

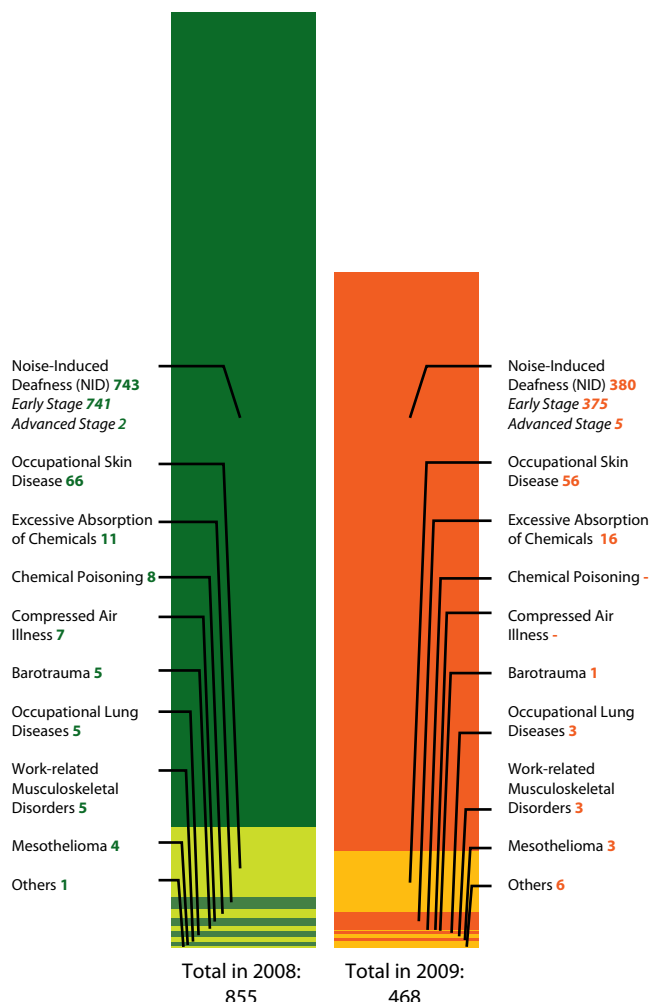
By Type of Occupational Disease

Noise-induced deafness (NID) made up approximately 8 out of 10 OD cases (81%) confirmed in 2009, marking a smaller share than the 87% in 2008. Chart 16 shows that 375 out of 380 NID cases were diagnosed in the early stage of the disease while 5 workers suffered from severe hearing loss.

56 cases of occupational skin diseases (OSD) were confirmed in 2009, down from 66 cases in the previous year (Chart 16). Ranked in the distant 2nd position from NID, OSD accounted for approximately 12% of total ODs.

There were 16 cases of excessive absorption of chemicals in 2009, up from 11 such cases in 2008. However, there were no cases of chemical poisoning in 2009, a significant reduction from 8 cases in 2008.

