



# Health & Safety Laws



Placing of responsibility on employers comes essentially from the focus given by most health and safety legislation. Although companies are encouraged to provide safe system and safe place of work. But there are always differences in the ways and intensity of how and why to implement health and safety in their workplace.

It is, due to varied nature of preferences in the health and safety execution, the Health and Safety Law comes into being. The uniform nature of health and safety advices, its implementation and to provide the workers and employees right to safe working conditions and practices of the state implemented law makes the necessity of HSE law an extremely important and integrated part of any country's Legislation.

**Health and safety law** is a body of law that protects the health, safety and welfare of the general public and certain defined sectors of the population such as employees. Most jurisdictions have a framework of health and safety law which will usually be enforced by the state using an inspectorate, regulatory control and the criminal law.

The regulatory framework for health and safety will usually operate alongside a civil law system which would allow individuals to bring a law suit against a person, company or organization that may have been liable for personal injury or even death. Health and safety law creates rights and obligations on employers and workers and protection extends beyond an employer's own employees to other workers and visitors the employer's premises.

The employer's duties are to ensure, "so far as is reasonably practicable" the health, safety and welfare of workers, including stress at work. This has to be done by carrying out a risk assessment, consulting safety representative and safety committees, providing information, instruction and training to workers and others who are in a contractual relationship. Compliance with some Regulations is absolute and not constrained by the "practicability" provision.

Failure by an employer to comply with health and safety law is an offence and may lead to prosecution by the legal bodies. Workers who exercise their health and safety statutory rights are protected from detrimental action by their employer. Both the employer and employee have a common law duty of care to each other and to other employees. This means exercising reasonable skill and care in the employment relationship.

In addition employers and employees are required to take reasonable care for the health and safety of everyone at work, including visitors and other non employees who use the premises.

A breach of this duty of care, by either the employer or the employee could result in a civil case or a criminal prosecution by the responsible legal body through the appropriate enforcement procedure.

## Why HSE Law

The introduction of legislation, together with an extensive programme of publicity and advice on accident prevention, brings a consistent reduction in the number of both fatal and non-fatal accidents at work.

Without any legal framework there will always be an unacceptably high toll in terms of death, injury and financial loss associated with incidents at the workplace. The global statistics published by the International Labor Organisation (ILO) as part of their Safe Work programme (the actual figures are unimportant – it is simply to) show the scale of the problem:

- There are 270 million occupational accidents and 160 million occupational diseases each year.
- Around 2 million people die every year from occupational accidents and occupational diseases.
- 4% of the world's gross domestic product is lost each year through the cost of injury, death, absence, etc.
- There are around 355,000 on-the-job fatalities each year – half of these occur in agriculture. Other high-risk sectors are the construction and fishing industries.

## Introduction to Indian Health and Safety Law

The safety and health of workers and employees is of extreme importance in Indian constitution. It has been protected by an umbrella of health and safety laws and regulations. These laws not only provide guidance to employers and employees but also set rules and regulations for a safe and healthy work environment. Workers right to safe work place, healthy and hygienic work environment has been guaranteed by the Law.

The National Policy of Safety and health prohibits employment of children under 14 in factories, mines and in hazardous occupations. Policy aims to protect the health and strength of all workers. It prevents employment in occupations unsuitable for the age and strength of the workers. It is the policy of the state to make provisions for securing just and humane conditions of work. The constitution provides a broad framework under which policies and programmes for occupational health and safety could be established.

A safe and healthy work environment is the basic right of every worker. However, the global situation falls far very short of this right. The International Labour Organization (ILO) estimates that more than 400 million workers are victims of occupational accidents and disease in a single year. Of these approximately 2 million workers die and about 10 million are seriously disabled.

With world population increasing, the above figures are rising significantly if present conditions prevail. The situation is grim in the Third World. About 75 percent of the global workforce lives and works in Third World countries which have so many serious problems like poverty and unemployment that the status of health and safety is very low.

The foundation of Occupational Safety and Health is very strong in Indian constitution. It dates back to British rule when British Factories Act, which later acted as the foundation of Indian Factory Act, was first introduced. It is from that time, it has been acting as the main act to deal with all aspect of occupations with a significant stress on the safety of the workers. The law, since, has been revised, modified and amended. In addition to this act many different acts have been introduced over a period of time based on specific industry and industry requirements.

## Indian Laws & Regulations relating to HSE

### 1. The factories act, 1948(amended 1987 & 2001)-

An Act to consolidate and amend the law regulating labour in factories

- State Factory Rules of respective States

2. The Mines Act, 1955(amended 1984) - An Act to amend and consolidate the law relating to the regulation of labour and safety in mines.

- The Mines Rules, 1955 (amended 1989)
- The Coal Mines Regulation, 1957
- The Metallic-ferrous Mines Regulation, 1961
- The Mines Vocational Rules. 1966
- The Oil Mines Regulation, 1984 (amended 1996)
- The Mines Rescue Rules, 1985

### 3. The Dock Workers (Safety, Health & Welfare)

Act, 1986-An Act to give effect to the Convention concerning the protection against accidents of workers employed in loading and unloading ships.

- The Dock Workers (Safety, Health & Welfare) Regulations, 1989

4. The Motor Transport Workers Act, 1961-An Act to provide for the welfare of motor transport workers and to regulate the conditions of their work

- The Motor Transport Workers Rules, 1964

5. The Plantation Labour Act, 1951 and Rules there under

## Characteristics of Good Health and Safety law

Employer's duties should include:

- making workplace safe and without risks to health;
- ensuring plant and machinery are safe and that safe systems of work are set and followed;
- ensuring articles and substances are moved, stored and used safely;
- providing adequate welfare facilities;
- giving you the information, instruction, training and supervision necessary for your health and safety.



