Accommodation</i>	4	8
<i>Food & Beverage Service Activities</i>	11	20
Information & Communications	3	4
Financial & Insurance Activities	3	8
Professional, Scientific & Technical Activities	14	11
Administrative & Support Service Activities	7	9
Community, Social & Personal Services	48	41
<i>Health Activities</i>	26	16
<i>Other Personal Service Activities</i>	9	8

OCCUPATIONAL SKIN DISEASES (OSD)

89 cases of occupational skin diseases (OSD) were confirmed in 2015, an increase of 65% from 54 cases in 2014 (Table 1.21).

There was a significant increase from the Construction sector, from 6 cases in 2014 to 34 cases in 2015, due to an outbreak of skin rashes. The rashes were caused by the hot working environment and poor personal hygiene.

Table 1.25: Number of confirmed OSD cases by industry, 2014 and 2015

Industry	2015	2014
All Sectors	89	54
Construction	34	6
Marine	2	0
Manufacturing	20	16
<i>Metalworking</i>	8	7
<i>Manufacture of Food, Beverages & Tobacco</i>	5	1
<i>Manufacture of Non-Metallic Mineral Products</i>	2	0
<i>Manufacture of Petrochemical Products</i>	2	0
Wholesale & Retail Trade	0	5
Accommodation & Food Service Activities	3	7
Financial & Insurance Activities	1	4
Professional, Scientific & Technical Activities	3	0
Administrative & Support Service Activities	2	3
Community, Social & Personal Services	20	12
<i>Health Activities</i>	13	7
<i>Other Personal Service Activities</i>	3	3
<i>Repair and Maintenance of Vehicles</i>	2	1

Table 1.26: Top 5 Causative Agents of Occupational Skin Diseases, 2015

Causative Agents	No. of Cases
Hot Environment	31
Wetwork and Occlusion	14
Solvents	7
Cement	6
Acid and Alkalis	3

OTHER OCCUPATIONAL DISEASES

There were 18 cases of compressed air illness (CAI) and 7 cases of barotrauma as compared to 2014 when there were 7 cases of CAI and 8 cases of barotrauma. The majority of the CAI and barotrauma cases were from tunnelling projects in the construction sector.

There were 7 cases of mesothelioma in 2015 from previous exposure to asbestos, an increase from 5 cases in 2014.

2015 also saw 5 cases of occupational asthma, 3 cases of heat disorders, 1 case of chemical poisoning from methyl bromide and 1 case of excessive absorption of cadmium. In addition, there were 2 cases of infectious diseases of which 1 was a case of melioidosis suffered by a gardener and another of Hepatitis C infection in a healthcare worker.

BUSINESS UNDER SURVEILLANCE

Proactive surveillance of high risk workplaces enables preventive measures to be taken early so as to prevent WSH injuries and ill health. Business Under Surveillance (BUS¹⁸) programme focuses on improvement of WSH management systems.

BUSINESS UNDER SURVEILLANCE

Since the start of the programme in 2007, more than 300 companies have been placed under the programme. Companies on the BUS programme include companies with serious accidents; companies issued with Stop Work Orders (SWO) for poor WSH management, or accumulated a substantial number of demerit points. Companies exit the programme when their WSH standards have improved to a level whereby they can effectively manage their WSH risks.

In 2015, 14 companies entered the surveillance phase of BUS programme (Figure 16). All were from the construction industry. For the 16 companies which exited surveillance in 2015, the duration they were in the programme ranged from 9 to 28 months, with an average of 16 months.