Chart 16: NUMBER OF CONFIRMED OCCUPATIONAL DISEASES BY TYPE, 2008 AND 2009



HEALTH REPORT

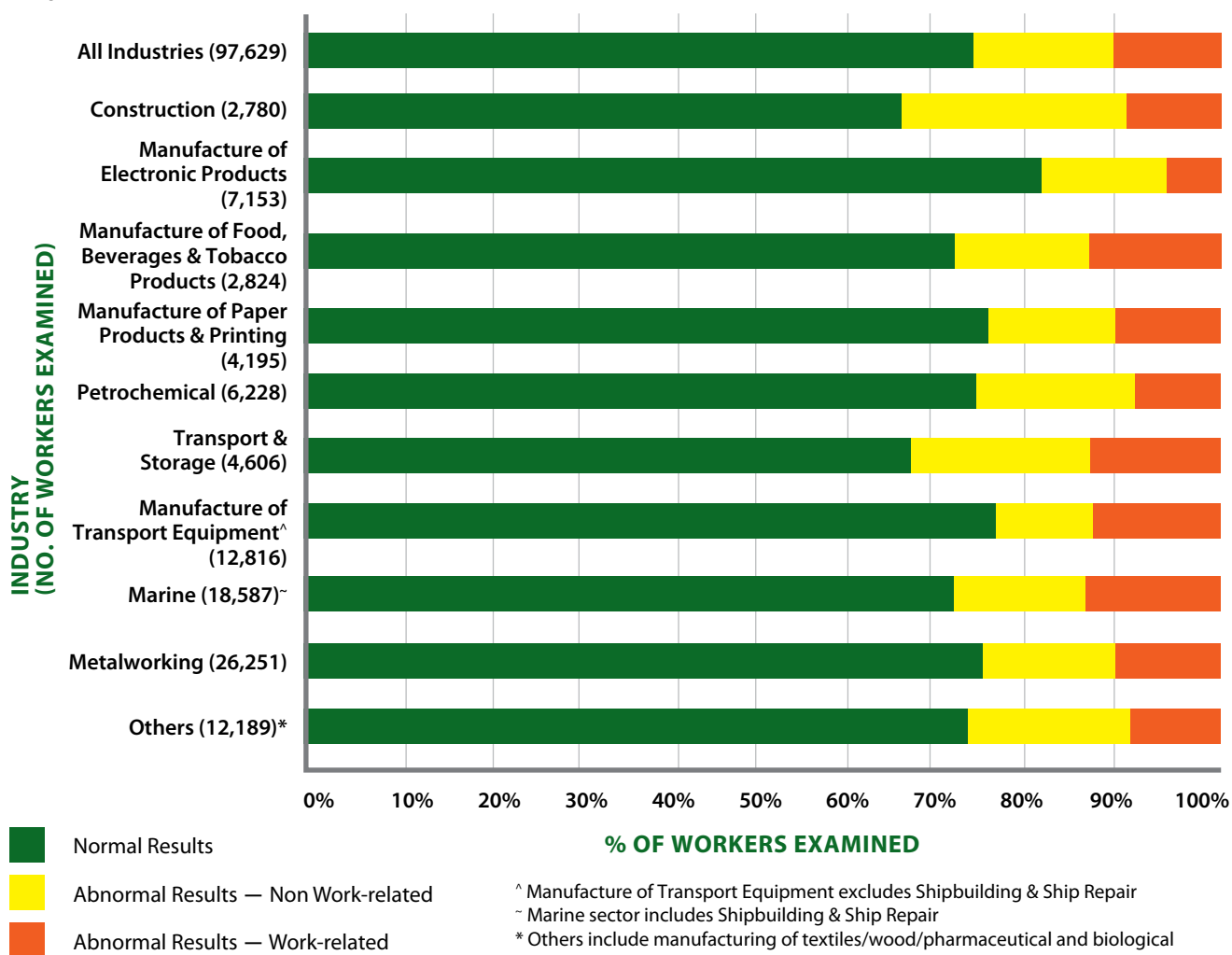
MONITORING CONDITIONS AT WORK

Workplaces with hazards listed in the First Schedule in the WSH (General Provisions) Regulations are required to conduct regular industrial hygiene monitoring. Workplaces with hazards¹ listed in the Factories (Medical Examinations) Regulations are also required to send their exposed workers for pre-employment and regular medical monitoring. Data from these medical and industrial hygiene monitoring activities indicate that noise and chemical exposure levels in workplaces remain satisfactory in 2009.