In particular, employer should:

- assess the risks to health and safety;
- make arrangements for implementing the health and safety measures identified as being necessary by the assessment;
- if there are five or more employees, record the significant findings of the risk assessment and the arrangements for health and safety measures; if there are five or more employees, draw up a health and safety policy statement, including the health and safety organisation and arrangements in force, and bring it to your attention;
- appoint someone competent to assist with health and safety responsibilities, and consult you or your safety representative about this appointment;
- co-operate on health and safety with other employers sharing the same workplace;
- set up emergency procedures;
- provide adequate first-aid facilities;
- make sure that the workplace satisfies health, safety and welfare requirements, eg for ventilation, temperature, lighting, and sanitary, washing and rest facilities;
- make sure that work equipment is suitable for its intended use, so far as health and safety is concerned, and that it is properly maintained and used;
- prevent or adequately control exposure to substances which may damage your health;
- take precautions against danger from flammable or explosive hazards, electrical equipment, noise and radiation;
- avoid hazardous manual handling operations, and where they cannot be avoided, reduce the risk of injury;
- provide health surveillance as appropriate;
- provide free any protective clothing or equipment, where risks are not adequately controlled by other means;
- ensure that appropriate safety signs are provided and maintained;
- report certain injuries, diseases and dangerous occurrences to the appropriate health and safety enforcing authority

Employee should have legal duties too. They should include:

- taking reasonable care for your own health and safety and that of others who may be affected by what you do or do not do;
- co-operating with your employer on health and safety;
- correctly using work items provided by your employer, including personal protective equipment, in accordance with training or instructions; and
- not interfering with or misusing anything provided for your health, safety or welfare.

## Employer's obligation

Employer must consult safety representative on matters relating to health and safety at work, including:

- any change which may substantially affect your health and safety at work, e.g. in procedures, equipment or ways of working;
- the employer's arrangements for getting competent people to help him/her satisfy health and safety laws;
- the information you have to be given on the likely risks and dangers arising from your work, measures to reduce or get rid of these risks and what you should do if you have to deal with a risk or danger; the planning of health and safety; and
- the health and safety consequences of introducing new technology.

6. **The Explosives Act, 1884 (amended 1983)** – An Act to regulate the manufacture, possession, use, sale, transport, import and export of Explosives.
- The Explosives Rules, 1983 (amended 2002)
  - The Static and Mobile Pressure Vessels (unfired) Rules, 1981 (amended 2002)
  - The Gas Cylinders Rules, 2004 (replaces the Gas Cylinders Rules, 1981)
7. **The Petroleum Act, 1934**– An Act to consolidate and amend the law relating to the import, transport, storage, production, refining and blending of petroleum
- The Petroleum Rules, 2002 (replaces the petroleum Rules, 1976)
  - The Calcium Carbide Rules, 1987
  - The Cinematograph Film Rules, 1984
8. **The Inflammable Substances Act, 1952** – An Act to declare certain substances to be dangerously inflammable and to provide of the regulation of their import, transport, storage and production by applying thereto the Petroleum Act, 1934, and the rules there under and for certain matters connected with such regulation.
9. **The Electricity Act, 2003 (replaces The Indian Electricity Act,1910)** – An Act to consolidate the laws relating to generation, transmission, distribution, trading and use of electricity and generally for taking measures conducive to development of electricity industry, promoting competition therein, protecting interest of consumers and supply of electricity to all areas, rationalization of electricity tariff, ensuring transparent policies regarding subsidies, promotion of efficient and environmentally benign policies, constitution of Central Electricity Authority, Regulatory Commissions and establishment of Appellate Tribunal and for matters connected therewith or incidental thereto.
- The Indian Electricity Rules, 1956
10. **The Indian Boilers Act, 1923 (amended 1960)** – An Act to consolidate and amend the law relating to steam boilers.
- The Indian Boilers Regulations 1950 (amended 1997)
  - Boilers Rules of respective States
11. **The Environment Protection Act, 1986 (amended 1991)** – An Act to provide for the protection and improvement of environment and matters connected therewith.
- The Environment Protection Rules, 1986 (amended 2006)
  - The Manufacture Storage and Import of Hazardous Chemicals Rules, 1989 (amended 2000)
  - The Rules for Manufacture, Use, Import, Export and Storage of Hazardous Micro Organisms, Genetically Engineered Organisms or Cells, 1989
  - The Hazardous Wastes (Management and Handling) Rules, 1989 (amended 2003)
  - The Environmental Clearance of Projects Notification, 1994
  - The Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996
  - The Bio-medical Waste (Management & Handling) Rules, 1998 (amended 2003)
  - The Environment (sitting for Industrial Projects) Rules,1999
  - The Recycled Plastics Manufactures and Usage Rules, 1999 (amended 2003)
  - The Noise Pollution (Regulation & Control) Rules, 2000 (amended 2002)