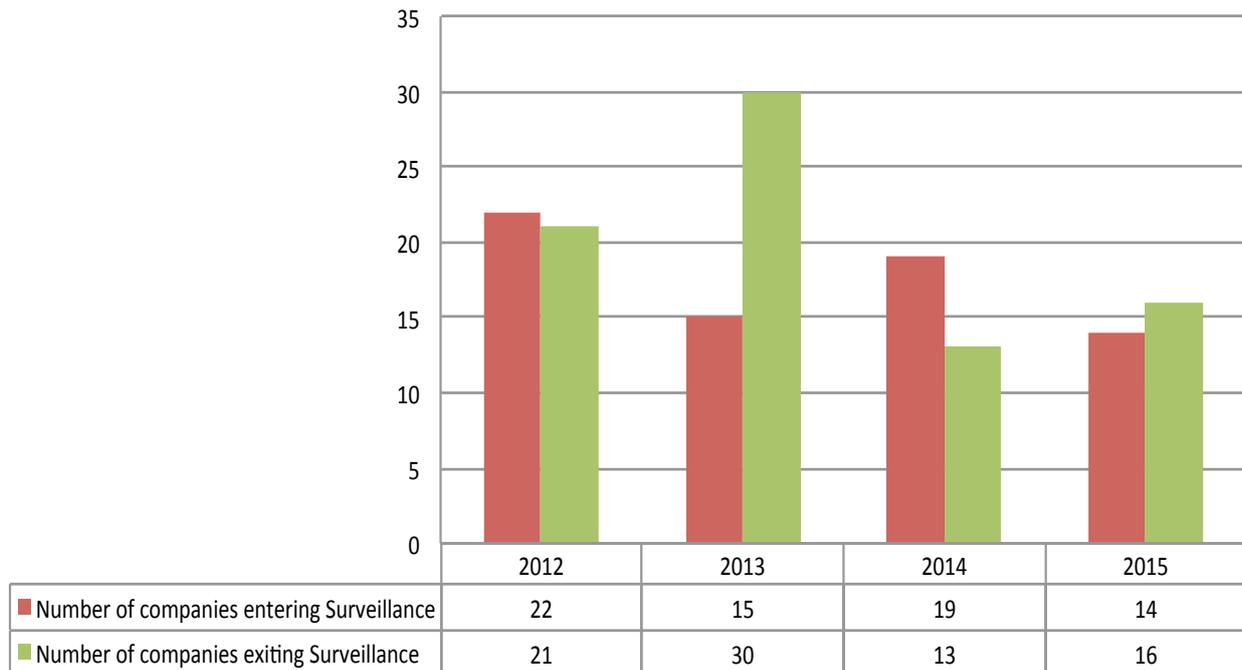


Figure 16: Number of companies entering and exiting surveillance, 2012-2015

¹⁸ Refer to Annex B and website <http://mom.gov.sg/workplace-safety-health/programmes/Pages/regulatory-programmes.aspx#bus> for information on BUS programme.

MEDICAL AND HYGIENE SURVEILLANCE

Hygiene¹⁹ and Medical²⁰ surveillance programmes monitor workers’ exposure and health effects from exposure to selected list of hazards under the Workplace Safety and Health (General Provisions) Regulations and the Workplace Safety and Health (Medical Examinations) Regulations respectively.

MEDICAL SURVEILLANCE

Workplaces with hazards listed in the Schedule of the WSH (Medical Examinations) Regulations are required to send their exposed workers for pre-placement and periodic medical examinations.

As at 2015, 134,963 workers from 2,138 workplaces were covered under the Medical Surveillance programme, a decrease from 139,685 workers from 2,217 workplaces in 2014.