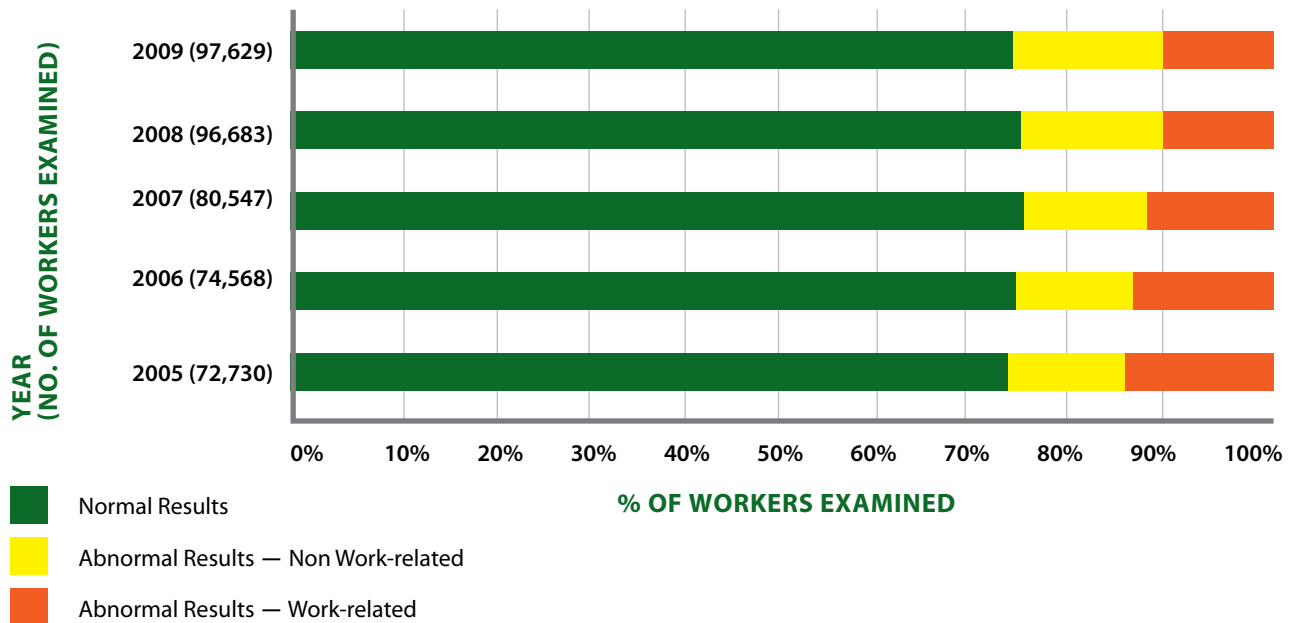
Exposure levels of specific workplace hazards provide a good indicator of the conditions in the work environment. Hygiene monitoring is usually conducted once every three years for noise and annually for chemicals. Medical monitoring is conducted once every six months for lead and organophosphate, and annually for all other hazards. The results of both industrial hygiene and medical monitoring are submitted to OSHD. The Division also conducts detailed industrial hygiene assessments on a selective basis for high-risk workplaces.

Industrial hygiene data from our selective assessments, as well as from companies with in-plant monitoring, is maintained within a National Database for Noise and Chemical Exposure. This enables us to identify high-risk workplaces, evaluate trends in exposure levels and advise employers regarding control measures and appropriate monitoring programmes.

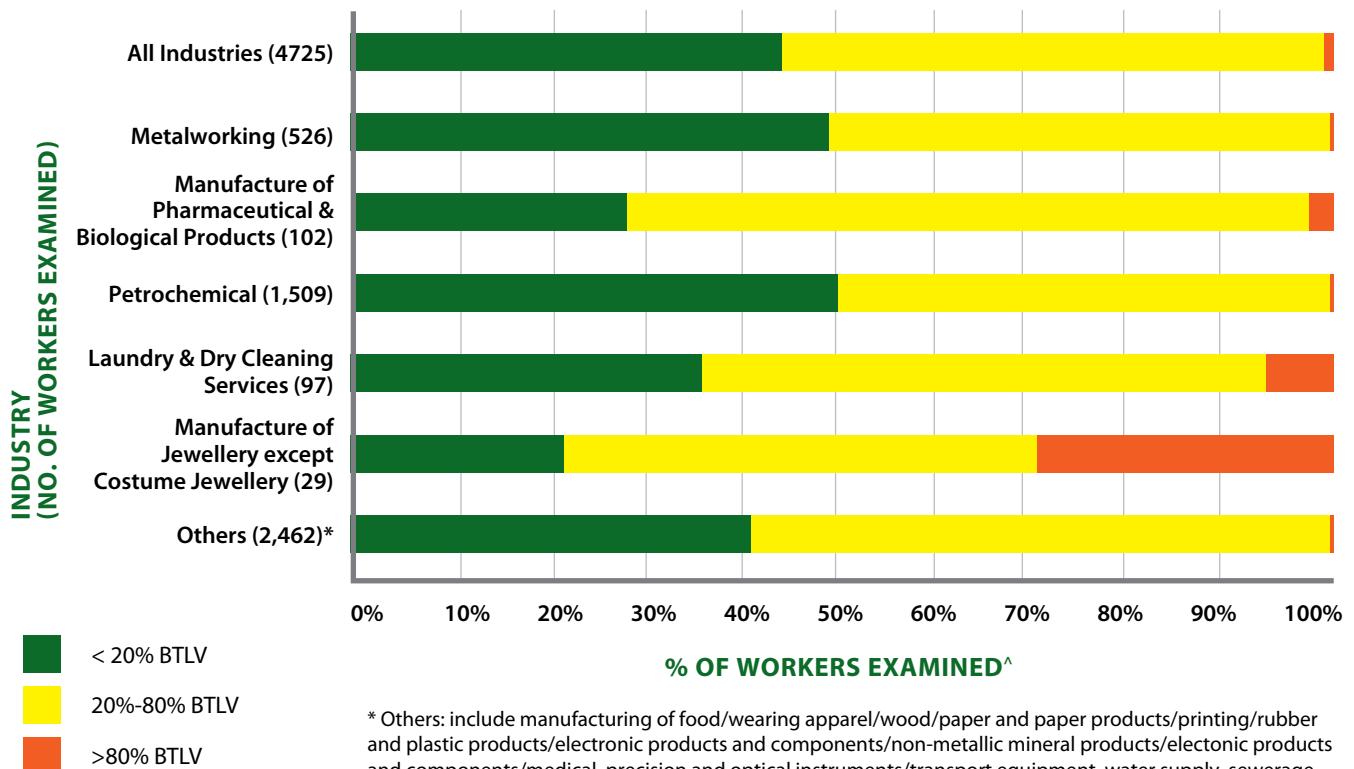
Graph 1 RESULTS OF MEDICAL MONITORING FOR NOISE EXPOSURE 2009