## STATUTORY PERMISSIONS/APPROVALS ON HSE TO BE TAKEN BY INDUSTRY

- A. The Factories Act and State Rules framed under it
1. Permission to construct, extend or take into use any building as a factory. (State Rules under Sec.6)
  2. Approval of site and Building Plans (State Rules under Sec.6)
  3. Appraisal of site by State Site Appraisal Committee(factories covered under Se.2 (cb) ) (State Rules under Sec.41)
  4. License to use as factory (State Rules under Sec.6)
  5. Approval for certificate of stability of factory building (State Rules – Varies between 3-5 years)
- B. The Environment Protection Act and Rules framed under it
1. Environmental Clearance from State Department of Environment
  2. Approval and Notification of site (in respect of hazardous chemicals) (MSIHC Rule – 7)
  3. Authorization for handling hazardous wastes (in qualities exceeding regulatory values) (HW Rule – 5)
  4. Approval for design and layout of the facility for setting up of HW treatment, storage & disposal facility {HW Rules – 8A(2)}
  5. Permission to import and export of Hazardous Wastes (HW Rules 13 & 14)
  6. Authorization for handling of Bio-medical Wastes (Bio-medical Waste Rule-8)
- C. The Water (Prevention & Control of Pollution) Act
1. Consent for establishment of any industry, operation or process etc. For discharge of trade effluents (Sec.25)
- D. The Air (Prevention & Control of Pollution) Act
1. Consent for establishment or any operation of any industrial plant in air pollution control areas (Sec.21)
- E. The Public Liability Insurance Act
1. Public Liability Insurance Policy by Owners for handling of hazardous substances (Sec.4)
- F. The Explosives Act and Rules framed under it
- Explosives Rules
1. Authorization of explosives (Rule 6)
  2. Licenses for Import or Export of explosives (Rule 21); Transport (Rule 32); Road Van (Rule 76); Manufacturer & approval of manufacturing process (Rules 87 & 89 respectively); possession, sale and use of explosives (Rule 113)

- The Ozone Depleting Substances (Regulation & Control) Rules, 2000
- The Municipal Solid Wastes (Management & Handling) Rules, 2000
- The Batteries (Management & Handling) Rules, 2001.

**12. The Water (Prevention & Control of Pollution) Act, 1974 (amended 1988)** – An Act to provide for the prevention and control of water pollution and the maintaining or restoring of wholesomeness of water, for the establishment, with a view to carrying out the purposes aforesaid, of Boards for the prevention and control of water pollution, for conferring on and assigning to such Boards powers and functions relating thereto and for matters connected therewith.

- The Water (Prevention & Control of Pollution) Rules, 1975

**13. The Water (Prevention & Control of Pollution) Cess Act, 1977 (amended 2003)** – An Act to provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local boards and the State Boards for the prevention and control of water pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974.

- The Water (Prevention & Control of Pollution) Cess Rules, 1978 (amended 1992)

**14. The Air (Prevention & Control of Pollution) Act, 1981 (amended 1987)** – An Act to provide for the prevention, control and abatement of air pollution, for the establishment, with a view to carrying out the aforesaid purposes, of Boards, for conferring on and assigning to such Boards powers and functions relating thereto and for matters connected therewith

- The Air (Prevention & Control of Pollution) Rules, 1982

**15. The Public Liability Insurance Act, 1991 (amended 1992)** – An Act to provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling any hazardous substance and for matters connected therewith or incidental thereto.

- The Public Liability Insurance Rules, 1991 (amended 1993)

**16. The Motor Vehicles Act, 1988 (amended 2001)** – An Act to consolidate and amend the law relating to motor vehicles

- The Central Motor Vehicles Rules, 1989 (amended 2001) and Motor Vehicles Rules of respective States.

**17. The Dangerous Machines (Regulation) Act, 1983-enacted**

1. To provide for regulation of trade and Commerce in production supply, distribution and use of product of any industry manufacturing dangerous Machine.
2. To the welfare of the labourers operating any such machine and for payment of compensation for death or bodily injury suffered by any labourer operating such a machine.

**18. The Atomic Energy Act, 1962(amended 1987)** - An Act to provide for the development, control and use of atomic energy for the welfare of the people of India and for other peaceful purposes and for matters connected therewith.

- The Atomic Energy( Factories) Rules ,1996

**19. The Building and Other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996**-An Act to regulate the employment and conditions of building and other construction workers and

to provide for their safety, health and welfare measures and for other matters connected therewith or incidental thereto.

## Highlights of Main Acts

### Factories Act

On health this law requires employers:

- to ensure cleanliness of the workplace;
- make effective arrangement for treatment and disposal of waste and effluent;
- make suitable and effective provisions for adequate ventilation;
- maintain temperatures to secure reasonable comfort for workers;
- remove any dust or fumes from the workplace which may be injurious to workers;
- prevent overcrowding by maintaining a specific cubic area for each worker;
- provide sufficient and suitable light;
- make suitable arrangements to provide clean drinking water conveniently situated for all workers
- provide suitable latrines and urinals to specified standards.

The Factories Act requires employers to provide basic safety measures including:

- securely guarding all parts of dangerous machinery;
- precautions for working on machinery;
- emergency devices for cutting off power;
- maintain hoists and lifts;
- lifting machines, chains, ropes, and other lifting tackle must be maintained in good condition;
- test pressurized vessels regularly;
- ensure walking surfaces are of sound construction;
- provide protective equipment;
- measures to remove gas and dust before entering confined places;
- measures to prevent fires.

The factory occupier must disclose information about:

- dangers, health hazards, and measures to protect workers from substances or materials in manufacture, transportation, storage etc. to the workers, the chief factory inspector, and the local authority;
- safety and policy;
- quantity and characteristics and disposal of substances and waste;
- emergency plans to workers and the local public;
- handling, using, transportation, storage and disposal of hazardous substances to workers and the local public.

The Factories Act also binds the employer to maintain up-to-date health records of workers, and to appoint a person experienced in handling hazardous substances to supervise handling, and provide protective measures and regular medical examinations.

- The Building and Other Construction Workers ( Regulation of Employment & Conditions of Service) Central Rules,1998

20. **The Indian Ports Act, 1980 (amended 1997)** – An Act to consolidate the Enactment relating to Ports and Ports-charges.