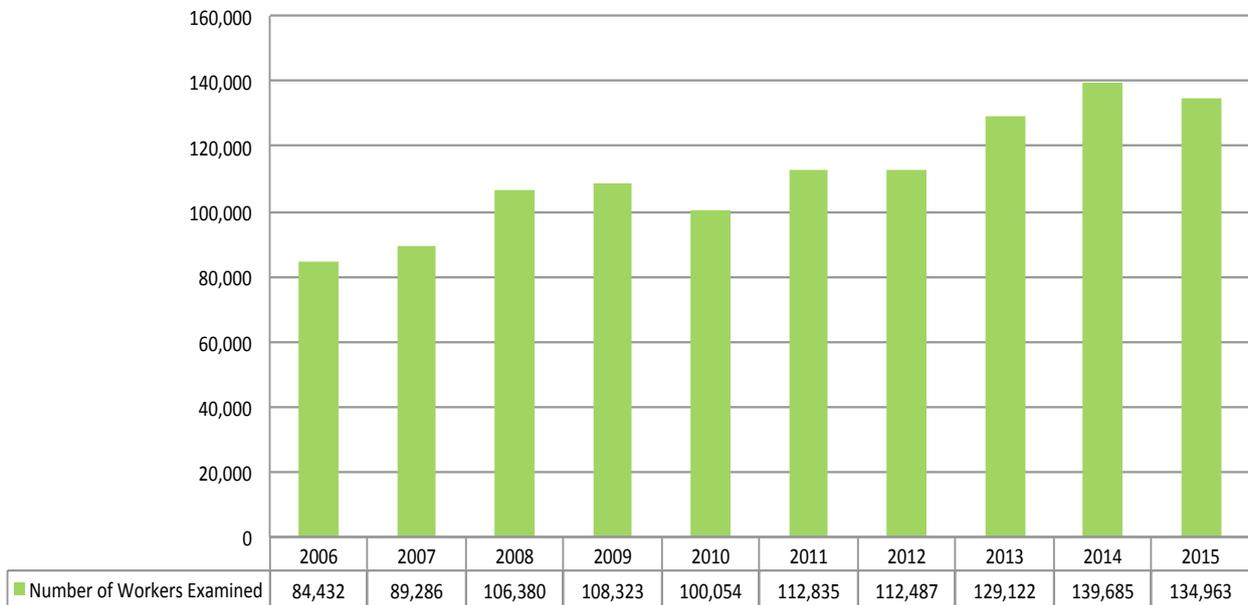


Figure 17: Number of workers under medical surveillance, 2006-2015

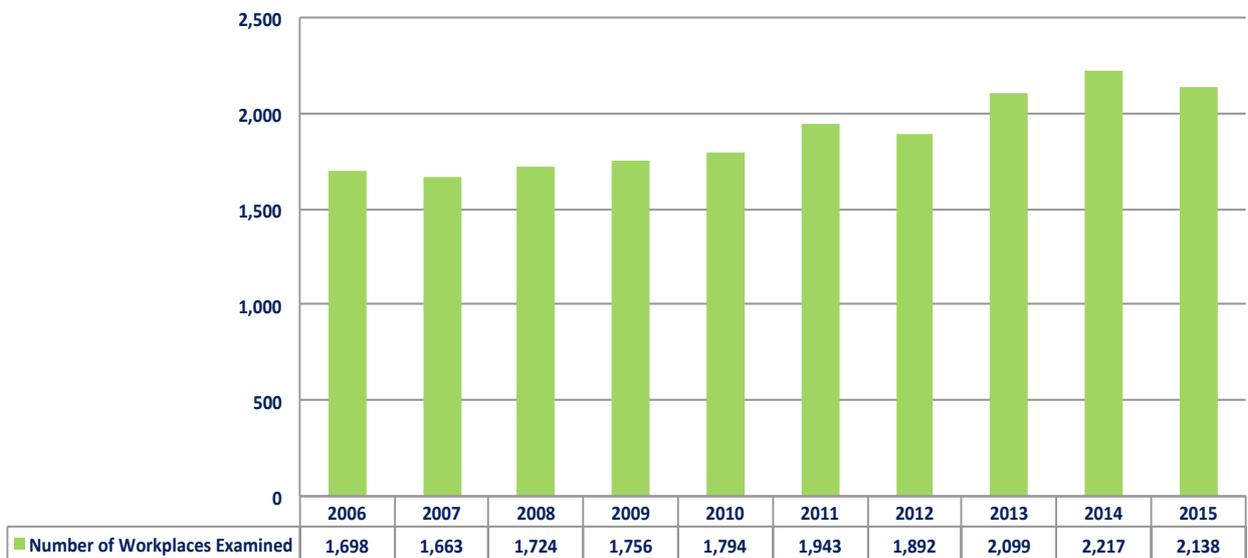


Figure 18: Number of workplaces under medical surveillance, 2006-2015

¹⁹ Hygiene Surveillance determines the exposure levels of persons to airborne substances and compliance with the Permissible Exposure Levels (PELs). Refer to Annex C for more information.

²⁰ Medical Surveillance is the clinical examination (may include conduct of hearing tests, laboratory tests, etc) of workers who are exposed to specific hazards for early detection and prevention of potential ill health. Examinations are conducted by registered Designated Workplace Doctors (DWDs). Refer to Annex C for more information.