Graph 2 RESULTS OF MEDICAL MONITORING FOR NOISE EXPOSURE 2005 -2009



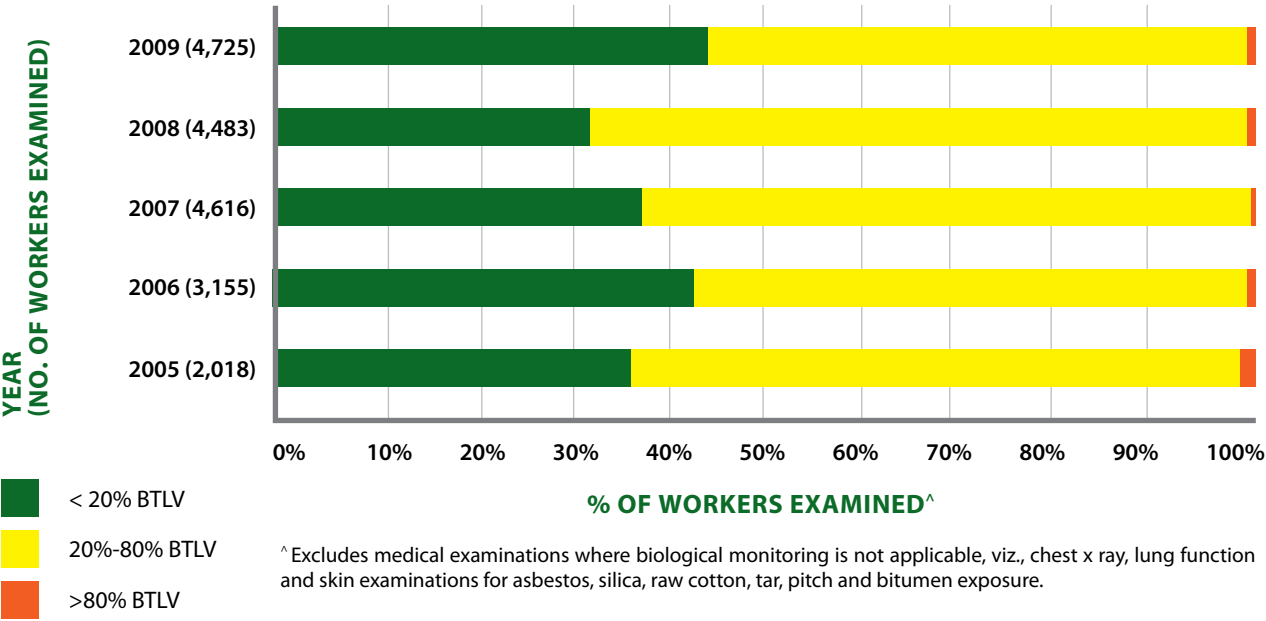
Graph 3 RESULTS OF BIOLOGICAL MONITORING FOR CHEMICAL EXPOSURE 2009



* Others: include manufacturing of food/wearing apparel/wood/paper and paper products/printing/rubber and plastic products/electronic products and components/non-metallic mineral products/electronic products and components/medical, precision and optical instruments/transport equipment, water supply, sewerage and waste management, construction and other business activities.