21. **The Drugs & Cosmetics Act, 1995** – An Act to regulate the import, manufacture, distribution and sale of drugs and cosmetics

- The Drugs & Cosmetics Rules, 1995

22. **The Shops and Commercial Establishments Acts enacted by respective State Governments.**

23. **The Insecticides Act, 1968 (amended 2000)** – An Act to regulate the import, manufacture, sale, transport, distribution and use of insecticides with a view to prevent risk to human beings or animals, and for matters connected therewith.

- The Insecticides Rules, 1991 (amended 1999)

24. **The Energy Conservation Act, 2001** – An Act to provide for efficient use of energy and its conservation and for matters connected therewith or incidental thereto.

25. **The Disaster Management Act, 2005** – An Act provides for the effective management of disasters and for matters connected therewith or incident thereto.

#### Extract from review report of working Group on OSH (Occupational Safety and Health by PLANNING COMMISSION GOV. OF INDIA

The Constitution of India has specific provisions for ensuring OSH for workers in the form the three Articles 24, 39 (e and f) and 42. The statutes relating to OSH are broadly divided into three- statutes for safety at workplaces (eg. Factories Act, 1948 and Mines Act, 1952), statutes for safety of substances (e.g. Indian Explosives Act, 1884), and statutes for safety of activities (eg. Radiation Protection rules under the Atomic Energy Act).

At present, comprehensive safety and health statutes for regulating OSH of persons at work exists only in respect of the four sectors namely, **mining, factories, ports, and construction**.....The Mines Act, 1952 and Rules and Regulations framed thereunder, Factories Act, 1948 and Rules framed thereunder, Dock Workers (Safety, Health and Welfare) Act, 1986 and Regulations framed thereunder, Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and Rules framed thereunder , Dangerous Machines (Regulation) Act, 1983 and Rules framed thereunder, Insecticides Act, 1968 and Rules framed thereunder, Shops and Establishments Acts of State Governments, Beedi and Cigar Workers' (Conditions of Employment) Act, 1966, Municipal Solid Waste (management and Handling) Rules, 2000 notified under the Environment (Protection) Act, 1986, etc. are the important statutes covering OSH aspects of workers.

On safety in **mines**, (accident statistics), it can be said that over the years the accident figures have come down. However, the matter of concern is the plateau reached in fatal accidents in the last two decades of the previous century. The year 2000, however, saw substantial reduction on accident figures which were down to 0.27 and 0.25 fatalities per 1000 persons employed for coal and noncoal sectors respectively. Serious injuries in mines show a steady decline. While examining accidents in details, it could be seen that similar causes of accidents repeat themselves in a disturbing manner. In view of this, it was found necessary to apply scientific and technological research findings more in containment of accidents. Training and re-training of workforces also need to be emphasized.

In case of **industries sector**, there has been decreasing trend in injuries during the period 1994-1999 whereas there was an increasing trend in the number of registered factories during the same period. The percentage reductions in injuries were estimated at 6.8% per annum on an average. There is a decreasing trend in both the frequency and incidence rates of industrial injuries. Regarding occupational diseases, very few cases have been reported in factories.

The number of reportable accidents in major **ports** from 1995-96 to 1999-2000 decreased from 402 to 250 thus registering a decrease of about 38%. However, the number of fatal accidents during the same period remained almost the same. Although a major percentage of total work force is engaged in the unorganized sectors, like, agriculture, construction, shops and establishments, home work, eating places and waste management, etc. excepting a few pilot surveys in some of these segments of the unorganized sector, no authentic statistics at the national level are available on accidents and occupational diseases.

**Construction** is considered as one of the highly hazardous industries and the rate of fatal accidents is 4 to 5 times that in the factories sector.

The occupational safety and health is one of the subjects allotted to Ministry of Labour under the Government of India allocation of Business Rules. The Ministry of Labour, Government of India and Labour Departments of the State and Union Territories are responsible for the safety and health of workers. Directorate General of Mines Safety and Directorate General Factory Advice Services & Labour Institutes assist the Ministry in the technical aspects of occupational safety and health in mines and factories & ports sectors, respectively.

There are comprehensive safety and health statutes for regulating safety and health of persons at work exists only in respect of four sectors – namely, factories, docks, mines and construction sectors, however, these legislations are highly sector-specific. The approach in the statutes is to lay down specific and detailed requirements to prevent risk of injuries in specific operations or circumstances. This lacks uniformity and a well coordinated approach to safety and health in all sectors of the economy. There is a strong need for a general (umbrella) legislation covering safety and health aspects of workers employed in all sectors of economy irrespective of the number of employees employed in those units. There is a trend all over the world to enact legislation on the subject, which has general applicability to all work-sites. This legislation should be applicable to factories, mines, plantation, ports, construction, unorganized sectors and also to such categories of workplaces or work activities as may be notified by Central Government.

# Reference

---

The following websites and books have been referred in compiling this topic. They are also suggested for further readings to increase and enhancement of knowledge in health and safety.

