



The **XIII "OCCUPATION and HEALTH"** Russian National Congress  
with International Participation (OHRNC-2015)

*Secure Labor and Health of Workers — the Force and Prosperity of Russia*

Irkutsk (Baikal) – Novosibirsk

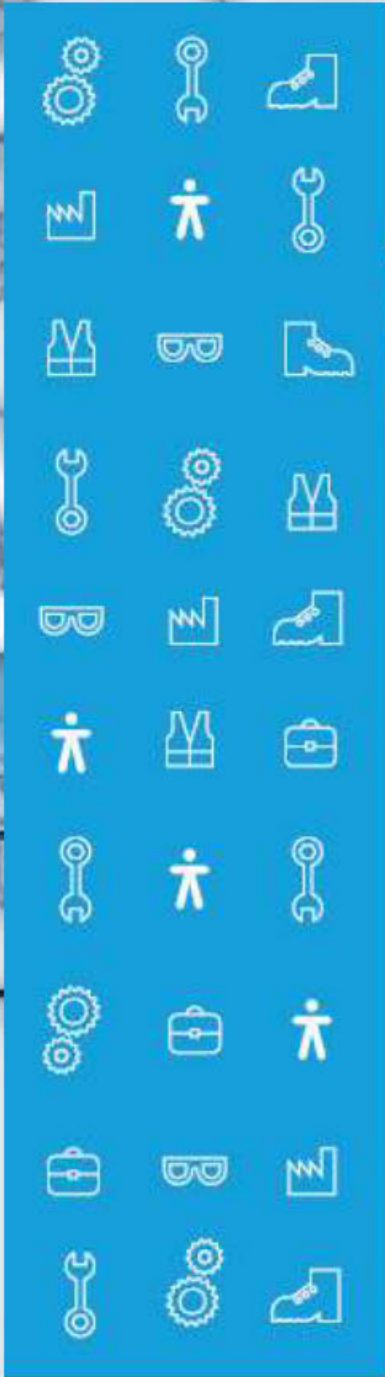
17–26 of September, 2015



# ILO instruments for national OSH policies

Shengli Niu

International Labour Office, Geneva



International  
Labour  
Organization



# Safety and Health at Work: A Vision for Sustainable Prevention

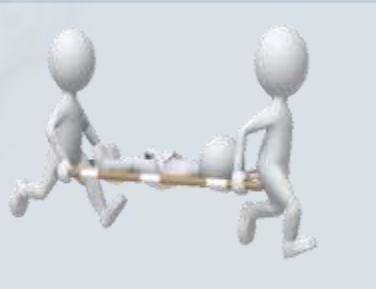
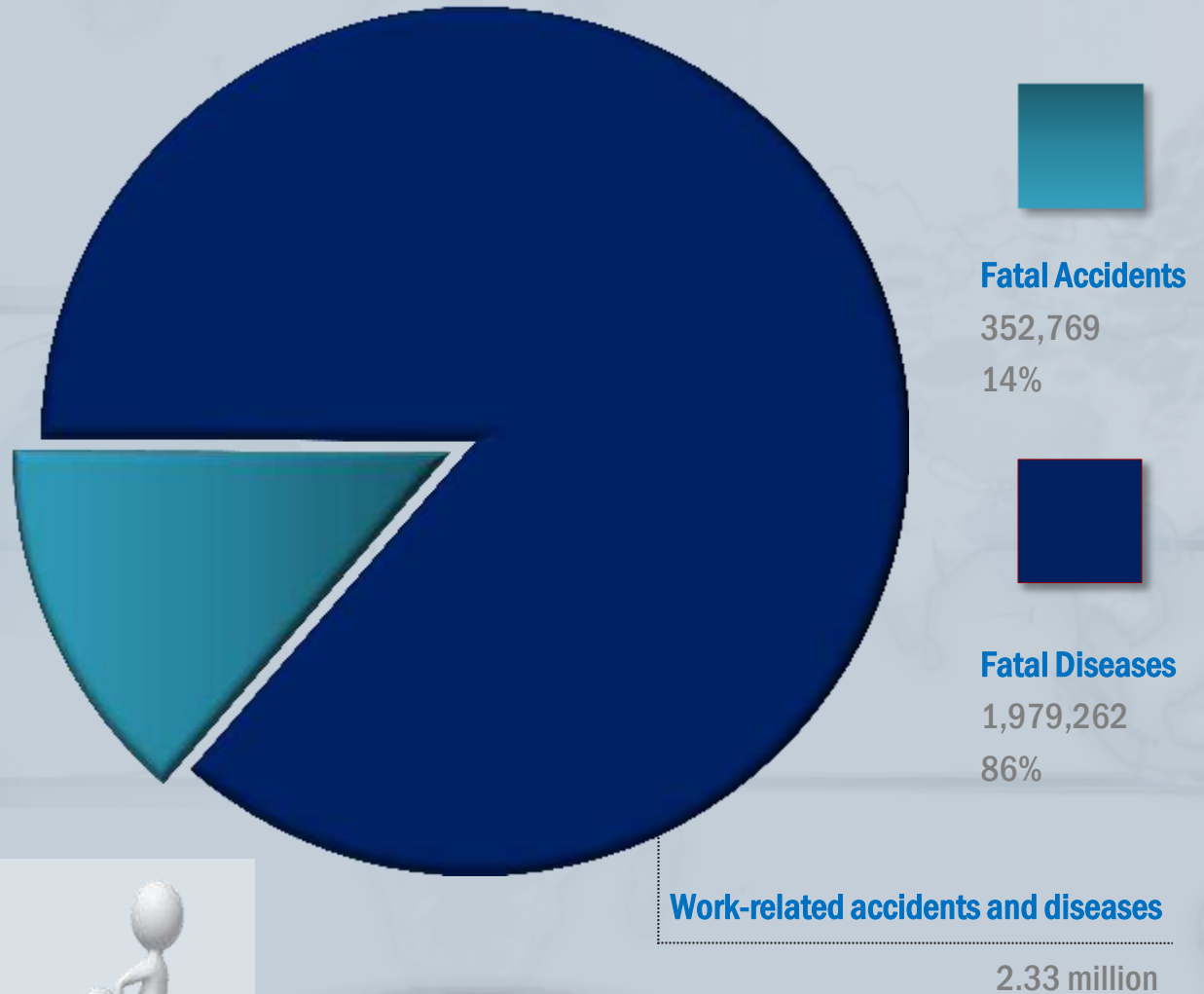
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XX World Congress on Safety  
and Health at Work 2014

Global Forum for Prevention  
24-27 August 2014 - Frankfurt - Germany

# The hidden epidemic: a global picture





## Key measure to meet the challenges

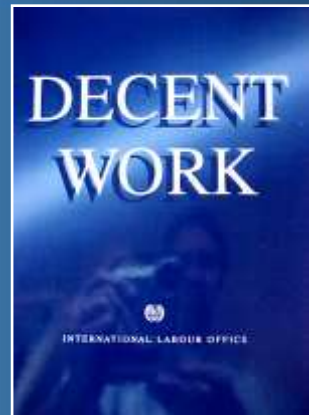
- OSH measures at the workplace to control hazards and prevent occupational diseases and work-related diseases
- System on reporting and reporting of occupational diseases particularly in developing countries
  - **Make occupational diseases visible**
- Paying attention new and emerging occupational diseases such as MSDs, Stress-related diseases.



# ILO Response

*The International Labour Organization was founded to ensure everyone the right to earn a living in freedom, equity, dignity and security, in short, the right to decent work. We have never accepted the belief that injury and disease "go with the job"*

*Decent Work must be Safe Work*





# International Labour Organization



The ILO is a tripartite organization with **worker** and **employer** representatives taking part in its work on equal status with those of **governments**.

The number of the ILO member countries now stands at 185.

In 1969 the ILO was awarded the Nobel Peace Prize





## ILO means of action

- Development, promotion and supervision of International Labour Standards
- Development of labour Inspection Systems
- Development and promotion of Codes of Practice and other instruments
- Knowledge management
- Technical cooperation
- Inter-agency cooperation

## NORMLEX Information System on International Labour Standards

NORMLEX Home

**NORMLEX** is a new information system which brings together information on International Labour Standards (such as ratification information, reports, requirements, comments of the ILO's supervisory bodies, etc.) as well as national labour and social security laws.

**NORMLEX** has been designed to provide comprehensive and user friendly information on these topics and includes the NATLEX database as well as information which was previously contained in the former APPLIS, ILOLEX and Libsynd databases. [more](#)

- [Instruments](#)
- [Key documents](#)
- [Ratification of ILO Conventions](#)
- [Supervising the application of International Labour Standards](#)
- [Regular reporting](#)
- [Country profiles](#)
- [Comparatives](#)
- [Maritime Labour Convention \(2006\)](#)

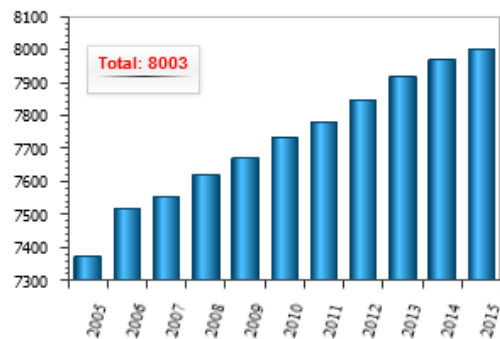
▶ **NATLEX**  
National Legislation on Labour and Social Rights

▶ **LEGOSH**  
Global database on occupational safety and health legislation

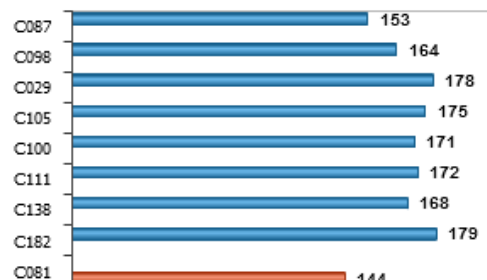
▶ **EPLex**  
Employment protection legislation database

▶ **Compendium of court decisions**

### Total number of ratifications registered since 1919



### Fundamental and Governance Conventions



**As of Today** 18 Sept. 2015

**ILO member States: 186**

**ILO instruments adopted: 399**

- ▶ Conventions: 189
- ▶ Protocols: 6
- ▶ Recommendations: 204

### Latest Ratifications

#### August 2015

- ▶ Indonesia - **C187** - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187) - 31 Aug 2015

#### July 2015

- ▶ Gabon - **C155** - Occupational Safety and Health Convention, 1981 (No. 155) - 2015
- ▶ Gabon - **C161** - Occupational Health Services Convention, 1985 (No. 161) - 2015
- ▶ Gabon - **C167** - Safety and Health in Construction Convention, 1988 (No. 167) - Jul 2015
- ▶ Portugal - **C189** - Domestic Workers Convention, 2011 (No. 189) - 17 Jul 2015

#### June 2015

> SAFEWORK home > ILO instruments on OSH


## Conventions and Recommendations

### Occupational Safety and Health

- [C155 Occupational Safety and Health Convention, 1981](#)
- [R164 Occupational Safety and Health Recommendation, 1981](#)
- [C187 Promotional Framework for Occupational Safety and Health Convention, 2006](#)
- [R197 Promotional Framework for Occupational Safety and Health Recommendation, 2006](#)

### Occupational Health Services

- [C161 Occupational Health Services Convention, 1985](#)
- [R171 Occupational Health Services Recommendation, 1985](#)