^Excludes medical examinations where biological monitoring is not applicable, viz., chest x-ray, lung function and skin examinations for asbestos, silica, raw cotton, tar, pitch and bitumen exposure.

Graph 4 RESULTS OF BIOLOGICAL MONITORING FOR CHEMICAL EXPOSURE 2005 -2009



Medical Surveillance

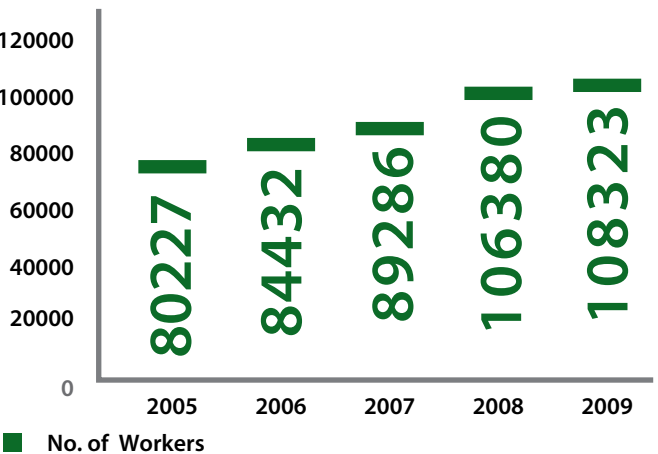
The Medical Surveillance Programme serves to monitor workers’ exposure to specific hazards and to identify early and possibly reversible changes in health effects. The programme aims to prevent overt occupational diseases through early detection of cases with excessive occupational exposure to specific health hazards. It involves active identification of high-risk factories, evaluation of potential health risks, monitoring of workers’ health and implementation of measures to minimise such risks. High-risk factories 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 exposure 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.

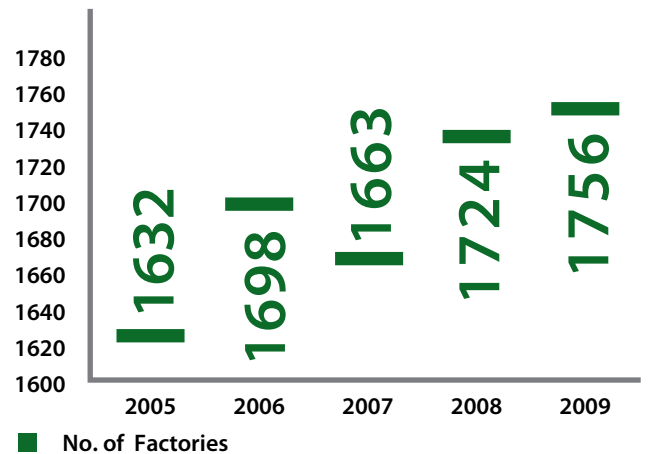
Central to the Medical Surveillance Programme is the Factories (Medical Examinations) Regulations which prescribe a list of 19 hazards requiring medical examinations (see Annex B Table 2, page 91) which can only be conducted by Designated Factory Doctors registered with MOM. In addition, OSHD also recommends 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. The recommended Biological Threshold Limit Values for the chemicals monitored under this programme are given in Annex B Table 3 (see page 92).

Based on the findings of the prescribed 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 when exposed to the hazards. The number of workers and factories covered under this programme continued to increase, with 108 323 workers from 1756 organisations being covered in 2009. The work-related abnormal medical results continued to improve in 2009, down to a rate of 1.9 per 1000 workers examined.