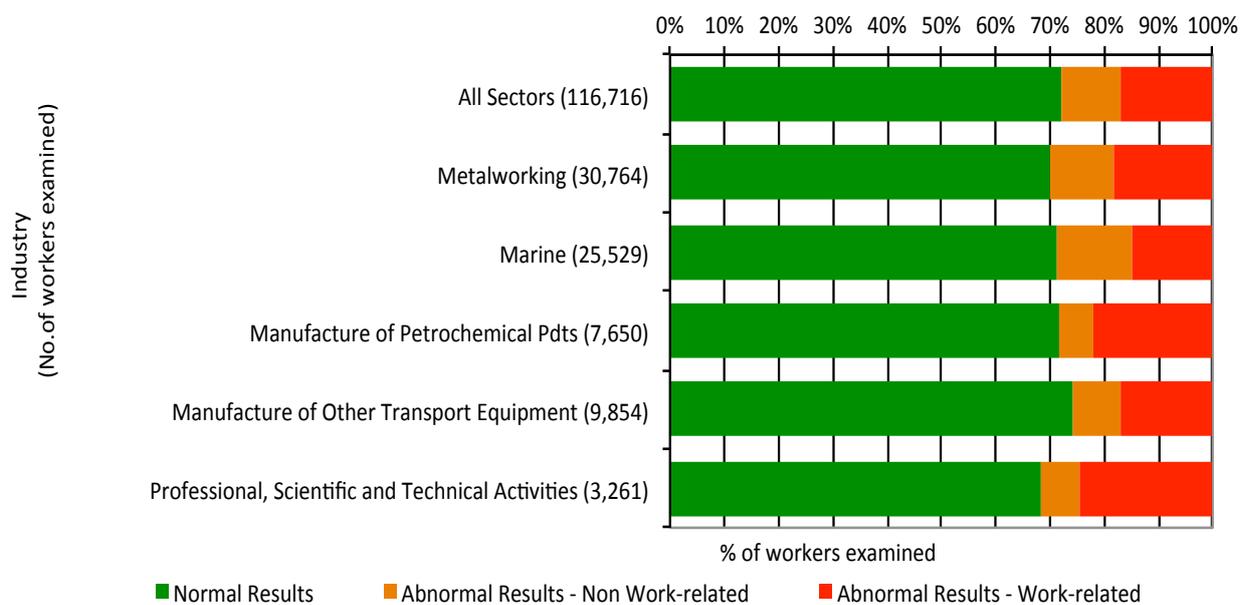


Figure 19: Results of medical monitoring²¹ for noise exposure for Top 5 industries, 2015

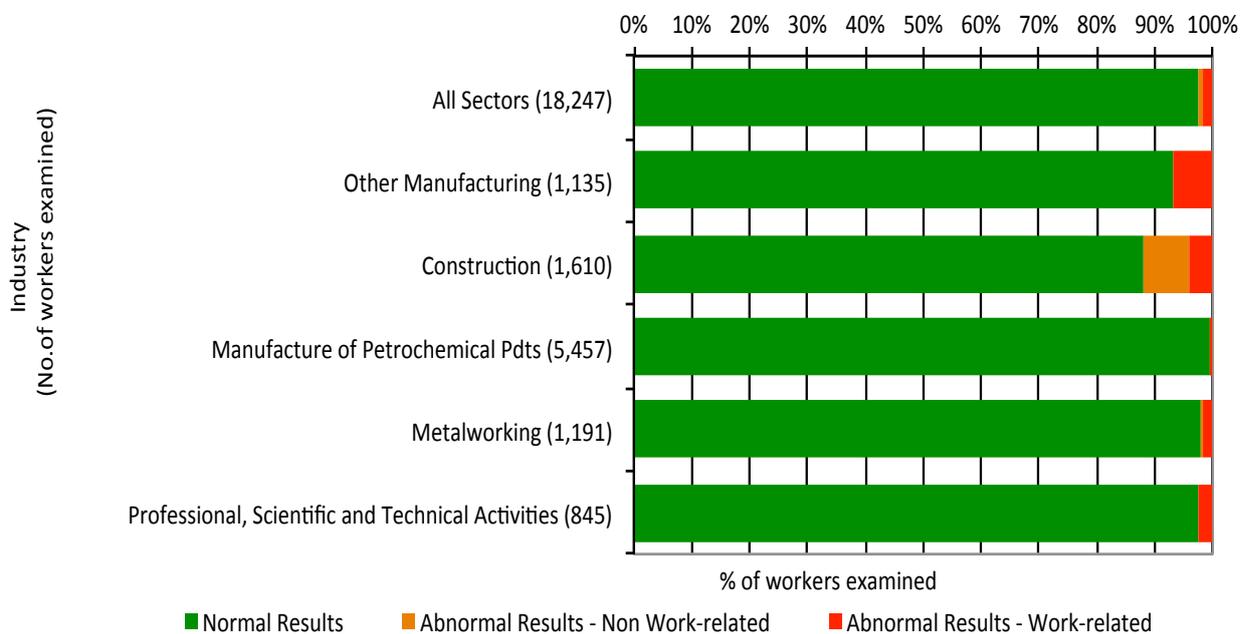


Figure 20: Results of medical monitoring²⁴ for chemical exposure for Top 5 industries, 2015

²¹ Based on submissions received from Designated Workplace Doctors.

HYGIENE SURVEILLANCE

Workplaces with excessive noise, as defined under the WSH (Noise) Regulations, and toxic substances as listed in the First Schedule in the WSH (General Provisions) Regulations, are required to conduct regular industrial hygiene monitoring to monitor their workers' exposure to noise and chemicals respectively.

NOISE EXPOSURE LEVELS

Based on the noise monitoring results submitted, 74% of the workplaces had static noise levels greater than 85dBA. 79% of the workplaces had workers who were exposed to excessive noise, i.e., above an equivalent sound pressure level of 85dBA over an 8-hour workday. Majority of the workplaces under the noise monitoring programme were from the metalworking industry.