## Major Hazard Control

- [C174 Prevention of Major Industrial Accidents Convention, 1993](#)
- [R181 Prevention of Major Industrial Accidents Recommendation, 1993](#)

## Working Environment

- [C148 Working Environment \(Air Pollution, Noise and Vibration\) Convention, 1977](#)
- [R156 Working Environment \(Air Pollution, Noise and Vibration\) Recommendation, 1977](#)

## Toxic Substances and Agents

- [R3 Anthrax Prevention Recommendation, 1919](#)
- [C162 Asbestos Convention, 1986](#)
- [R172 Asbestos Recommendation, 1986](#)
- [C136 Benzene Convention, 1971](#)
- [R144 Benzene Recommendation, 1971](#)
- [C170 Chemicals Convention, 1990](#)
- [R177 Chemicals Recommendation, 1990](#)
- [C115 Radiation Protection Convention, 1960](#)
- [R114 Radiation Protection Recommendation, 1960](#)
- [C13 White Lead \(Painting\) Convention, 1921](#)

## Occupational Cancer

- [C139 Occupational Cancer Convention, 1974](#)
- [R147 Occupational Cancer Recommendation, 1974](#)



## Guarding of Machinery

- [C119 Guarding of Machinery Convention, 1963](#)
- [R118 Guarding of Machinery Recommendation, 1963](#)

## Maximum Weight

- [C127 Maximum Weight Convention, 1967](#)
- [R128 Maximum Weight Recommendation, 1967](#)

## Particular Branches of Activity

- [C164 Health Protection and Medical Care \(Seafarers\) Convention, 1987](#)
- [C120 Hygiene \(Commerce and Offices\) Convention, 1964](#)
- [C27 Marking of Weight \(Packages Transported by Vessels\) Convention, 1929](#)
- [R106 Medical Advice at Sea Recommendation, 1958](#)
- [C113 Medical Examination \(Fishermen\) Convention, 1959](#)
- [C73 Medical Examination \(Seafarers\) Convention, 1946](#)
- [C152 Occupational Safety and Health \(Dock Work\) Convention, 1979](#)
- [R160 Occupational Safety and Health \(Dock Work\) Recommendation, 1979](#)
- [C110 Plantations Convention, 1958](#)
- [C134 Prevention of Accidents \(Seafarers\) Convention, 1970](#)
- [R142 Prevention of Accidents \(Seafarers\) Recommendation, 1970](#)
- [C28 \(Shelved\) Protection against Accidents \(Dockers\) Convention, 1929](#)
- [C32 Protection against Accidents \(Dockers\) Convention \(Revised\), 1932](#)
- [C184 Safety and Health in Agriculture Convention, 2001](#)
- [R192 Safety and Health in Agriculture Recommendation, 2001](#)
- [C167 Safety and Health in Construction Convention, 1988](#)
- [R175 Safety and Health in Construction Recommendation, 1988](#)
- [C176 Safety and Health in Mines Convention, 1995](#)
- [R183 Safety and Health in Mines Recommendation, 1995](#)
- [C62 Safety Provisions \(Building\) Convention, 1937](#)
- [R53 Safety Provisions \(Building\) Recommendation, 1937](#)
- [R105 Ships' Medicine Chests Recommendation, 1958](#)



## Employment of Women


- [C3 Maternity Protection Convention, 1919](#)
- [C103 Maternity Protection Convention \(Revised\), 1952](#)
- [C183 Maternity Protection Convention, 2000](#)
- [R191 Maternity Protection Recommendation, 2000](#)
- [C89 Night Work \(Women\) Convention \(Revised\), 1948](#)
- [P89 Protocol of 1990 to the Night Work \(Women\) Convention \(Revised\), 1948](#)
- [C45 Underground Work \(Women\) Convention, 1935](#)

## Employment of Children and Young Persons

- [C77 Medical Examination of Young Persons \(Industry\) Convention, 1946](#)
- [C78 Medical Examination of Young Persons \(Non-Industrial Occupations\) Convention, 1946](#)
- [C16 Medical Examination of Young Persons \(Sea\) Convention, 1921](#)
- [C124 Medical Examination of Young Persons \(Underground Work\) Convention, 1965](#)
- [C138 Minimum Age Convention, 1973](#)
- [C10 Minimum Age \(Agriculture\) Convention, 1921](#)
- [C7 Minimum Age \(Sea\) Convention, 1920](#)
- [C90 Night Work of Young Persons \(Industry\) Convention \(Revised\), 1948](#)
- [C79 Night Work of Young Persons \(Non-Industrial Occupations\) Convention, 1946](#)
- [C182 Worst Forms of Child Labour Convention, 1999](#)
- [R190 Worst Forms of Child Labour Recommendation, 1999](#)

## Migrant Workers

- [C143 Migrant Workers \(Supplementary Provisions\) Convention, 1975](#)



## Labour Inspection

- [C81 Labour Inspection Convention, 1947](#)
- [R81 Labour Inspection Recommendation, 1947](#)
- [P81 Protocol of 1995 to the Labour Inspection Convention, 1947](#)
- [C129 Labour Inspection \(Agriculture\) Convention, 1969](#)
- [R133 Labour Inspection \(Agriculture\) Recommendation, 1969](#)
- [C178 Labour Inspection \(Seafarers\) Convention, 1996](#)
- [R185 Labour Inspection \(Seafarers\) Recommendation, 1996](#)

## Occupational safety and health

- C013 - White Lead (Painting) Convention, 1921 (No. 13)
  - C045 - Underground Work (Women) Convention, 1935 (No. 45)
  - C062 - Safety Provisions (Building) Convention, 1937 (No. 62)
  - C115 - Radiation Protection Convention, 1960 (No. 115)
  - C119 - Guarding of Machinery Convention, 1963 (No. 119)
  - C120 - Hygiene (Commerce and Offices) Convention, 1964 (No. 120)
  - C127 - Maximum Weight Convention, 1967 (No. 127)
  - C136 - Benzene Convention, 1971 (No. 136)
  - C139 - Occupational Cancer Convention, 1974 (No. 139)
  - C148 - Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148)
  - C155 - Occupational Safety and Health Convention, 1981 (No. 155)
    - P155 - Protocol of 2002 to the Occupational Safety and Health Convention, 1981
  
  - C161 - Occupational Health Services Convention, 1985 (No. 161)
  - C162 - Asbestos Convention, 1986 (No. 162)
  - C167 - Safety and Health in Construction Convention, 1988 (No. 167)
  - C170 - Chemicals Convention, 1990 (No. 170)
  - C174 - Prevention of Major Industrial Accidents Convention, 1993 (No. 174)
  - C176 - Safety and Health in Mines Convention, 1995 (No. 176)
  - C184 - Safety and Health in Agriculture Convention, 2001 (No. 184)
  - C187 - Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)
  - P155 - Protocol of 2002 to the Occupational Safety and Health Convention, 1981
- 

## Social security

- C012 - Workmen's Compensation (Agriculture) Convention, 1921 (No. 12)
- C017 - Workmen's Compensation (Accidents) Convention, 1925 (No. 17)
- C018 - Workmen's Compensation (Occupational Diseases) Convention, 1925 (No. 18)
- C019 - Equality of Treatment (Accident Compensation) Convention, 1925 (No. 19)
- C024 - Sickness Insurance (Industry) Convention, 1927 (No. 24)
- C025 - Sickness Insurance (Agriculture) Convention, 1927 (No. 25)
- C035 - Old-Age Insurance (Industry, etc.) Convention, 1933 (No. 35)

# New ILO List of Occupational Diseases

- **ILO** is the **only UN Agency** international list of occupational diseases
- It is designed to **assist** countries **in the recording, prevention and compensation** of occupational diseases
- For the first time, **mental and behavioural disorders** have been included





International  
Labour  
Organization

# ILO List of Occupational Diseases

(revised 2010)



ANNEX

## List of occupational diseases <sup>1</sup> (revised 2010)

1. **Occupational diseases caused by exposure to agents arising from work activities**
  - 1.1. **Diseases caused by chemical agents**
    - 1.1.1. Diseases caused by beryllium or its compounds
    - 1.1.2. Diseases caused by cadmium or its compounds
    - 1.1.3. Diseases caused by phosphorus or its compounds
    - 1.1.4. Diseases caused by chromium or its compounds
    - 1.1.5. Diseases caused by manganese or its compounds
    - 1.1.6. Diseases caused by arsenic or its compounds
    - 1.1.7. Diseases caused by mercury or its compounds
    - 1.1.8. Diseases caused by lead or its compounds
    - 1.1.9. Diseases caused by fluorine or its compounds
    - 1.1.10. Diseases caused by carbon disulfide
    - 1.1.11. Diseases caused by halogen derivatives of aliphatic or aromatic hydrocarbons
    - 1.1.12. Diseases caused by benzene or its homologues
    - 1.1.13. Diseases caused by nitro- and amino-derivatives of benzene or its homologues
    - 1.1.14. Diseases caused by nitroglycerine or other nitric acid esters
    - 1.1.15. Diseases caused by alcohols, glycols or ketones
    - 1.1.16. Diseases caused by asphyxiants like carbon monoxide, hydrogen sulfide, hydrogen cyanide or its derivatives
    - 1.1.17. Diseases caused by acrylonitrile
    - 1.1.18. Diseases caused by oxides of nitrogen
    - 1.1.19. Diseases caused by vanadium or its compounds
    - 1.1.20. Diseases caused by antimony or its compounds
    - 1.1.21. Diseases caused by hexane
    - 1.1.22. Diseases caused by mineral acids
    - 1.1.23. Diseases caused by pharmaceutical agents
    - 1.1.24. Diseases caused by nickel or its compounds
    - 1.1.25. Diseases caused by thallium or its compounds
    - 1.1.26. Diseases caused by osmium or its compounds
    - 1.1.27. Diseases caused by selenium or its compounds
    - 1.1.28. Diseases caused by copper or its compounds
    - 1.1.29. Diseases caused by platinum or its compounds
    - 1.1.30. Diseases caused by tin or its compounds
    - 1.1.31. Diseases caused by zinc or its compounds
    - 1.1.32. Diseases caused by phosgene
    - 1.1.33. Diseases caused by corneal irritants like benzoquinone
    - 1.1.34. Diseases caused by ammonia
    - 1.1.35. Diseases caused by isocyanates
    - 1.1.36. Diseases caused by pesticides

<sup>1</sup> In the application of this list the degree and type of exposure and the work or occupation involving a particular risk of exposure should be taken into account when appropriate.