## WEBSITES

1. [http://en.wikipedia.org/wiki/Bhopal\\_disaster](http://en.wikipedia.org/wiki/Bhopal_disaster)
2. <http://www.cdc.gov/niosh/topics/highwayworkzones/BAD/imagelookup.html>
3. <http://www.cdc.gov/niosh/az/a.html>
4. <http://chemicalsafety.com/>
5. [http://www.clipartguide.com/search\\_terms/safety.html](http://www.clipartguide.com/search_terms/safety.html)
6. [http://www.rospa.com/occupational\\_safety/advice\\_and\\_information/health\\_and\\_safety\\_careers.aspx](http://www.rospa.com/occupational_safety/advice_and_information/health_and_safety_careers.aspx)
7. <http://www.epa.gov/wastes/nonhaz/municipal/dmg2/>
8. [http://en.wikipedia.org/wiki/Emergency\\_management](http://en.wikipedia.org/wiki/Emergency_management)
9. <http://fyi.uwex.edu/agsafety/osha-wi-dairy-farm-lep/>
10. <https://www.gov.uk/government/publications/emergency-preparedness>
11. <http://www.environment.gen.tr/what-is-environment.html>
12. <http://www.eionet.europa.eu/gemet/concept?ns=1&cp=2778>
13. [http://en.wikipedia.org/wiki/Environmental\\_management\\_system](http://en.wikipedia.org/wiki/Environmental_management_system)
14. <http://www.scafftag.co.uk/>
15. <http://www-group.slac.stanford.edu/esh/eshmanual/>
16. [http://www-group.slac.stanford.edu/esh/hazardous\\_activities/fall\\_protection/](http://www-group.slac.stanford.edu/esh/hazardous_activities/fall_protection/)
17. <https://www.gov.uk/workplace-fire-safety-your-responsibilities/fire-safety-advice-documents>
18. [http://www.safetyvideosnow.com/Gory\\_Safety\\_Videos\\_s/42.htm](http://www.safetyvideosnow.com/Gory_Safety_Videos_s/42.htm)
19. <http://xnet.rrc.mb.ca/rcharney/guidelines%20for%20access%20scaffolding.htm>
20. <http://www.hanford.gov/page.cfm/HoistingRiggingManual>
21. <http://www.legislation.gov.uk/ukpga/1974/37/contents>
22. [http://www.healthandsafetytips.co.uk/Toolbox\\_Talks.htm](http://www.healthandsafetytips.co.uk/Toolbox_Talks.htm)
23. <http://www.nhs.uk/careers/nhs.uk/explore-by-career/wider-healthcare-team/careers-in-the-wider-healthcare-team/support-services/health-and-safety-officer/>
24. <http://www.scsaonline.ca/classroom/hoisting-a-rigging-safety-awareness>
25. [http://www.jump4biz.com/BSP\\_Health\\_and\\_Safety\\_Management\\_faq\\_Measuring\\_Health\\_and\\_Safety.php](http://www.jump4biz.com/BSP_Health_and_Safety_Management_faq_Measuring_Health_and_Safety.php)
26. <http://www.lboro.ac.uk/admin/hse/fire/>
27. <http://www.ntnu.edu/hse/guidelines/d>
28. <http://www.hse.gov.uk/index.htm>
29. [http://epp.eurostat.ec.europa.eu/cache/ITY\\_SDDS/en/hsw\\_acc\\_work\\_esms.htm](http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/en/hsw_acc_work_esms.htm)
30. <http://aehap.org/>
31. [https://osha.europa.eu/en/publications/reports/TE3008390ENC\\_chemical\\_risks](https://osha.europa.eu/en/publications/reports/TE3008390ENC_chemical_risks)
32. <http://www.hse.gov.uk/workplacetransport/safetysigns/banksman/banksman.htm#>
33. <http://www.trafficsign.us/index.html>
34. [http://en.wikipedia.org/wiki/List\\_of\\_environmental\\_issues](http://en.wikipedia.org/wiki/List_of_environmental_issues)
35. [http://www.ask-ehs.com/animation/showcase.htm?goback=gde\\_4006766\\_member\\_209398648](http://www.ask-ehs.com/animation/showcase.htm?goback=gde_4006766_member_209398648)
36. <http://actrav.itcilo.org/actrav-english/telearn/osh/noise/nomain.htm>
37. <http://guide8.net/material-safety-data-sheet-e816.pdf>
38. <http://www.drillinois.edu/css/factsheets/msdss.aspx>
39. <http://www2.worksafebc.com/Portals/MetalMineral/General.asp?ReportID=32710>
40. <http://www.myfuture.edu.au/The%20Facts/Work%20and%20Employment/Occupations/Details.aspx?anzsco=251312A>
41. [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/296\\_97\\_11](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/296_97_11)
42. <http://www.hse.gov.uk/waste/health.htm>
43. <http://www.hseaustralia.com.au/occupational-hygiene>
44. <http://www.ohsrep.org.au/hazards/chemicals/chemicals-management-in-workplaces/index.cfm>
45. [https://osha.europa.eu/en/topics/osm/reports/european\\_system\\_004.stm](https://osha.europa.eu/en/topics/osm/reports/european_system_004.stm)

46. <http://www.medialabinc.net/osha-fire-safety.aspx>
47. <http://www.mysafetysign.com/osha-signs>
48. <http://www.safebottles.co.nz/News/Plastics+and+the+Environment.html>
49. <http://www2.worksafebc.com/Publications/OHSRegulation/Part14.asp?ReportID=18526>
50. <http://www.safetyrisk.com.au/safety-photos/>
51. <http://www.orchardhireandsales.ltd.uk/scaffold-ancillaries.htm>
52. <http://www.wisc-online.com/objects/MTL2702/mlt2702.htm>
53. <http://www.authorstream.com/Presentation/ashu912-661146-solid-waste-management/>
54. <http://infochangeindia.org/agenda/occupational-safety-and-health/status-of-occupational-safety-and-health-in-india.html>
55. <http://www.independent.co.uk/life-style/health-and-families/features/take-care-a-history-of-health-and-safety-in-the-workplace-2275437.html>
56. <http://ebookbrowse.net/tbt-037-lifting-equipment-and-operations-pdf-d302813072>
57. <http://www.ehso.com/hmerg.php>
58. <http://www.toxicsaction.org/problems-and-solutions/waste>
59. <http://www.ehs.washington.edu/forms/index.shtm>
60. <http://www.didacindustrial.co.uk/courses/banksman/vehicle-banksman-training/>
61. <http://www.anr.state.vt.us/dec/wastediv/R3/decwpplan.htm>
62. <http://ehs.ucsb.edu/units/labsfty/labrsc/chemistry/lchemwhatmsds.htm>
63. <http://www.dec.ny.gov/chemical/8732.html>
64. [http://www.elcosh.org/document/1666/d000573/OSHA%2527s%2BApproach%2Bto%2BNoise%2BExposure%2Bin%2BConstructi on.html?show\\_text=1](http://www.elcosh.org/document/1666/d000573/OSHA%2527s%2BApproach%2Bto%2BNoise%2BExposure%2Bin%2BConstructi on.html?show_text=1)
65. [http://www.indohistory.com/the\\_first\\_factories\\_act.html](http://www.indohistory.com/the_first_factories_act.html)