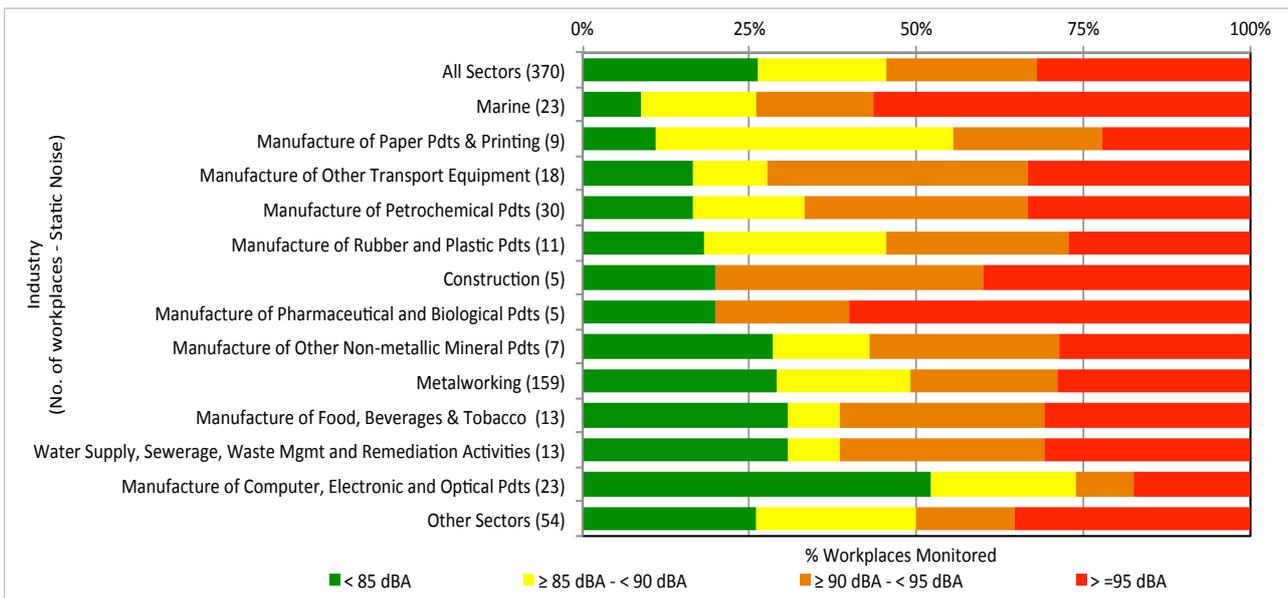


Figure 21: Static noise exposure by industry, 2015

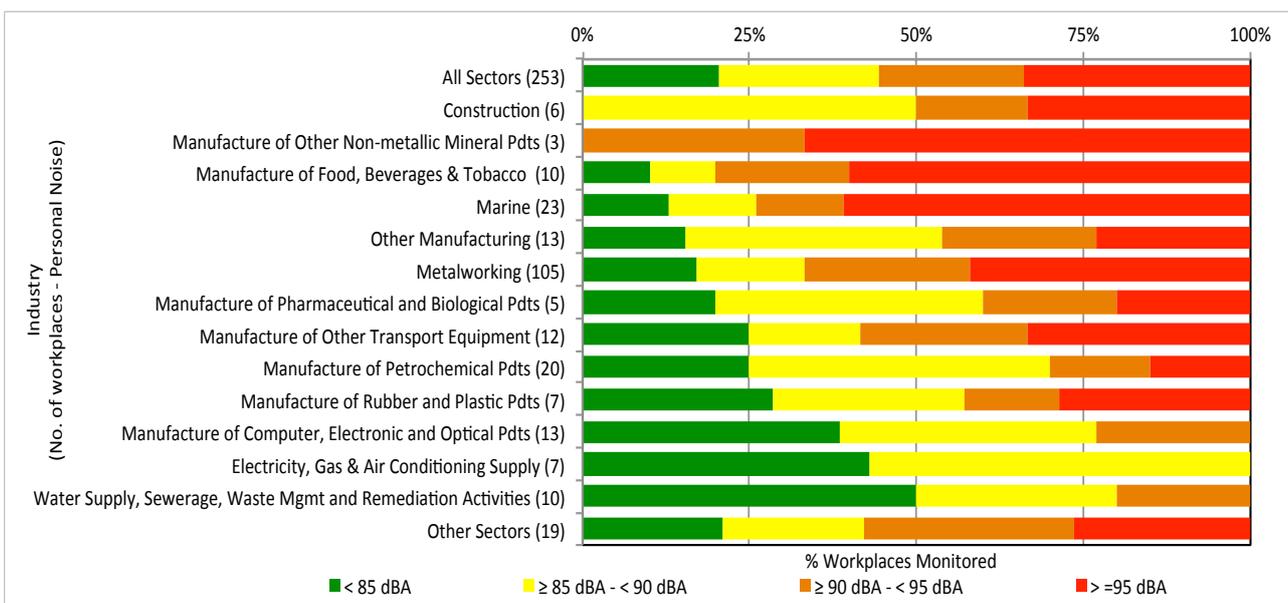


Figure 22: Personal noise exposure by industry, 2015

CHEMICAL EXPOSURE LEVELS

A total of 3,431 chemical monitoring results were received, of which 871 came from the manufacture of petrochemical products industry. Overall, chemical exposure levels remained low, with most of the workplaces having air levels below 10% PEL²². However, there were a few workplaces with levels higher than PEL which required implementation of additional engineering and other control measures.