- 1.1.37. Diseases caused by sulphur oxides
- 1.1.38. Diseases caused by organic solvents
- 1.1.39. Diseases caused by latex or latex-containing products
- 1.1.40. Diseases caused by chlorine
- 1.1.41. Diseases caused by other chemical agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these chemical agents arising from work activities and the disease(s) contracted by the worker

## 1.2. Diseases caused by physical agents

- 1.2.1. Hearing impairment caused by noise
- 1.2.2. Diseases caused by vibration (disorders of muscles, tendons, bones, joints, peripheral blood vessels or peripheral nerves)
- 1.2.3. Diseases caused by compressed or decompressed air
- 1.2.4. Diseases caused by ionizing radiations
- 1.2.5. Diseases caused by optical (ultraviolet, visible light, infrared) radiations including laser
- 1.2.6. Diseases caused by exposure to extreme temperatures
- 1.2.7. Diseases caused by other physical agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these physical agents arising from work activities and the disease(s) contracted by the worker

## 1.3. Biological agents and infectious or parasitic diseases

- 1.3.1. Brucellosis
- 1.3.2. Hepatitis viruses
- 1.3.3. Human immunodeficiency virus (HIV)
- 1.3.4. Tetanus
- 1.3.5. Tuberculosis
- 1.3.6. Toxic or inflammatory syndromes associated with bacterial or fungal contaminants
- 1.3.7. Anthrax
- 1.3.8. Leptospirosis
- 1.3.9. Diseases caused by other biological agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these biological agents arising from work activities and the disease(s) contracted by the worker

## 2. Occupational diseases by target organ systems

### 2.1. Respiratory diseases

- 2.1.1. Pneumoconioses caused by fibrogenic mineral dust (silicosis, anthracosis-silicosis, asbestosis)
- 2.1.2. Silicotuberculosis
- 2.1.3. Pneumoconioses caused by non-fibrogenic mineral dust
- 2.1.4. Siderosis
- 2.1.5. Bronchopulmonary diseases caused by hard-metal dust
- 2.1.6. Bronchopulmonary diseases caused by dust of cotton (byssinosis), flax, hemp, sisal or sugar cane (bagassosis)

- 2.1.7. Asthma caused by recognized sensitizing agents or irritants inherent to the work process
- 2.1.8. Extrinsic allergic alveolitis caused by the inhalation of organic dusts or microbially contaminated aerosols, arising from work activities
- 2.1.9. Chronic obstructive pulmonary diseases caused by inhalation of coal dust, dust from stone quarries, wood dust, dust from cereals and agricultural work, dust in animal stables, dust from textiles, and paper dust, arising from work activities
- 2.1.10. Diseases of the lung caused by aluminium
- 2.1.11. Upper airways disorders caused by recognized sensitizing agents or irritants inherent to the work process
- 2.1.12. Other respiratory diseases not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the disease(s) contracted by the worker

### 2.2. Skin diseases

- 2.2.1. Allergic contact dermatoses and contact urticaria caused by other recognized allergy-provoking agents arising from work activities not included in other items
- 2.2.2. Irritant contact dermatoses caused by other recognized irritant agents arising from work activities not included in other items
- 2.2.3. Vitiligo caused by other recognized agents arising from work activities not included in other items
- 2.2.4. Other skin diseases caused by physical, chemical or biological agents at work not included under other items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the skin disease(s) contracted by the worker

### 2.3. Musculoskeletal disorders

- 2.3.1. Radial styloid tenosynovitis due to repetitive movements, forceful exertions and extreme postures of the wrist
- 2.3.2. Chronic tenosynovitis of hand and wrist due to repetitive movements, forceful exertions and extreme postures of the wrist
- 2.3.3. Olecranon bursitis due to prolonged pressure of the elbow region
- 2.3.4. Prepatellar bursitis due to prolonged stay in kneeling position
- 2.3.5. Epicondylitis due to repetitive forceful work
- 2.3.6. Meniscus lesions following extended periods of work in a kneeling or squatting position
- 2.3.7. Carpal tunnel syndrome due to extended periods of repetitive forceful work, work involving vibration, extreme postures of the wrist, or a combination of the three
- 2.3.8. Other musculoskeletal disorders not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the musculoskeletal disorder(s) contracted by the worker

### 2.4. Mental and behavioural disorders

- 2.4.1. Post-traumatic stress disorder
- 2.4.2. Other mental or behavioural disorders not mentioned in the preceding item where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the mental and behavioural disorder(s) contracted by the worker

### 3. Occupational cancer

#### 3.1. Cancer caused by the following agents

- 3.1.1. Asbestos
- 3.1.2. Benzidine and its salts
- 3.1.3. Bis-chloromethyl ether (BCME)
- 3.1.4. Chromium VI compounds
- 3.1.5. Coal tars, coal tar pitches or soots
- 3.1.6. Beta-naphthylamine
- 3.1.7. Vinyl chloride
- 3.1.8. Benzene
- 3.1.9. Toxic nitro- and amino-derivatives of benzene or its homologues
- 3.1.10. Ionizing radiations
- 3.1.11. Tar, pitch, bitumen, mineral oil, anthracene, or the compounds, products or residues of these substances
- 3.1.12. Coke oven emissions
- 3.1.13. Nickel compounds
- 3.1.14. Wood dust
- 3.1.15. Arsenic and its compounds
- 3.1.16. Beryllium and its compounds
- 3.1.17. Cadmium and its compounds
- 3.1.18. Eriofoline
- 3.1.19. Ethylene oxide
- 3.1.20. Hepatitis B virus (HBV) and hepatitis C virus (HCV)
- 3.1.21. Cancers caused by other agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these agents arising from work activities and the cancer(s) contracted by the worker

#### 4. Other diseases

- 4.1. Miners' nystagmus
- 4.2. Other specific diseases caused by occupations or processes not mentioned in this list where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure arising from work activities and the disease(s) contracted by the worker



# INTERNATIONAL GUIDANCE NOTES ON THE DIAGNOSTIC CRITERIA FOR OCCUPATIONAL DISEASES (DRAFT)



Dr L Ivanov

Dr S. J. Kim

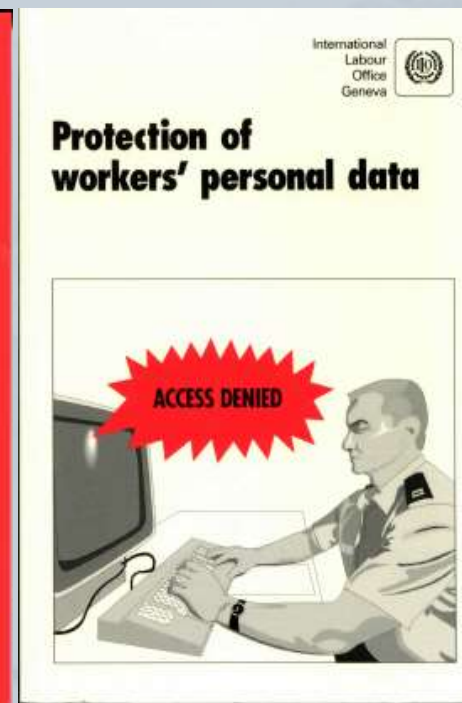
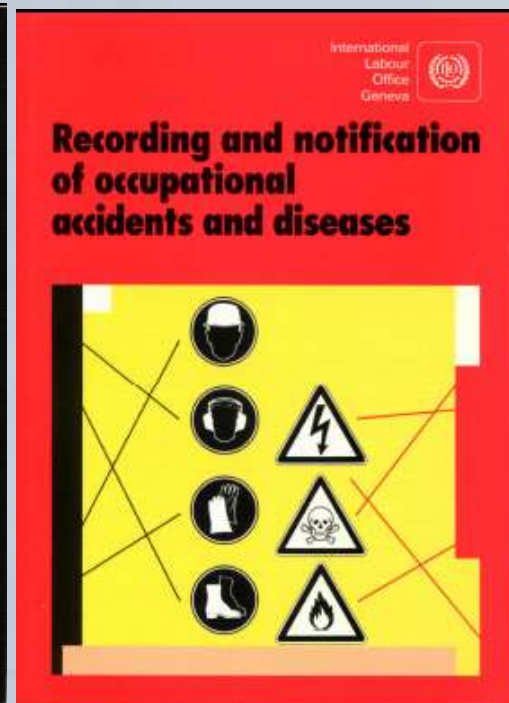
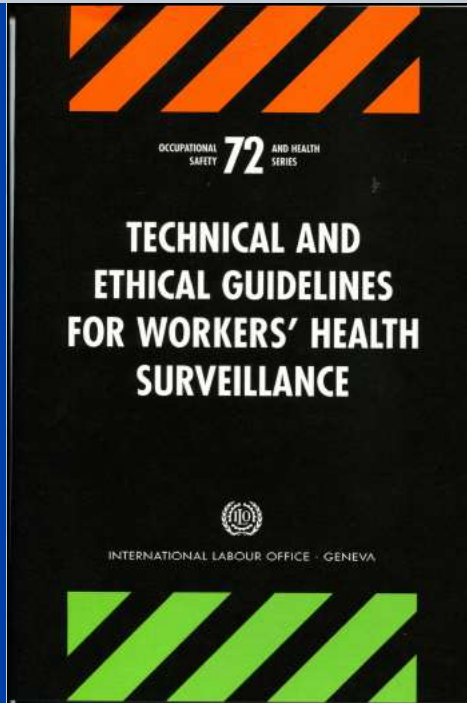
Dr D Simon



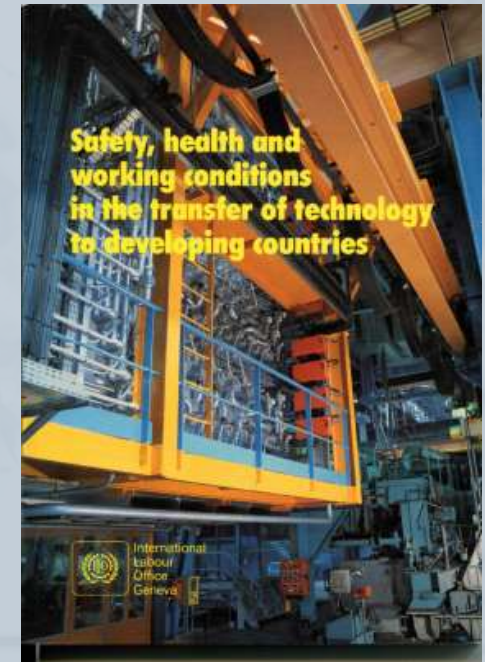
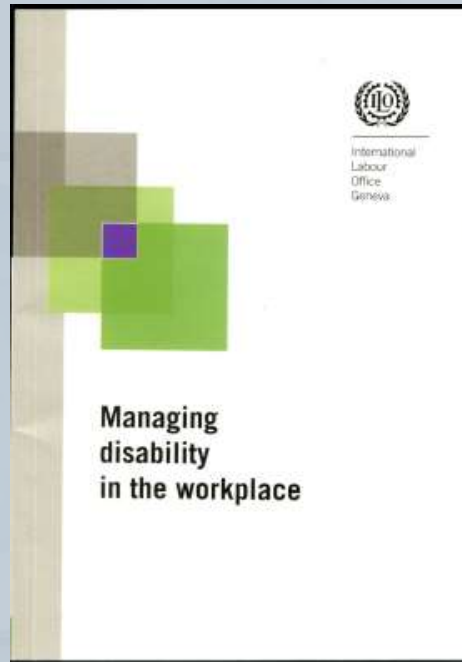
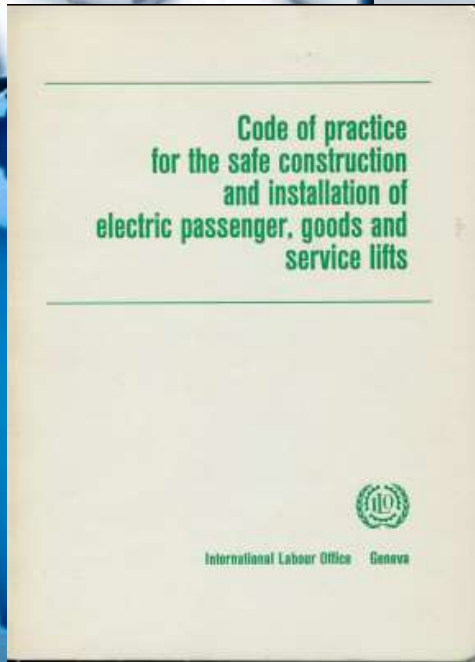
## Codes of Practice & Guidelines

ILO also provides practical guidance in the form of codes of practice or guidelines. They are used as reference work by anyone in charge of formulating detailed regulations or framing occupational safety and health programmes.