#### BOOKS AND ARTICLES

1. Investigation Guidance, PART 1 The role of the senior manager, .Guidance and examples of good practices in accident investigation in Britain's railway industry, [www.rssb.co.uk](http://www.rssb.co.uk)
2. Investigation Guidance ,PART 2 Development of policy and management arrangements, Guidance and examples of good practices in accident investigation in Britain's railway industry, [www.rssb.co.uk](http://www.rssb.co.uk)
3. Investigation Guidance, PART 3 Practical support for accident investigators, Guidance and examples of good practices in accident investigation in Britain's railway industry, [www.rssb.co.uk](http://www.rssb.co.uk)
4. Expert forecast on emerging chemical, risks related to occupational, safety and health, EUROPEAN RISK OBSERVATORY REPORT, European Agency for Safety and Health at Work
5. Chemical safety in the workplace, HEALTH AND SAFETY AUTHORITY, Ireland, [www.hsa.ie](http://www.hsa.ie)
6. Safety in the use of chemicals at work, ILO , Geneva
7. Emergency Response Guidebook, 2008, A GUIDEBOOK FOR FIRST RESPONDERS DURING THE INITIAL PHASE OF A DANGEROUS GOODS/ HAZARDOUS MATERIALS TRANSPORTATION INCIDENT
8. HOW DO I READ A MATERIAL SAFETY DATA SHEET (MSDS)? Produced by the University of California, Los Angeles, Labor Occupational Safety and Health (LOSH) Program, August 2003.
9. NFPA 704 – 2007, FAQs, [nfpa704@nfpa.org](mailto:nfpa704@nfpa.org)
10. [http://en.wikipedia.org/wiki/File:Nalgene\\_bottles.jpg](http://en.wikipedia.org/wiki/File:Nalgene_bottles.jpg)
11. Your steps to chemical safety, A guide for small business, Health and Safety Authority, Ireland
12. Confined spaces, A brief guide to working safely, HSE, UK
13. IACS, CONFINED SPACE SAFE PRACTICE, [www.iacs.org.uk](http://www.iacs.org.uk)
14. A guide to Safety in Confined Space, by Ted Pettit and Herb Linn, US Department of Health and Human Services, Public Health Service, Center for Disease control, National Institute of Occupational and Health
15. Electricity at work, Safe working practices, HSE, UK
16. Electrical Safety , Safety and Health for Electrical Trades, Students Manual, US Department of Health and Human Services, Public Health Service, Center for Disease control, National Institute of Occupational and Health
17. Electrical Safety and You , HSE , UK
18. <http://www.samhsa.gov/csatsdisasterrecovery/preparedness/disasterReliefGrantProgramEPP.pdf>
19. <http://emc.uoregon.edu/content/mission-objectives-and-strategic-plan> (Photo)
20. <http://www.safetyplanninggroup.com/services.php#FSP> (Photo)