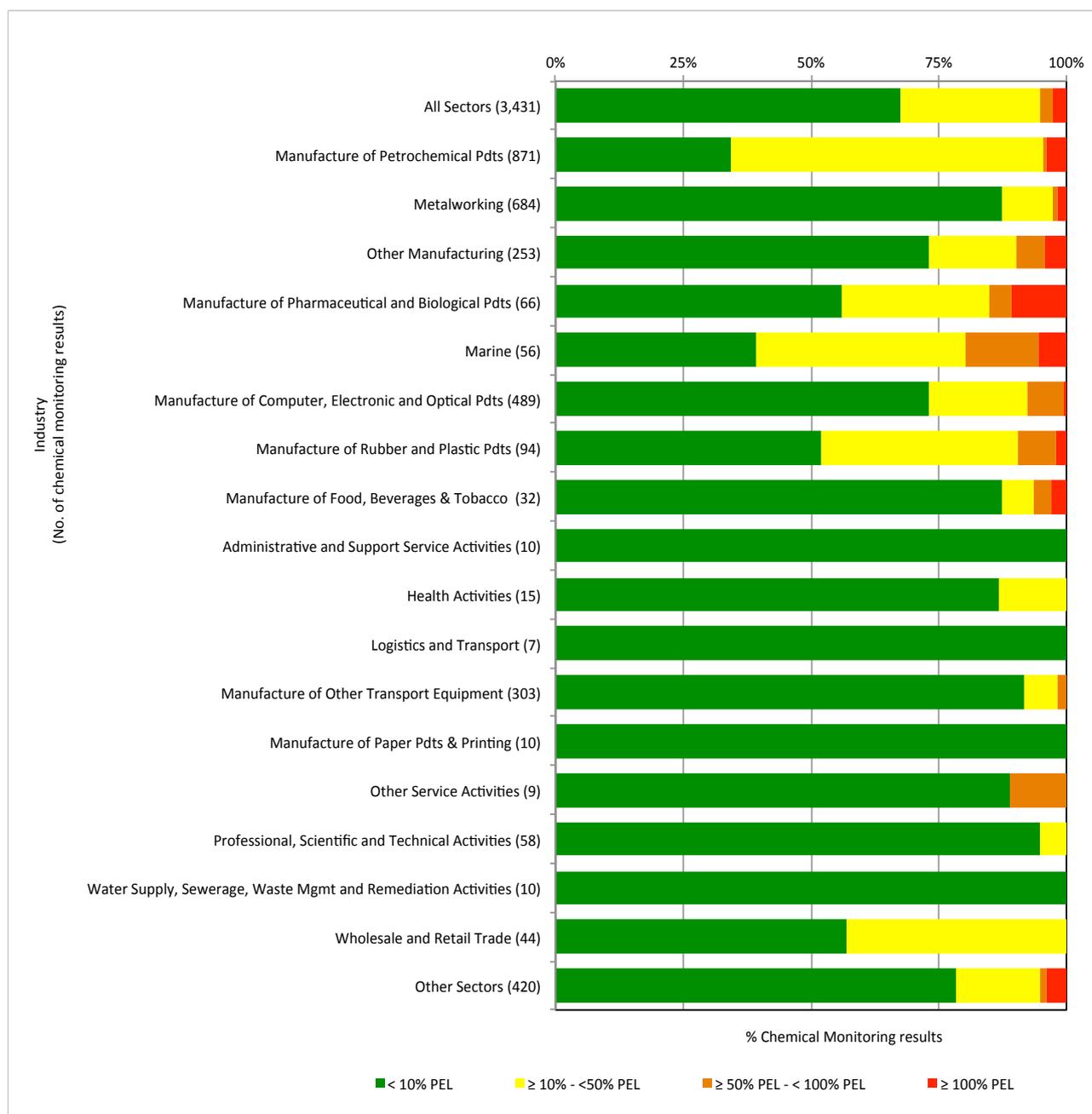


Figure 23: Chemical exposures by industry, 2013-2015

²² Permissible Exposure Levels (PELs) refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.