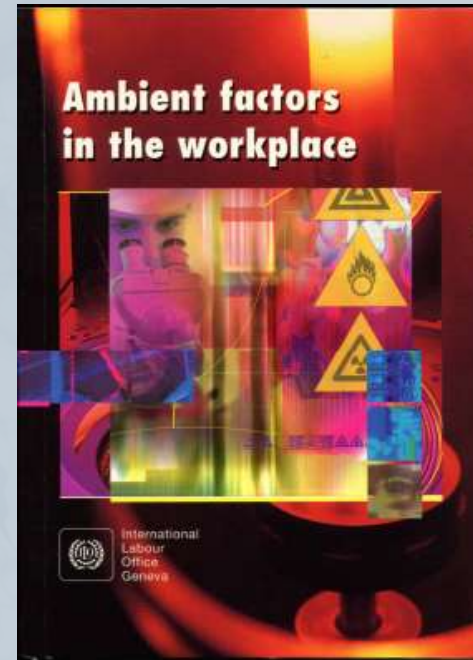
# Occupational Safety and Health



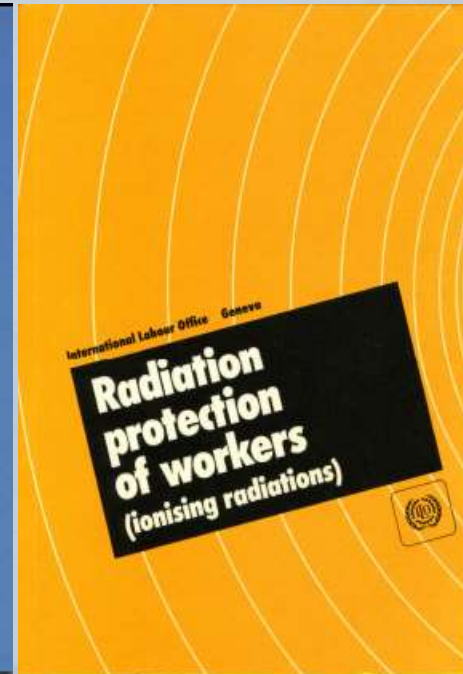
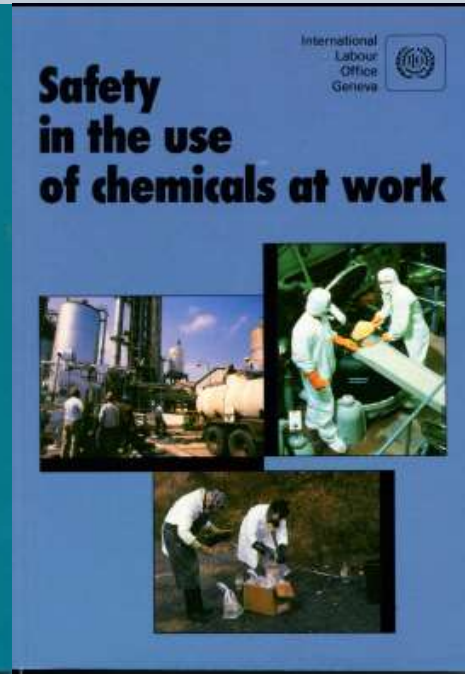
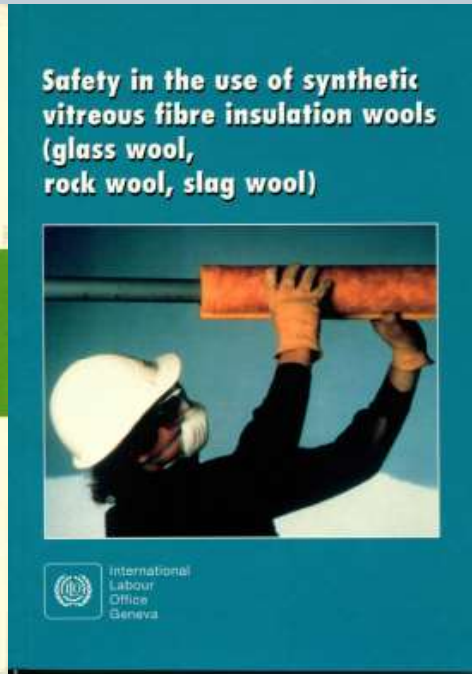
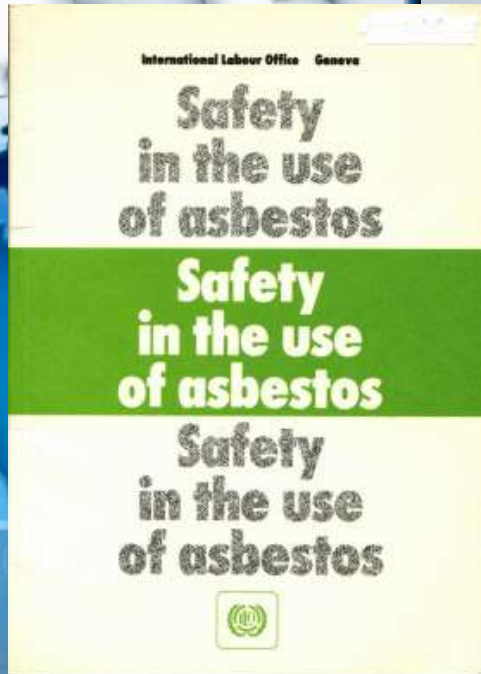
# Occupational Safety and Health



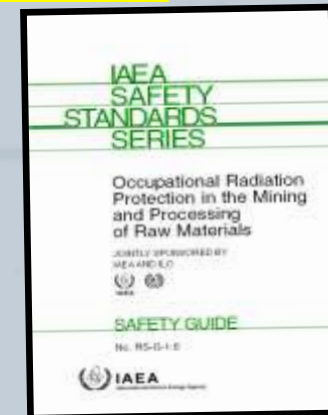
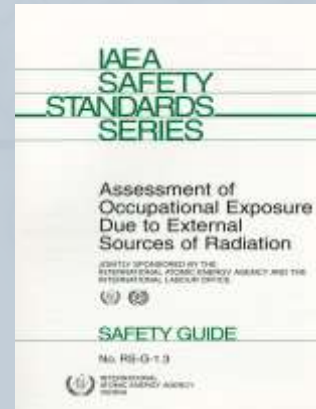
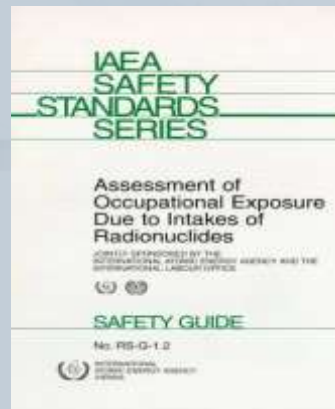
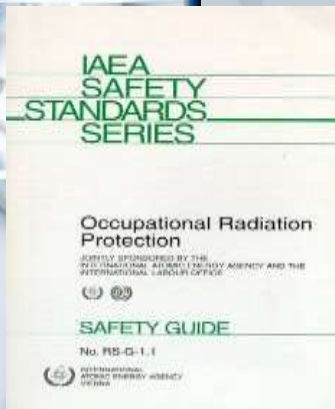
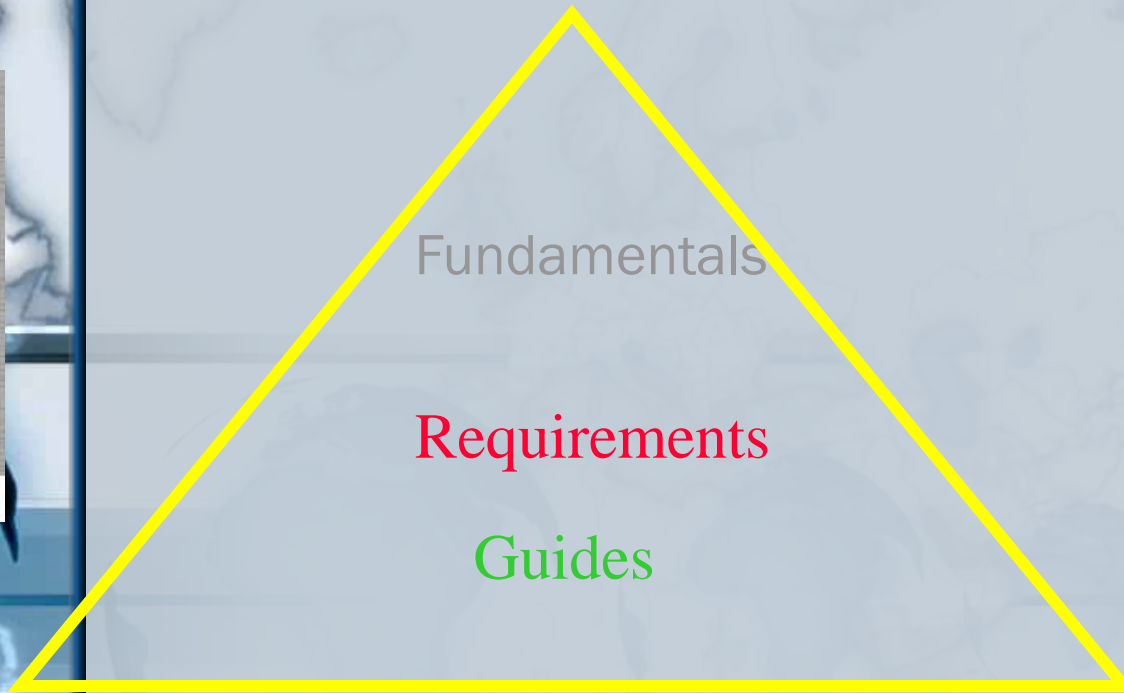
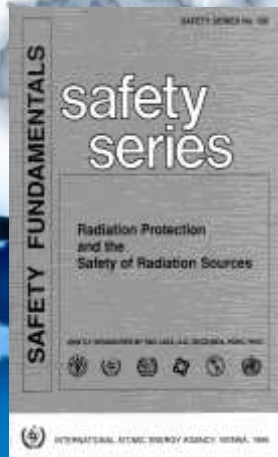
# Working Environment