21. Principal Emergency Response and Preparedness -  
[http://scholar.google.com/scholar?q=Principal+Emergency+Response+and+Preparedness&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholar&sa=X&ei=XM4cUvHfIKGf0QW58YCoAw&ved=0CCYQgQMwAA](http://scholar.google.com/scholar?q=Principal+Emergency+Response+and+Preparedness&hl=en&as_sdt=0&as_vis=1&oi=scholar&sa=X&ei=XM4cUvHfIKGf0QW58YCoAw&ved=0CCYQgQMwAA)
22. [https://www.osha.gov/OshDoc/data\\_General\\_Facts/factsheet-workplaceemergencies.pdf](https://www.osha.gov/OshDoc/data_General_Facts/factsheet-workplaceemergencies.pdf)
23. emergency-exit-routes-factsheet –OSHA
24. Conducting an Accident Investigation, Oregon OSHA,, Department of Consumer and Business Services
25. Health and Safety Executive -Accident Investigations in Practice
26. <http://www.labtrain.noaa.gov/osha600/refer/menu16a.pdf>
27. evacuating-highrise-factsheet- OSHA
28. Planning and Responding to Workplace Emergencies- OSHA Factsheet
29. Environmental Emergency Plan, Environmental Guidelines, Correctional Service, Canada
30. EMERGENCY MANAGEMENT PLAN, (revised June 2012), University of Regina
31. FRAMEWORK FOR MAJOR EMERGENCY MANAGEMENT, GUIDANCE DOCUMENT 2, A GUIDE TO PREPARING A MAJOR EMERGENCY PLAN, JANUARY 2010,Fire Services and Emergency Planning Section, Department of the Environment, Heritage & Local Government, Custom House, Dublin
32. Mongbwalu Project Emergency Preparedness and Response Plan, Ashanti Goldfields Kilo S.A.R.L., Author- Briony Liber (MPhil (Environmental Management); CEAPSA)
33. Landon Borough of Havering, Emergency Planning Handbook
34. Environmental Accident Management Plan, Gethyn Powell Skips
35. EMERGENCY RESPONSE PLAN, USC School Of Dentistry
36. EMERGENCY PLANNING , EXTRACTION FROM: SAFETY MANAGEMENT SYSTEM FOR MAJOR HAZARD FACILITIES - BOOKLET 3: Part 7.17
37. How to prepare an emergency response plan for your small business, Worksafe BC
38. EMERGENCY MANAGEMENT PLAN, Illinios State University
39. GRIFFITH UNIVERSITY, EMERGENCY MANAGEMENT PLAN
40. ENVIRONMENTAL HEALTH EMERGENCY RESPONSE PLAN, Georgia department of Public health, Environment Health Section
41. Implementation Guidelines for Part 8 of the Canadian Environmental Protection Act, 1999 – Environmental Emergency Plans
42. Emergency Planning , Guidance for Hazardous Industry, Australian and New Zealand, Hazardous Industry Planning Taskforce
43. Emergency Management Australia , EMERGENCY PLANNING, Australian Government, Attorney- General's Department,
44. THE LONDON BOROUGH OF HAVERING, EMERGENCY PLANNING AND BUSINESS CONTINUITY SERVICE, MAJOR EMERGENCY PLAN Jan 2012 Version 1.1
45. Environmental Management Guidelines for Small Businesses, Raising Environmental Awareness, Published by the Small Firms Association , Dublin
46. A COMPARATIVE STUDY ON ENVIRONMENTAL, AWARENESS AND ENVIRONMENTALLY BENEFICIAL, BEHAVIOR IN INDIA, CMS ENVIS Centre, Centre for Media Studies, New Delhi
47. CCC Environmental plan, TEP, Mauritania
48. Management of Noise and Vibration: Construction and Maintenance Activities , OPERATIONAL INSTRUCTION 21.7, Department of planning, Transport Infrastructure, Government of South Australia
49. ENVIRONMENTAL MANAGEMENT GUIDELINES, CONTRACTOR REQUIREMENTS, Nakheel
50. Chapter 11, Environmental Management Systems ,Indiana Small Business Guide to Environmental, Safety and Health Regulations
51. Manual for Implementing EMS in SME, <http://www.ifc.org/ifcext/enviro.nsf/content/EMS>
52. Second Edition, Environmental Management Systems: An Implementation Guide for Small and Medium-Sized Organizations , NSF International, Ann Arbor, Michigan
53. Standardizing Excellence: Working with Smaller Businesses to Implement Environmental Management Systems, Green Business Network , The National Environmental Education & Training Foundation
54. Construction Impact Mitigation, Best Practice #13 ,Best Practices for Sustainable Wind Energy Development in the Great Lakes Region | Great Lakes Wind Collaborative
55. BRITISH COLUMBIA , HAZARDOUS MATERIAL RESPONSE PLAN , Ministry of Environment
56. IEMA, Introduction to Environment management System,
57. What Is Integrated Solid Waste Management? United States Environmental Protection Agency, Solid Waste and Emergency Response
58. introduction\_solid\_waste\_management\_kfw\_en[1]
59. Construction Site Safety , 31. Part 1. Waste Management , CITB
60. Construction Site Safety , 31. Part 2. Environmental Management, CITB