ANNEX A

Table A-1: Accident Frequency Rate (AFR) and Accident Severity Rate (ASR) in selected sectors, 2014 and 2015

Per million man-hours worked

Industry	AFR		ASR	
	2015	2014	2015	2014
All Sectors	1.5	1.7	85	84
Construction	1.7	2.1	166	183
Marine	1.4	1.6	137	135
Manufacturing	2.5	2.8	101	98
<i>Metalworking</i>	3.6	4.0	137	137
<i>Manufacture of Food, Beverages & Tobacco</i>	3.9	4.7	132	224
<i>Manufacture of Non-Metallic Mineral Products</i>	12.5	12.8	237	670
Water Supply, Sewerage & Waste Management and Remediation Activities	3.6	3.8	68	364
Wholesale & Retail Trade	0.6	0.6	23	35
<i>Wholesale Trade</i>	0.5	0.5	27	27
<i>Retail Trade</i>	0.8	0.8	14	49
Transportation & Storage	2.0	2.0	205	168
<i>Logistics & Transport</i>	2.9	2.9	344	286
Accommodation & Food Services	1.9	1.8	45	33
<i>Accommodation</i>	2.7	2.7	39	51
<i>Food & Beverage Service Activities</i>	1.7	1.7	46	29
Information & Communications	0.1	0.2	26	5
Financial & Insurance Activities	0.3	0.3	6	19
Real Estate Activities	1.4	1.3	23	23
Professional, Scientific & Technical Activities	0.8	0.7	16	14
<i>Legal, Accounting & Management Activities</i>	0.8	0.6	16	12
<i>Architectural & Engineering Activities</i>	1.1	1.2	22	21
Administrative & Support Service Activities	0.7	0.8	93	75
<i>Cleaning & Landscape Maintenance Activities</i>	1.0	1.1	243	126
Community, Social & Personal Services	0.7	0.7	19	12
<i>Health Activities*</i>	2.0	1.7	36	32

Table A-2: Number of man-days lost to workplace incidents²³ in selected sectors, 2014 and 2015

Industry	2015	2014
All Sectors	685,379	678,951
Construction	225,860	245,987
Marine	36,903	40,178
Manufacturing	106,163	107,241
<i>Metalworking</i>	42,893	45,389
<i>Manufacture of Food, Beverages & Tobacco</i>	14,484	22,751
<i>Manufacture of Non-Metallic Mineral Products</i>	3,382	9,654
Water Supply, Sewerage & Waste Management and Remediation Activities	2,721	14,450
Wholesale & Retail Trade	25,235	38,194
<i>Wholesale Trade</i>	20,215	20,070
<i>Retail Trade</i>	5,020	18,124
Transportation & Storage	115,501	93,107
<i>Logistics & Transport</i>	82,358	67,550
Accommodation & Food Services	23,177	16,898
<i>Accommodation</i>	3,337	4,319
<i>Food & Beverage Service Activities</i>	19,840	12,579
Information & Communications	7,068	1,172
Financial & Insurance Activities	2,672	8,136
Real Estate Activities	4,768	5,111
Professional, Scientific & Technical Activities	8,746	7,265
<i>Legal, Accounting & Management Activities</i>	4,228	2,862
<i>Architectural & Engineering Activities</i>	3,243	3,382
Administrative & Support Service Activities	47,841	37,265
<i>Cleaning & Landscape Maintenance Activities</i>	31,887	14,837
Community, Social & Personal Services	32,507	20,316
<i>Health Activities</i>	7,075	6,070

²³ According to the U.S National Institute of Occupational Safety and Health (NIOSH)'s table of scheduled charges, a fatal injury is equivalent to the loss of 6,000 man-days. The Ministry of Manpower adopts a similar coding schedule.

ANNEX B

BUSINESS UNDER SURVEILLANCE

The Business under Surveillance (BUS) programme consists of two phases – Assessment and Surveillance.

The Assessment phase involves rigorous and methodical review on companies that are of concern to ascertain the effectiveness of their Risk Management programme as well as the strength of their WSH Management Systems.

Companies that fail the Assessment phase would then be placed under the Surveillance phase. During the Surveillance phase, the Occupational Safety and Health Division (OSHD) of Ministry of Manpower (MOM) works closely with the senior management and WSH personnel of these BUS companies to carry out a gap analysis and to develop outcome-based action plans.

OSHD then conducts frequent inspections to verify the progress of the companies' implementation of their action plans and closely monitors the companies' WSH performance. BUS companies can only exit from the programme upon successful implementation of their Action Plan, achieved satisfactory audit outcomes, and have plans to build a strong WSH culture within the company.

ANNEX C

HYGIENE AND MEDICAL SURVEILLANCE

HYGIENE SURVEILLANCE

Measuring the exposure levels of specific workplace chemical hazards provide a good indication on whether the conditions in the work environment are within the Permissible Exposure Levels (PEL), as stipulated under the WSH (General Provisions) Regulations. Companies with chemical exposures exceeding 10% PEL are required to monitor the exposure levels at least annually, conducted by a competent person.