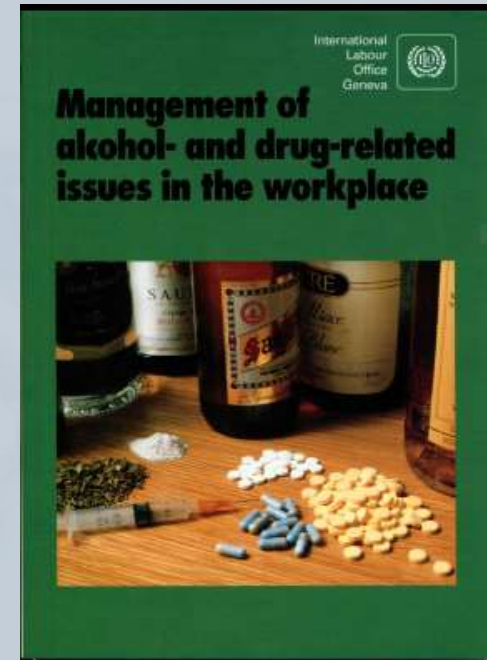
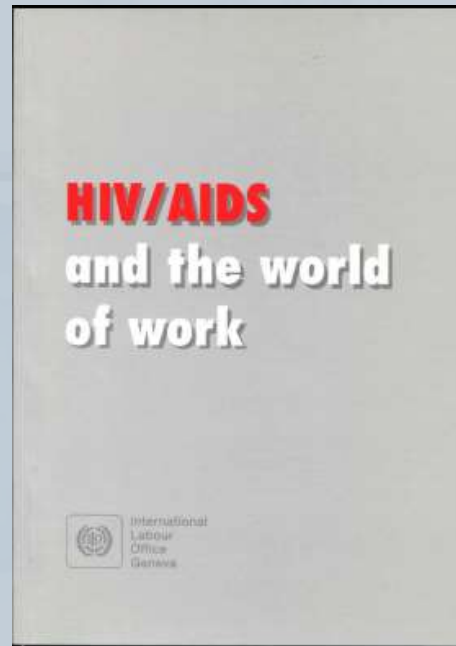
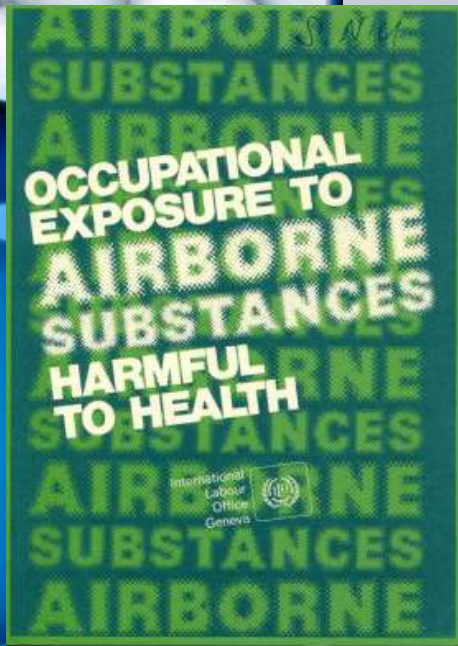
# Toxic Substances and Agents



# IAEA Radiation Safety Standards



# Toxic Substances and Agents



# Major Hazard Control

## Prevention of major industrial accidents



International Labour Office  
Geneva



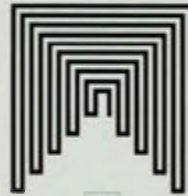
## Accident prevention on board ship at sea and in port



International Labour Office  
Geneva



## PREVENTION OF ACCIDENTS DUE TO EXPLOSIONS UNDERGROUND IN COAL MINES



International Labour Office - Geneva

*I.L.O. Codes of Practice*

## Prevention of Accidents Due to Electricity Underground in Coal Mines

101663 / 54p <sup>1959</sup>

INTERNATIONAL LABOUR OFFICE  
GENEVA  
1959



*I.L.O. Codes of Practice*

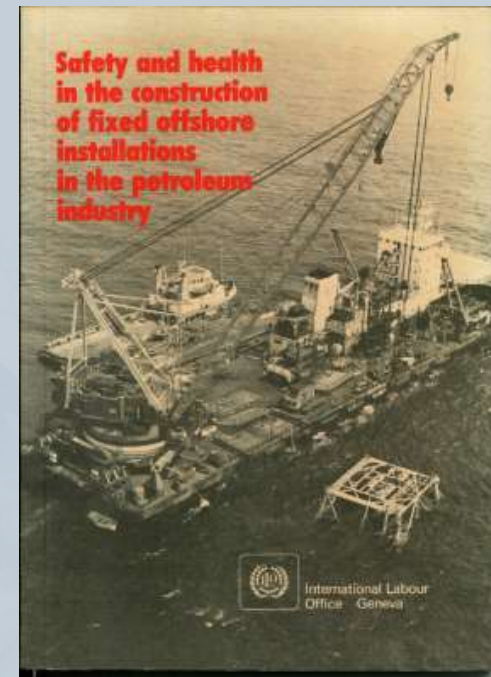
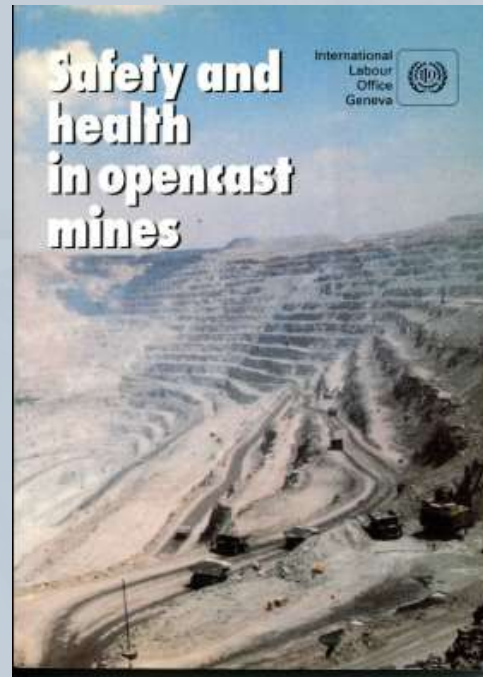
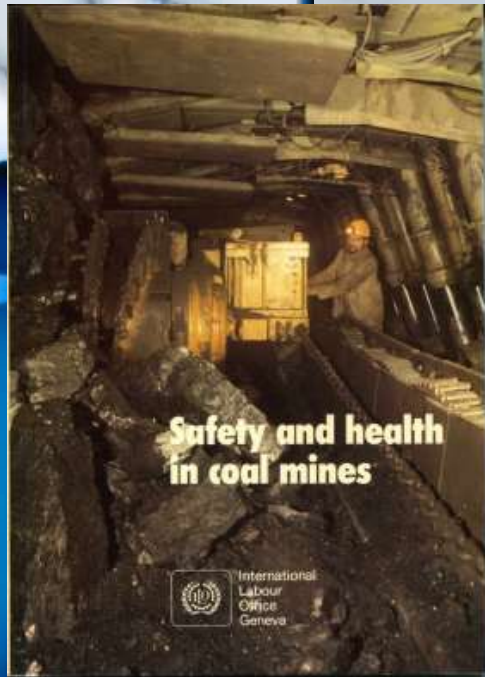
## Prevention of Accidents Due to Fires Underground in Coal Mines

101662 / 48p <sup>1959</sup>

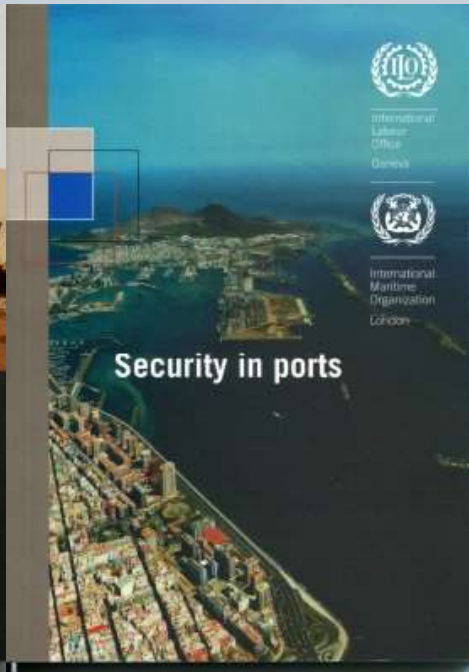
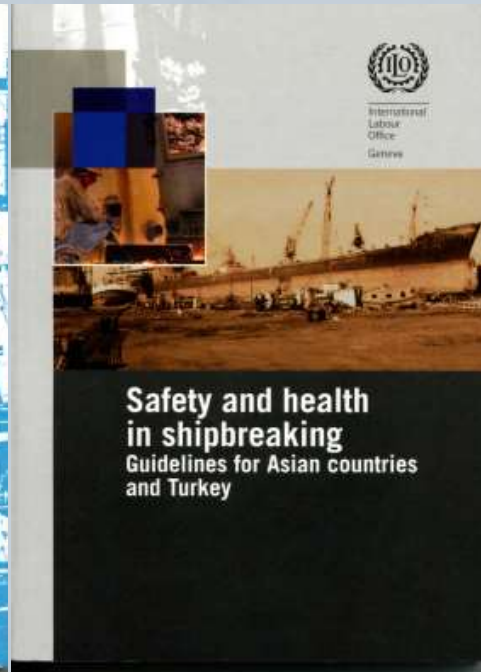
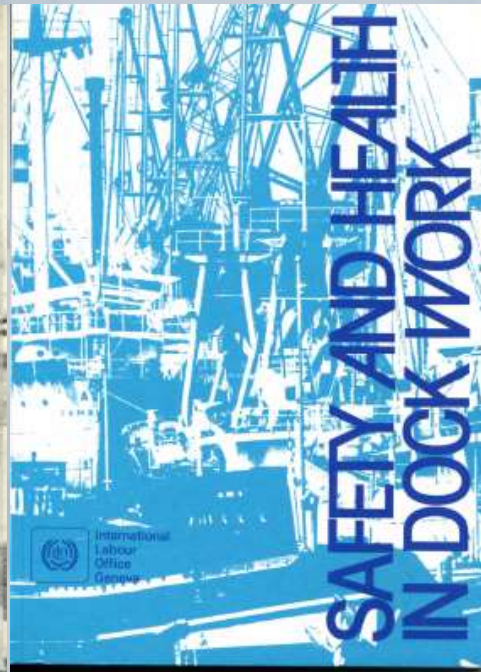
INTERNATIONAL LABOUR OFFICE  
GENEVA  
1959