61. Module 17, Pollution Control, CHSS, NEBOSH , IGC, Course
62. Guidelines for the Treatment of Noise and Vibration in National Road Schemes, NATIONAL ROADS AUTHORITY
63. NOISE AND VIBRATION ASSESSMENT FACT SHEET – JUNE 2010, British Columbia, Canada
64. MRA – Helena West: Noise and Vibration Management Plan, Australia
65. Hazardous Materials Emergency Planning Guide , NATIONAL RESPONSE TEAM
66. Semporna Islands Project Educational and information materials produced in Bahasa Malaysia and English
67. Tool Kit for Solid Waste Management Intermountain Region - National Park Service
68. Solid Waste Management in Emergencies, [www.iboro.ac.uk/wedc](http://www.iboro.ac.uk/wedc)
69. EMERGENCY RESPONSE PLAN, MINISTRY OF THE ENVIRONMENT, Ontario
70. TCMT Environment Management CEMP, TEP, Mauritania
71. TECHNICAL NOTES ON DRINKING-WATER, SANITATION AND HYGIENE IN EMERGENCIES , WHO
72. DEVELOPING INTEGRATED SOLID WASTE MANAGEMENT PLAN TRAINING MANUAL, United Nations Environment Programme
73. Construction depots near sensitive water resources, Water quality awareness brochure no. 14 June 2008, Department of Water, Government of Western Australia
74. What a Waste: May 1999 , Solid Waste Management in Asia, Urban Development Sector Unit East Asia and Pacific Region, The International Bank for Reconstruction and Development/THE WORLD BANK, Washington, USA
75. Environment, Mayank Kumar
76. TRADES GUIDELINES – EXCAVATION AND TRENCHING, Construction Safety Association
77. TRENCHING SAFETY ,INTRODUCTION TO TRENCHING HAZARDS , Infrastructure Health & Safety Association, Canada
78. EXCAVATION SAFETY GUIDE & DIRECTORY , Pipeline Association for Public Awareness
79. A Guide to Safety in Excavations, Health and Safety Authority, Dublin
80. Excavation Safety SLAC National Accelerator Laboratory , Environment, Safety & Health Division
81. APPROVED CODE OF PRACTICE FOR SAFETY IN EXCAVATION AND SHAFTS FOR FOUNDATIONS, Published by the Occupational Safety and Health Service, Department of Labour, Wellington , New Zealand
82. A Guide to OSHA Excavations Standard, Occupational Safety and Health Division , N.C. Department of Labour
83. EXCAVATION WORK , Code of Practice, Safe Work Australia
84. Excavation Safety, Division of Workers' Compensation, Texas
85. Safety Manual for Excavation, Bureau of Workers Compensation, Ohio
86. Excavations, Occupational Safety and Health Administration, U.S. Department of Labor
87. Soil description and classification, Based on part of the GeotechniCAL reference package, by Prof. John Atkinson, City University, London
88. What is soil plasticity? B.C.'s Watershed Restoration Technical Bulletin
89. Controlling fire and explosion risks in the workplace, HSE, UK
90. EMPLOYEE FIRE AND LIFE SAFETY, National Fire Protection Association
91. FIRE SAFETY HANDBOOK, For Apartment Managers, Seattle Fire Department Fire Prevention Division
92. Fire & Life Safety Management Guide, [www.hopkinsmedicine.org/hse/guidance](http://www.hopkinsmedicine.org/hse/guidance)
93. Fire safety in construction, HSE, UK
94. Fire Safety in workplace, OSHA Factsheet, OSHA
95. Workplace health, safety and welfare, Workplace (Health, Safety and Welfare) Regulations 1992, Approved Code of Practice, HSE, UK
96. Flame arresters, HSE, UK
97. Management of health and safety at work, Management of Health and Safety at Work Regulations, 1999, Approved Code of Practice & guidance, HSE, UK
98. A short guide to making your premises safe from fire, Regulatory Reform (Fire Safety) Order 2005, Chief Fire Officer's Association, HM Government
99. Safe handling of combustible dusts: Precautions against explosions, HSE, UK
100. Fire Safety for Wheelchair Users at Work and at Home, United Spinal Association, Jackson Heights, NY
101. Confined Space Guidelines, [www.labour.gov.on.ca](http://www.labour.gov.on.ca)
102. Hot work safety guidelines 2011, The Federation of Finnish Financial Services, Bulevardi , Helsinki
103. Managing Hot Work, Workplace Health and Safety Bulletin, Alberta
104. UC Monthly Safety Spotlight, February 2012, Shop and Tool Safety, Electrical Safety, What is "EI-LOTO" and Why is it so Important?
105. Lockout/Tagout Manual, ENVIRONMENTAL HEALTH AND SAFETY, Iowa State University

106. PSU Lockout/Tagout Training for Authorized Employees, [www.ehs.psu.edu](http://www.ehs.psu.edu)
107. Introduction to principles and concepts of Effective Machine Guarding , OSTN Effective Machine Guarding
108. A Guide to Machine Safeguarding, Occupational Safety and Health Division , N.C. Department of Labor,
109. Code of practice on safety and health in the use of machinery, Programme on Safety and Health at Work and the Environment, INTERNATIONAL LABOUR ORGANIZATION
110. General Principles for Machine Safety: [www.osh.govt.nz](http://www.osh.govt.nz)
111. Machine Guarding, Government of South Australia
112. Safeguarding Equipment and Protecting Employees from Amputations, OSHA
113. PRINCIPLES OF MACHINE GUARDING, NS Wales Gov.
114. Machine Safeguarding at the Point of Operation - A Guide for Finding Solutions to Machine Hazards , Oregon OSHA
115. NOISE AT WORK - Advice for employers, HSE, UK
116. Full-Body Safety Harnesses Installation, Operation, and Maintenance, AO Safety/SafeWaze User Instruction Harness Manual
117. A short guide to the Personal Protective Equipment at Work Regulations 1992, HSE, UK
118. OSHA GUIDANCE DOCUMENT, FALL PROTECTION IN RESIDENTIAL CONSTRUCTION
119. Falling Off Ladders Can Kill: Use Them Safely, OSHA
120. Nail Gun Safety A Guide for Construction Contractors , National Institute for Occupational Safety and Health, Department of Labor, Occupational Safety and Health Administration
121. OSHA Pocket Guide
122. Personal Protective Equipment, OSHA
123. Personal Protective Equipment, OSHA Factsheet
124. Personal Protective Equipment Selection Guide, Environmental Health & Safety Stony Brook University
125. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, SMALL ENTITY COMPLIANCE GUIDE FOR FINAL RULE FOR CRANES AND DERRICKS IN CONSTRUCTION
126. Worldwide Occupational Road Safety (WORS) Review Project, Department of Health and Human Services Centers for Disease Control and Prevention National Institute for Occupational Safety and Health,
127. Guidance on permit-to-work systems , A guide for the petroleum, chemical and allied industries, HSE UK
128. Permit to work systems, HSE UK
129. Guidelines on Permit to work (PTW) systems, OGP
130. Temporary Structures Shoring, scaffolding, and underpinning, University of Washington, DEPARTMENT OF Construction Management
131. A Guide to Safe Scaffolding, N.C. Department of Labor Occupational Safety and Health Division

Join **Pacific Safety** through

Pacific Safety app via  with this icon 

**& get HUNDREDS of exam and safety related videos , presentation, notes, guidance and many more**

Or Through

Pacific Institute of Safety  Channel with this icon  **Pacific Institute of Safety & Health**

or Contact....📞

Pacific Institute of safety and Health,

Mail us at - [infopish@gmail.com](mailto:infopish@gmail.com)

WhatsApp at - (+0091) 9984965003, 7054835352, 9451585650, 7897967966,