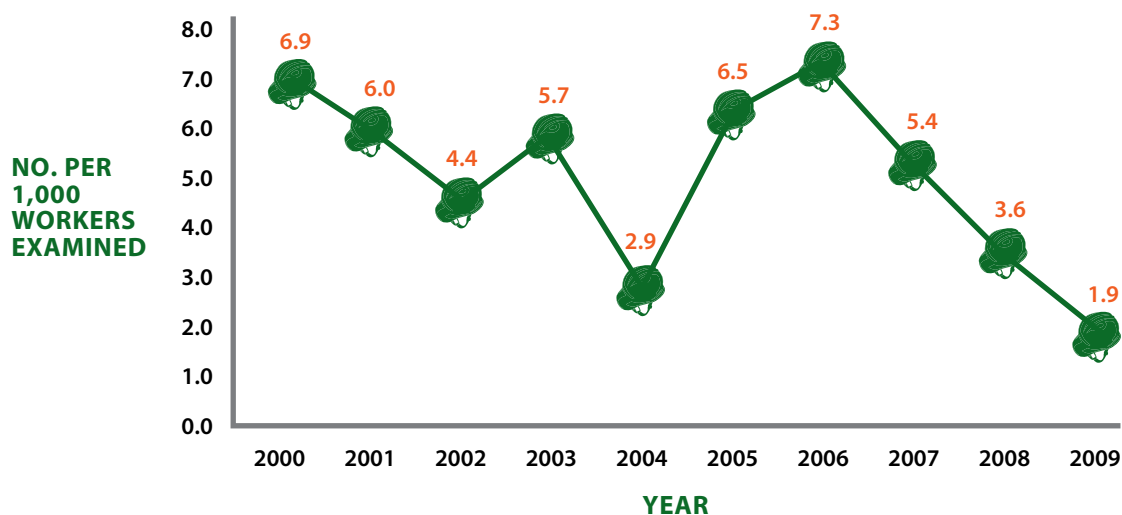
Graph 5 WORKERS UNDER MEDICAL SURVEILLANCE



Graph 6 FACTORIES UNDER MEDICAL SURVEILLANCE



Graph 7 **WORK-RELATED ABNORMAL MEDICAL RESULTS**



Factories which have effective hazard control programmes to minimise workers' exposure to the hazard may request the Ministry to exempt their exposed workers from the prescribed medical examinations. In 2009, 57 workers from 5 factories succeeded with their applications for exemption from medical surveillance.

Hygiene Surveillance

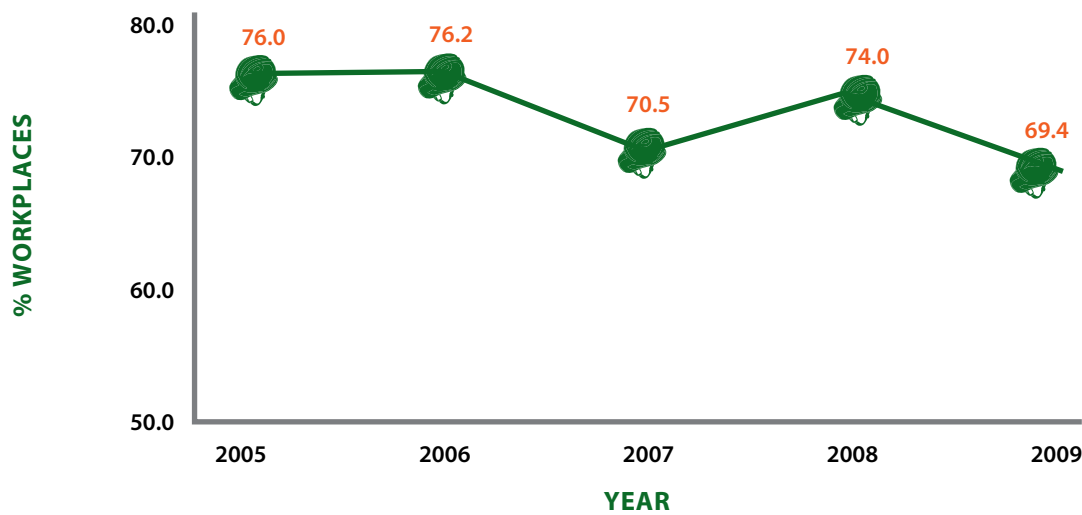
Workplaces under the hygiene surveillance programme monitor the level of workers' exposure to chemicals and noise, the most common occupational health hazards. In 2009, the Ministry continued to identify workplaces for placement under the hygiene monitoring programme. This monitoring programme helps workplaces to identify high risk processes or operations which would require control measures to be put in place. Regular inspections and audits are carried out by our inspectors to ensure the effectiveness of the programme.