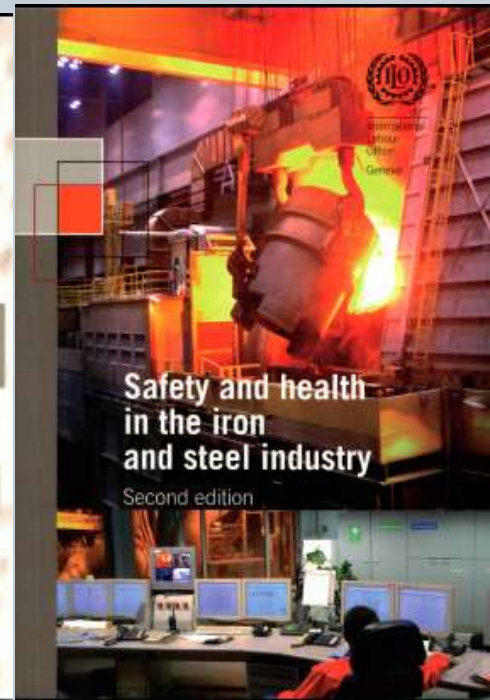
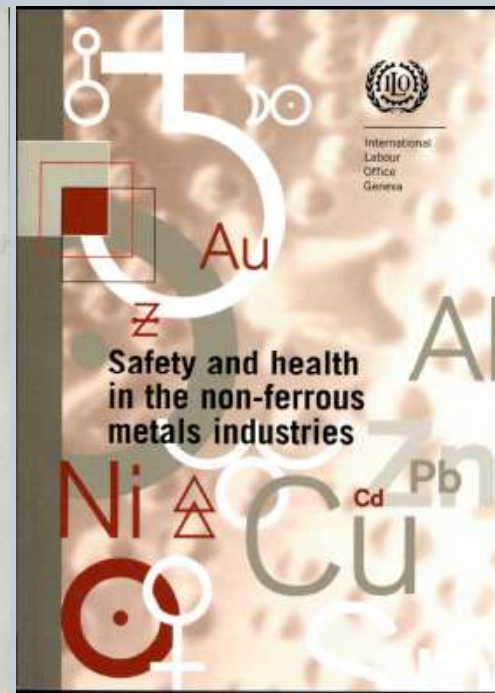
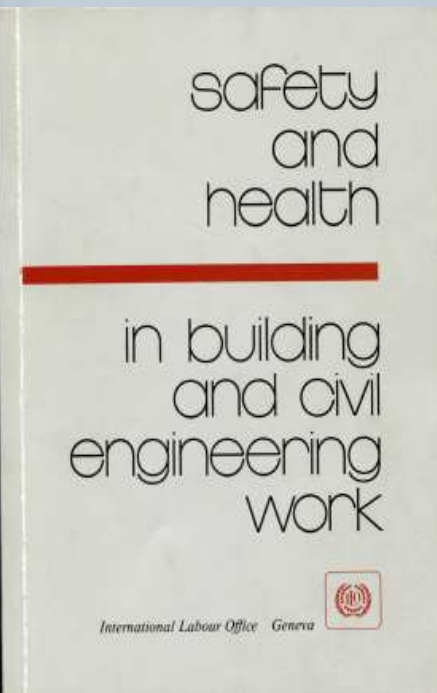
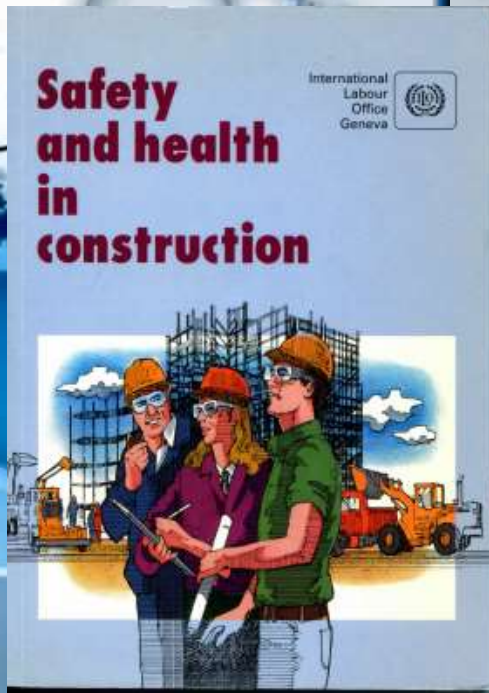
# Hazardous Industries and Sectors



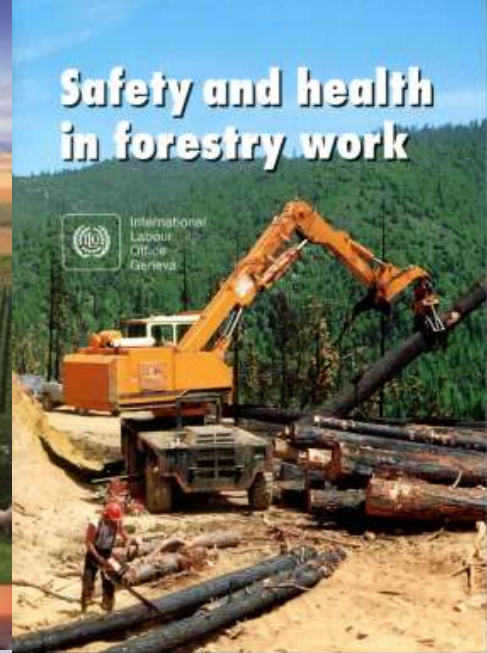
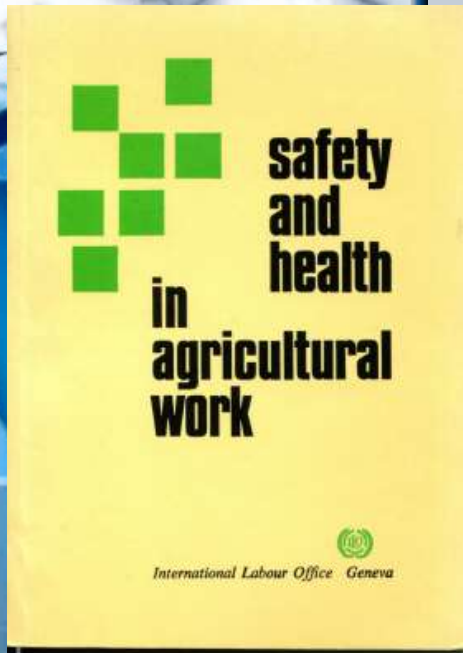
# Hazardous Industries and Sectors



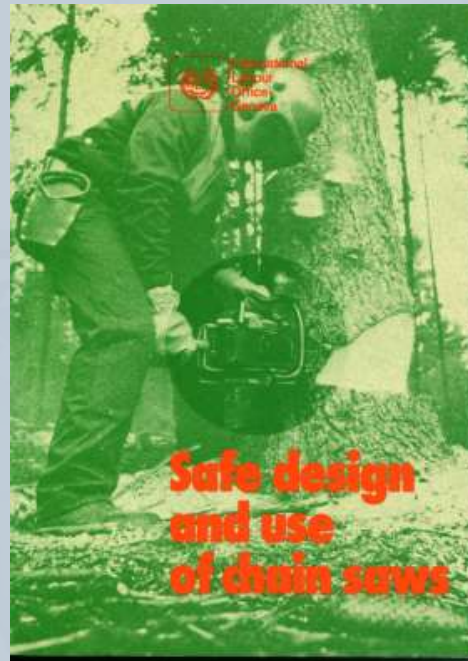
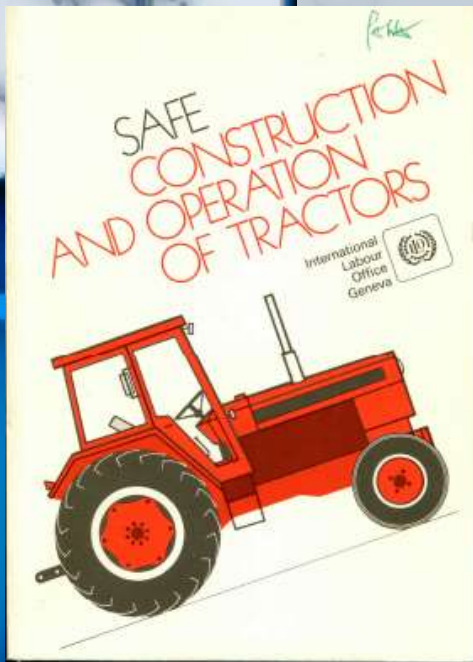
# Hazardous Industries and Sectors



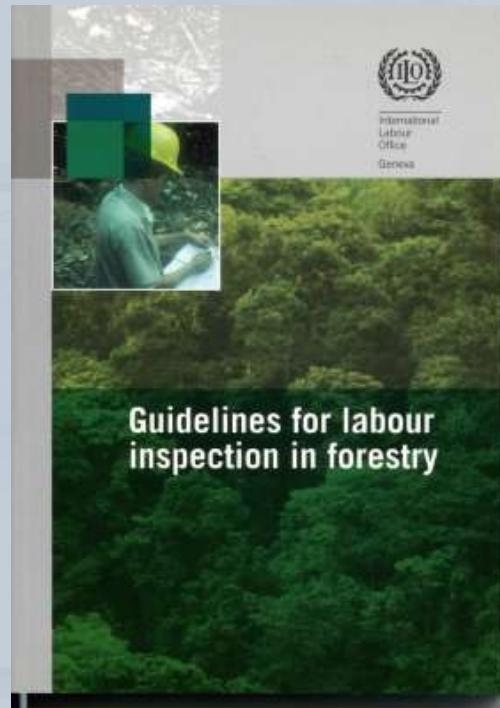
# Hazardous Industries and Sectors



# Machinery Safety



# Inspection



Prepared by the International Labour Office  
in collaboration with  
the International Ergonomics Association



International  
Labour  
Office



International  
Ergonomics  
Association

ERGONOMIC

CHECKPOINTS

SECOND  
EDITION

PRACTICAL  
AND EASY-TO-IMPLEMENT  
SOLUTIONS FOR IMPROVING  
SAFETY, HEALTH  
AND WORKING CONDITIONS

# Training Manuals

SECOND EDITION

## ERGONOMIC CHECKPOINTS IN AGRICULTURE

Edited by  
Shengji Nie  
Kazutaka Kogi



Prepared by the International Labour Office  
in collaboration with  
the International Ergonomics Association



International  
Labour  
Office



International  
Ergonomics  
Association

TON THAT KHAI

TSUYOSHI KAWAKAMI

### WORK IMPROVEMENT IN NEIGHBOURHOOD DEVELOPMENT

#### WIND PROGRAMME



TRAINING PROGRAMME  
ON SAFETY, HEALTH  
AND WORKING CONDITIONS  
IN AGRICULTURE



Supported by the ILO/Japan Multilateral Programme

2002

Kazutaka Kogi

## IMPROVING

working  
conditions  
in small  
enterprises  
in developing  
Asia



International Labour Office Geneva



International  
Labour  
Office

# WISE



Work Improvement in Small Enterprises

PACKAGE FOR TRAINERS



# Ergonomic Checkpoints

The practical guides of the checkpoints extends to all the main ergonomic issues which include:

- **Materials storage and handling,**
- **Hand tools**
- **Machine safety**
- **Workstation design**
- **Lighting**
- **Premises**
- **Control of hazardous substances and agents**
- **Welfare facilities, and**
- **Work organization**





INTERNATIONAL  
LABOUR ORGANIZATION

OEHA

ORGANISATION  
EUROPÉENNE  
DE LA SÉCURITÉ  
ET DE LA SANTÉ  
AU TRAVAIL

# ERGONOMIC CHECKPOINTS IN AGRICULTURE



Prepared by the International Labour Office  
in collaboration with  
the International Ergonomics Association

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# Ergonomic Checkpoint in Agriculture

Action phrase in a low-cost form

- **Benefits for farmers**
- **How to improve**
- **Ways to promote cooperation**
- **Some more hints**
- **Points to remember**



Illustrations showing good examples

## CHECKPOINT 7

Instead of carrying heavy weights, divide them into smaller, lightweight sacks and packages.

### WHY

Farmers often have to carry various heavy items during their work. This is strenuous, and can often be dangerous. If these heavy items are divided into smaller loads, the carrying work is both easier and safer.

Fatigue from carrying packages is reduced for lightweight packages than for heavy weights. Farmers can thus save energy and do more productive work by using smaller packages.

By using light packages instead of heavy packages, the risk of low-back injuries is also greatly reduced.

### HOW

1. Divide heavy loads into lighter packages, containers or trays, considering the maximum weight that is easy for farmers to carry. For example, two packages of 10 kg each are much better than one package of 20 kg.
2. Dividing loads into smaller amounts may mean increased movements and more trips for carrying the same total amount. Therefore make sure that loads are not too small. Use effective means of moving or carrying these smaller loads, such as rollers or carts.
3. The use of push-carts, trolleys or mobile racks can help save time. For manual transport, a cart can usually transport more loads with less effort. Manual loading and unloading is much easier for smaller and lighter loads.

### WAYS TO PROMOTE COOPERATION

Try to get everyone to use the same types and sizes of container, basket or tray for carrying materials or farm products. As people get accustomed to using these, it will make the use of carts and hand-trucks easier. Encourage people to exchange good examples.