Under the WSH (Noise) Regulations, workplaces with 10 or more workers who are exposed to excessive noise, are required to monitor their workers' noise exposure at least once every three years, or earlier when there are changes to the processes. The monitoring must be conducted by a competent person using calibrated equipment to ensure accuracy of results.

Industrial hygiene data from assessments conducted by Ministry of Manpower (MOM), as well as results submitted by companies with in-plant monitoring, is maintained within a National Database for Noise and Chemical Exposure. This enables MOM to proactively identify high-risk workplaces, evaluate trends in exposure levels and advise employers on control measures and appropriate monitoring programmes.

MEDICAL SURVEILLANCE

The Medical Surveillance Programme serves to monitor workers' exposure to specific hazards and to identify early and possibly reversible changes in health effects. The programme aims to prevent overt occupational diseases through early detection of cases with excessive occupational exposure to specific health hazards. It involves monitoring of workers' health and implementation of measures to minimise the risks. High-risk workplaces would be monitored more rigorously to ensure control measures are put in place.

This monitoring assesses the "internal dose" of the worker and the effects from exposure by determining:

- a) The concentrations of the chemicals or their metabolites in biological samples (measuring the absorption or body burden) indirectly via blood, urine, end-exhaled air.
- b) The indicators of health effect related to the internal dose so as to identify early and reversible changes, such as degree of hearing loss, effects on liver and kidney.

Central to the Medical Surveillance Programme is the WSH (Medical Examinations) Regulations which prescribe a list of 19 hazards requiring medical examinations which can only be conducted by Designated Workplace Doctors (DWDs) registered with MOM. In addition, Occupational Safety and Health Division (OSHD) of the MOM may also recommend the implementation of medical surveillance programmes for non-prescribed hazards if the health risk is significant and where biological indicators are available. Some of these hazards include toluene, trinitrotoluene, xylene, fluoride and hexane.

Based on the findings of the medical examinations, workers who are medically unfit or who are over-exposed to chemicals are suspended, either on a temporary or permanent basis. The objective is to ensure that all exposed workers remain healthy and fit for work while exposed to the hazards. Medical monitoring is conducted once every six months for lead and organophosphate, and annually for all other hazards.

ANNEX D

SOURCE OF DATA

Data on workplace and work-related traffic injuries, dangerous occurrences and occupational diseases were collated from incident reports made by employers, occupiers and medical practitioners in fulfilment of their obligations under the Workplace Safety and Health Act and Workplace Safety and Health (Incident Reporting) Regulations.

Medical and Hygiene Surveillance data were collated from reports submitted by companies to OSHD, MOM as well as industrial hygiene data from assessments conducted by OSHD, MOM. Business Under Surveillance information was obtained from OSHD, MOM.

Employment data used in the computation of workplace fatal, injury and occupational disease incidence rates and data of the average weekly hours worked used in the estimation of man-hours worked were extracted from records within the Ministry of Manpower.

ANNEX E

DATA COVERAGE

The types of workplace and work-related traffic injuries and occupational diseases covered in the reported statistics include the following:

- Workplace and work-related traffic injuries sustained by employees and resulting in more than three days of medical leave, regardless of whether these were consecutive days;
- Workplace and work-related traffic injuries sustained by employees and resulting in at least 24 hours of hospitalisation;
- Workplace and work-related traffic incidents resulting in the death of employees and self-employed persons;
- Workplace and work-related traffic incidents resulting in the injury of self-employed persons who have to be taken to the hospital for treatment; and
- Occupational diseases listed in the Second Schedule of the Workplace Safety and Health Act and Work Injury Compensation Act.

ANNEX F

CONCEPTS & DEFINITIONS

Incident Type refers to the type of event which resulted in the injury of a victim. Where the event involves a chain of incidents, the incident type should be the one that triggered the chain of other incidents.

Incident Agent refers to the object or physical environment, which due to its hazardous nature/condition, leads to the occurrence of a particular type of incident. It is related to the incident, not injury.

Major Injuries refer to non-fatal injuries which are more severe in nature. Major injuries are defined using a combination of factors, including the nature of injury, part of the body injured, incident type and duration of medical leave. These include:

- amputation
- blindness
- deafness
- paralysis
- crushing, fractures and dislocations: head, back, chest and abdomen, neck, hip and pelvis
- exposure to electric current
- asphyxia/drowning
- hypothermia
- burns with more than 20 days of medical leave
- concussion with more than 20 days of medical leave



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1500 Bendemeer Road #04-01
Ministry of Manpower Services Centre
Singapore 339946
website: www.wsh-institute.sg
email: contact@wshi.gov.sg

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The Observatory for WSH Landscape (OWL) is a function of Workplace Safety and Health Institute. OWL aims to observe, analyse and communicate changes in the workforce, workplace and working life to researchers, policy makers and industries in Singapore and Asia.