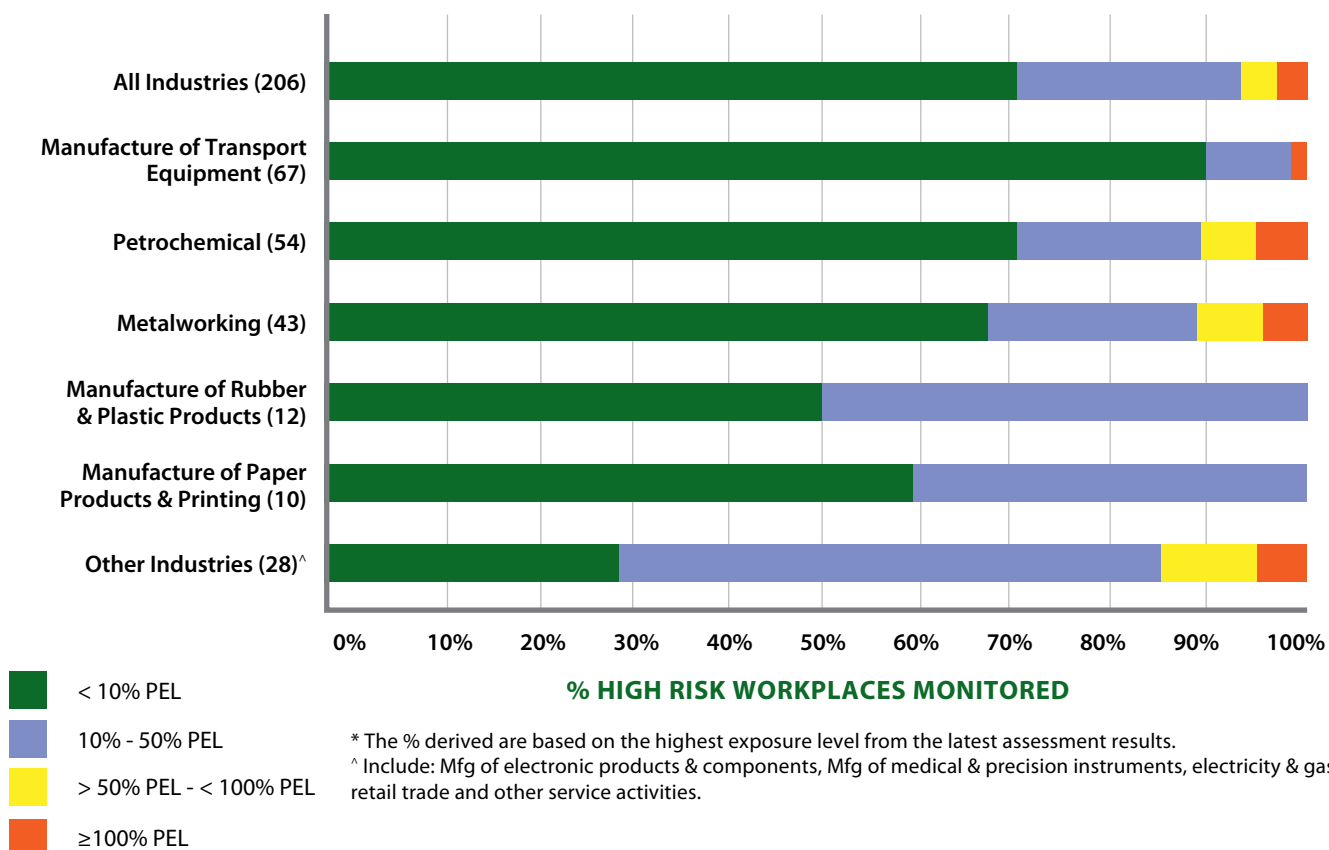
Year	Number of Factories Exempted from the Medical Examinations	Number of Workers Exempted from the Medical Examinations
2005	21	397
2006	9	168
2007	6	71
2008	5	95
2009	5	57

Graph 8 NOISE EXPOSURE* IN HIGH RISK WORKPLACES



Graph 9 % HIGH RISK WORKPLACES WITH NOISE LEVELS EXCEEDING 85 dBA



Graph 10 **CHEMICAL EXPOSURE* IN HIGH RISK WORKPLACES**Graph 11 **% HIGH RISK WORKPLACES EXCEEDING PEL FOR CHEMICAL HAZARDS**