### SOME MORE HINTS

- Make available an adequate number of reusable containers, trays and baskets; these facilitate the transport of loads, and help save money.
- When loads are divided or smaller containers are used, try to use labels so as to make it easy to distinguish the different loads or containers.

### POINTS TO REMEMBER

A lighter weight is a safer weight. Divide heavy packages into lighter ones to ensure safety and increase productivity.



Figure 7a. Put farm products in smaller bags with firm handles. Sharing the weight with both arms makes your work more comfortable.



Figure 7b. Using a pannier with firm handgrips, two persons can carry heavier loads.



Figure 7c. It is always better to use smaller packages. Loading and unloading may require more trips, but fatigue will be reduced.

## CHECKPOINT 22

Choose work methods that alternate standing and sitting, and try to avoid bending and squatting postures as much as possible.

### WHY

Alternate standing and sitting while working. Changing work postures can allow particular groups of muscles to rest after working, so as to avoid overuse. Muscle fatigue can be prevented, and the quality of work will be improved.

Continuing a single posture is strenuous. Continuous standing will cause pains in the shins, feet and back, and then may affect the whole body. Long periods of sitting will increase strain on the low back, and so can cause low-back pains.

It is particularly important to avoid strenuous work postures such as bending and squatting. These postures place a strain on the back and cause pains, making you prone to mistakes and accidents. Frequent changes of work posture can help prevent such strains and pains.

### HOW

1. Provide a chair or stool close to your working position. In a standing position, you can sit on the stool by simply leaning. Choose light materials to make such a chair easy to move.
2. Vary the jobs carried out by one farmer so as to change his or her work posture.
3. Minimize bending postures while working. Various tools will help you. For digging or cultivating, choose tools with long handles. When carrying water, use a yoke.

### WAYS TO PROMOTE COOPERATION

Exchange ideas and experiences of practical solutions with your neighbours. Find an opportunity to work together with your neighbours to vary jobs and to avoid a single strenuous work posture. For example, during harvesting rice, you and your neighbours may alternate between cutting rice and carrying bundles of rice. Work together, and evaluate the effectiveness.

### SOME MORE HINTS

- Standing stools or chairs should be appropriate in size, and portable. Large, heavy stools may disturb your work.
- If it is difficult to alternate standing and sitting, just try to provide standing workers with chairs for occasional sitting, and provide seated workers with an additional space where some secondary tasks can be done while standing.

### POINTS TO REMEMBER

Continuing a single working posture for long periods is disadvantageous to your health. Find a way to alternate standing and sitting for greater efficiency and comfort.

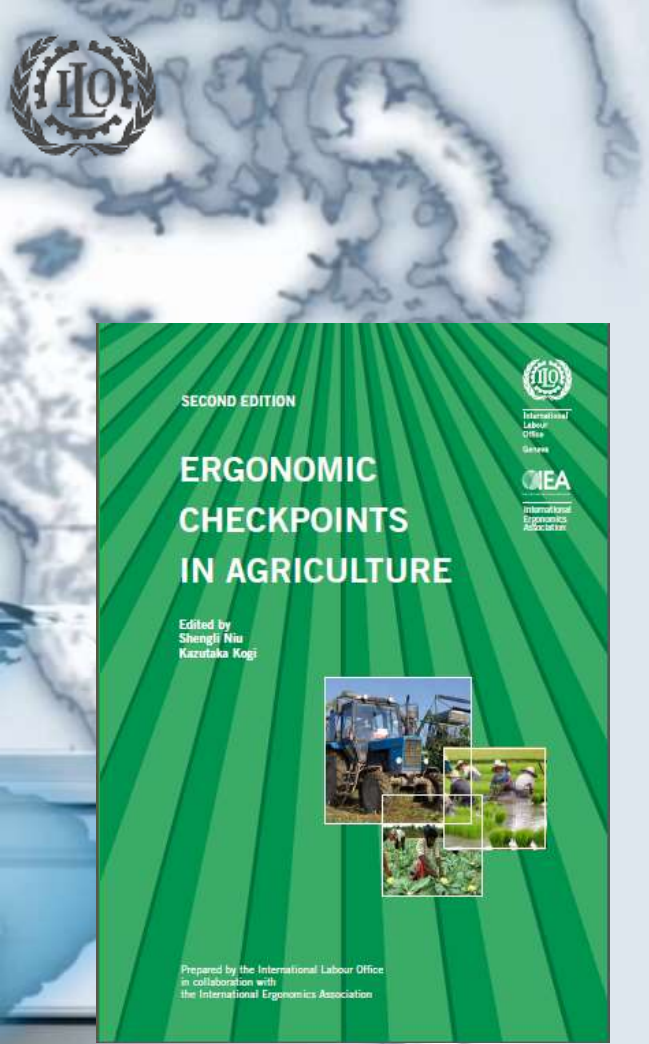


Figure 22a. Provide a chair or stool near the work area; from a standing posture, farmers can occasionally sit on the stool simply by leaning.

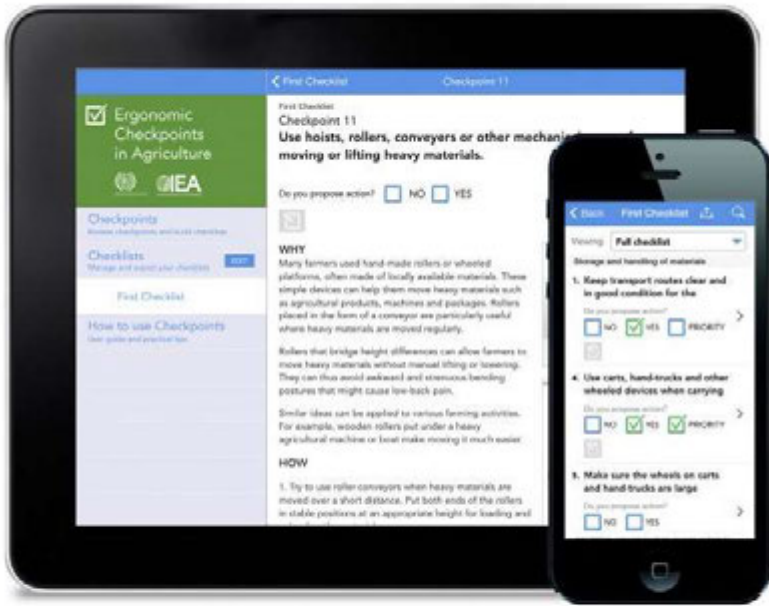
Figure 22b. Choose work methods to alternate between standing and sitting.



Figure 22c. Where possible, arrange standing work done at elbow level to replace low sitting postures.



# ILO Agricultural Ergonomic Checkpoints



The Ergonomic Checkpoints in Agriculture app allows you to create interactive checklists of ergonomic checkpoints to use in the agriculture sector.

free

[View in iTunes](#)

This app is designed for both iPhone and iPad  
 Customer ratings: ★★★★★ ( ratings)  
 Category: Productivity, Utilities  
 Languages: English  
 Rated: 4+

### Description

The Ergonomic Checkpoints in Agriculture app allows you to create interactive checklists of ergonomic checkpoints to use in the agriculture sector. There are 100 checkpoints in total. The app also includes best practice recommendations for taking action and implementing

## Checkpoints: Creating better workplaces

The Checkpoints app series is a new digital tool for improving occupational safety and health in the workplace. Users can explore illustrated descriptions of each checkpoint and create interactive checklists tailored to their workplace. Each app also includes best practice recommendations for taking action and implementing effective improvements.



### Stress Prevention

50 easy-to-implement checkpoints for identifying sources of stress in the workplace and mitigating their harmful effects.

- [iOS version >](#)
- [Android version >](#)



### Ergonomics

132 realistic and flexible solutions to ergonomic problems, applicable across a whole range of workplace situations.

- [iOS version >](#)
- [Android version >](#)



### Ergonomics in Agriculture

100 practical actions to improve safety and health and increase productivity, tailored for rural and agricultural settings.

- [iOS version >](#)
- [Android version >](#)



#### ILO Stress Checkpoints

International Labour Office - December 11, 2014

Productivity

Stress Add to Wishlist

You don't have any devices



#### ILO Ergonomic Checkpoints

International Labour Office - December 11, 2014

Productivity

Ergonomic Add to Wishlist

You don't have any devices



#### ILO Agriculture Checkpoints

International Labour Office - December 11, 2014

Productivity

Agriculture Add to Wishlist

You don't have any devices



# RURAL DEVELOPMENT through DECENT WORK

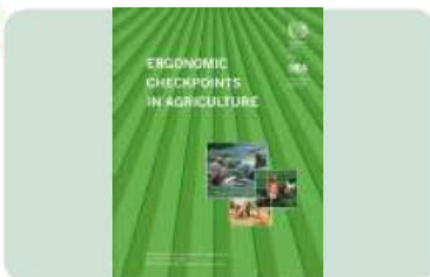
FOR GROWTH, PRODUCTIVE JOBS, INCOME, FOOD SECURITY, GOOD WORKING CONDITIONS, EQUAL OPPORTUNITIES, WOMEN'S VOICE, SUSTAINABLE DEVELOPMENT, CRISIS RESILIENCE



International Labour Office

## Rural-Relevant Tools

### Ergonomic Checkpoints in Agriculture



#### What is Ergonomic Checkpoints in Agriculture?

A manual that comprises checklists for applying ergonomic principles to address all agricultural workplace safety and health problems and to improve working conditions. It includes practical solutions for safety and health hazards discovered through a checklist survey. Its second edition was published in 2010.

#### For whom?

- **Direct beneficiaries:** All who are concerned with OSH in agriculture such as employers, supervisors, workers, farmers, inspectors, safety and health personnel, trainers and educators, extension workers, engineers, ergonomists and designers
- **Ultimate beneficiaries:** Agricultural workers and employers



#### For what purpose?

- Educate and train beneficiaries to improve workplace safety and health conditions

#### How is it delivered?

- Training of trainers
- Training of institutions/organizations
- Handing out of brochures and manuals

#### What are its components?

- This manual presents 100 ergonomic interventions aimed at improving safety, health and working conditions in small-scale agricultural farms, with a clear focus on practical, low-cost solutions
- Each checkpoint indicates an action, "why" it is necessary, and "how" to carry it out. It also provides further hints and points to remember
- The checkpoints, all of which are illustrated, cover the main ergonomic issues at the workplace

#### Which technical areas are covered?

- Skills training
- Occupational health and safety

#### Can it cover more technical areas?

Yes, such as work in informal activities



#### Where has it been used?

At least in 8 countries: Cambodia, China, Indonesia, Lao PDR, Mongolia, the Philippines, Thailand, and Viet Nam (see map)

#### Which languages?

Available in 17 languages: Arabic, Bahasa Indonesian, Bahasa Malaysian, Chinese, English, Estonian, Farsi, French, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Thai, Turkish, and Vietnamese

#### Is it suitable for rural areas?

Yes, it focuses on agriculture

#### What are its strengths?

- Based on many examples of realistic solutions and practical ergonomic improvements achieved at low cost, that can be applied in a flexible manner and contribute to improved working conditions and productivity in agriculture
- Confirmed validity of these practical solutions through recent ILO activities in Asia, Central Asia, Latin America and Africa
- Action-oriented tools such as checklists referring to readily applicable ergonomic checkpoints can lead to many similar improvements by farmers in these countries
- Uses the ILO *Work Improvement in Neighbourhood Development* (WIND) approach
- Linked with the International Ergonomics Association (IEA) tool: ILO/IEA *Ergonomic Checkpoints* 2nd edition. An ILO-IEA practical guide on ergonomic checkpoints in agriculture is to be issued in late 2011



#### Is there a training course in ITC-Turin?

No

#### Where to find more information?

- Ergonomic Checkpoints 2nd edition:  
[http://www.ilo.org/wcmsp5/groups/public/-/dgreports/-/dcommv/pub/documents/publication/wcms\\_145207.pdf](http://www.ilo.org/wcmsp5/groups/public/-/dgreports/-/dcommv/pub/documents/publication/wcms_145207.pdf)
- International Occupational Safety and Health Information Centre: [www.ilo.org/cis](http://www.ilo.org/cis), for accessing the following ILO Databases:
  - CISDOC to access over 70 000 references
  - Encyclopaedia of Occupational Health and Safety
  - International Chemical Safety Cards (ICSC)

#### Who to contact?

E-mail: Shengli Niu: [nlu@ilo.org](mailto:nlu@ilo.org) or [safework@ilo.org](mailto:safework@ilo.org)

Address: International Labour Office  
4 Route des Morillons  
Genève 22 CH-1211  
Switzerland



# International Occupational and Safety Information Network

**International Occupational Safety and Health Information Centre (CIOSH)**

Established as the Knowledge Management Hub of the ILO Programme on Safety and Health at Work and the Environment (OSH), the International Occupational Safety and Health Information Centre (CIOSH) provides research and information with the most up-to-date information regarding occupational safety and health (OSH) and access to the facts concerning the occurrence of occupational injuries and illnesses.

The Centre supports the ILO's information management and interventions considered to be key to OSH:

- Compiling OSH-related information and ensuring worldwide access to it
- Creating and disseminating ILO OSH products (including the ILO Encyclopedia and related products)
- Maintaining an international network of national and international OSH institutions

CIOSH is a non-formational platform in the field of OSH knowledge sharing that focuses on its activities and services in the field of information management. The Centre relies primarily on the Internet to disseminate information accessible through the CIOSH web site. The management of information on OSH is an essential basis for the establishment and implementation of OSH policies and programmes at the national and international levels.

**ILO CIOSH Centres Network**

Today the network of ILO CIOSH Centres comprises 150 collaborating centres in 120 countries.

The Centre's activities are supported by a worldwide network of Occupancy, the ILO-CIOSH Collaborating Centres. The network of ILO-CIOSH Centres contributes to the exchange of information between health and safety professionals, and the ILO contributes responsible to the establishment and implementation of national policies and programmes.

**Members of the ILO CIOSH Centres**



# The ILO Encyclopaedia. New Edition.

Periodicals,  
publications,  
OSH electronic  
resources

OSH Experts,  
specialists.

ILO OSH  
Information  
Resources

International and  
National OSH  
organization,  
professional  
societies




## ENCYCLOPAEDIA OF OCCUPATIONAL HEALTH AND SAFETY

*Fourth Edition*  
EDITED BY JEANNE MAGER STELLMAN



AVAILABLE AS A FOUR-VOLUME  
PRINT VERSION AND CD-ROM VERSION



# Globally Harmonized System for Classification and Labelling of Chemicals



**Danger**  
**Self-heating;  
may catch fire**



**Warning**  
**Self-heating in large  
quantities; may  
catch fire**



# TOLUENE

ICSC : 0078

CAS # 108-88-3  
 RTECS # XS5250000  
 ICSC # 0078  
 UN # 1294  
 EC # 601-021-00-3

Methylbenzene  
 Toluol  
 $C_6H_5CH_3$   
 Molecular mass: 92.1



Highly flammable



Harmful

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
<b>FIRE</b>	Highly flammable.	NO open flames, NO sparks, and NO smoking.	Powder, AFFF, foam, carbon dioxide.

<b>EXPLOSION</b>	Vapour/air mixture.
------------------	---------------------

<b>EXPOSURE</b>	
-----------------	--

<input type="checkbox"/> <b>Inhalation</b>	Dizziness, drowsiness, headache, nausea, weakness, dizziness.
--	---

<input type="checkbox"/> <b>Skin</b>	Dry skin.
--------------------------------------	-----------

<input type="checkbox"/> <b>Eyes</b>	
--------------------------------------	--

<input type="checkbox"/> <b>Ingestion</b>	Abdominal pain, headache, nausea, unconsciousness, vomiting.
---	--

## SPILLAGE DISPOSAL

Evacuate danger area and ventilation in a large spillage because of explosive hazard.

1305 ICSCs  
 In 14 languages

# NITROBENZENE

ICSC : 0065

CAS # 98-95-3  
 RTECS # DA6475000  
 ICSC # 0065  
 UN # 1662  
 EC # 609-003-00-7

Nitrobenzol  
 $C_6H_5NO_2$   
 Molecular mass: 123.1



Toxic

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
<b>FIRE</b>	Combustible.	NO open flames.	Powder, water spray, foam, carbon dioxide.
<b>EXPLOSION</b>	Above 88°C explosive vapour/air mixtures may be formed. Risk of fire and explosion.	Above 88°C closed system, ventilation.	

<b>EXPOSURE</b>		STRICT HYGIENE!	
-----------------	--	-----------------	--

<input type="checkbox"/> <b>Inhalation</b>	Convulsions, blue lips or fingernails, blue skin, diarrhoea, headache, lightheadedness, shortness of breath, cold extremities.	Ventilation, local exhaust, or breathing protection.	
--	--	--	--

## International Hazard Datasheets on Occupation



### Scaffold Builder (Construction)

#### What is a Hazard Datasheet on Occupation?

This datasheet is one of the International Datasheets on Occupations. It is intended for those professionally concerned with health and safety at work: occupational physicians and nurses, safety engineers, hygienists, education and Information specialists, inspectors, employers' representatives, workers' representatives, safety officers and other competent persons.

This datasheet lists, in a standard format, different hazards to which scaffold builders (construction) may be exposed in the course of their normal work. This datasheet is a source of information rather than advice. With the knowledge of what causes injuries and diseases, is easier to design and implement suitable measures towards prevention.

This datasheet consists of four pages:

- Page 1: Information on the most relevant hazards related to the occupation.
- Page 2: A more detailed and systematized presentation on the **different hazards** related to the job with indicators for preventive measures (marked as numbered shields and explained on the third page).
- Page 3: Suggestions for **preventive measures** for selected hazards.
- Page 4: **Specialized information**, relevant primarily to occupational safety and health professionals and including information such as a brief job description, a list of tasks, notes and references.

---

#### Who is a scaffold builder?

## International Hazard Datasheets on Occupation



### Alphabetical List of Datasheets

You can also consult the same list ordered by the [Major Groupings of the ILO International Standard Classification of Occupations \(ISCO-88\)](#)

Aid, nursing	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Baker	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Cleaner (industrial premises)	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Cook, ship, merchant marine	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Diver, indigenous fisherman	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Driver, ambulance	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Driver, sales route (food products)	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Driver, truck/heavy	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Dry-cleaner	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Electroplater	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Engineer, ship (machinist)	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Farmer, dairy	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Farm worker, poultry	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Fire-fighter	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>
Glazier	<a href="#">[HTML]</a>	<a href="#">[PDF]</a>



Occupational Safety and Health

- Areas of work
- Sectors and industries
- Knowledge base
  - Standards and other instruments
  - Policy documents
  - Publications and technical tools
  - Training materials
  - Promotional materials
  - Links
- Country profiles
- CIS Network
- Events and training
- Projects

ILO home > About the ILO > How the ILO works > Departments and offices > Occupational Safety and Health > Knowledge base > Promotional materials > e-OSH: Electronic library on occupational safety and health ...

# e-OSH: Electronic library on occupational safety and health

DVD, 2013 edition. Everything you want to know about safety and health at work in two clicks.

Multimedia kit | 19 June 2013

Contact(s): content - safework@ilo.org; to order the DVD - pubvente@ilo.org

Reference: 2227-4340 [ISSN]

e-OSH gives you quick access to the following content:



- Conventions and recommendations
- Codes of practice
- ILO Encyclopaedia
- International Chemical Safety Cards
- OSH Series (e.g. List of occupational diseases (revised 2010), Radiation protection of workers)
- Reports of the World Day and World Congress on Safety and Health at Work
- Training materials and videos



This content is available in [Español](#) [Français](#)

Accessibility icons: A, A+, A++ and icons for Print and Email.

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- System requirements:
- Windows PC (Windows XP and above)
  - DVD Reader
  - Monitor resolution of minimum 1024 x 768
  - Adobe Acrobat Reader
  - Internet browser (Internet Explorer or Firefox or Google Chrome)

Intuitive navigation, user-friendly trilingual interface



## See also

- Databases
- Occupational Safety and Health Thesaurus
  - International Hazard Datasheets on Occupations (HDO) - [pdf 4881KB]
  - CISDOC - archived bibliographic database



## **ILO policy on the improvement of working conditions and environment**

- Work should take place in a safe and healthy working environment;
- Conditions of work should be consistent with workers' well-being and human dignity;
- Work should offer real possibilities for personal achievement, self-fulfilment and service to society.



## Basic principles in occupational safety and health

- Responsibilities of the employer towards the health and safety of the workers in his/her employment;
- Role of the competent authority: national policy, regulation, inspection, enforcement;



## Basic principles in occupational safety and health

- Basic workers' rights: right to know, to participate, to stop work in case of imminent danger, etc.

# ILO Response: 2003 Global OSH Strategy

- Preventative Safety and Health Culture
- Systems approach to OSH



# World Day for Safety and Health at Work



- 28 April every year
- Events at national/enterprise levels
- Theme of the 2013 World Day  
**Prevention of Occupational Diseases**
- Theme of the 2014 World Day  
**Safety and Health in the Use of Chemicals**





## Promotion of Application of OSH Conventions

- C155: Occupational Safety and Health (1981)
- C161: Occupational Health Services (1985)
- C162: Asbestos (1986)
- C167: Safety and Health in Construction (1988)
- C170: Chemicals (1990)
- C174: Prevention of Major Industrial Accidents (1993)
- C176: Safety and Health in Mines (1995)
- C184: Safety and Health in Agriculture (2001)
- P155: Recording and Notification (2002)
- C187: Promotional Framework for OSH (2006)



## **Systems approach to OSH at the national level guided by Convention 187**

- **National OSH policy**
- **National OSH system**
- **National OSH programme**
- **National OSH profile**



# National OSH system

- ✓ OSH legislation
- ✓ Compliance assurance including Inspection
- ✓ National tripartite advisory body on OSH
- ✓ OSH data collection mechanism
- ✓ OSH service network
- ✓ OSH training/information network
- ✓ Arrangement to promote management/worker collaboration at the enterprise level

# Plan of action for C155, P155, C187



1. Promote and support the development of preventative OSH culture
2. Promote and support the ratification and implementation of OSH standards
3. Reducing the implementation gap in respect of ratified Conventions
4. Improving OSH conditions in SMEs and in informal economy
5. Promote and support efforts to increase the impact of C155, P155 and C187





# The eight ILO ACIs

1. Promoting more and better jobs for inclusive growth;
2. Jobs and skills for youth;
3. Creating and extending social protection floors;
4. Productivity and working conditions in SMEs;
5. Promoting decent work in the rural economy;
6. Formalization of the informal economy;
7. Strengthening workplace compliance through labour inspection; and
8. Protecting workers from unacceptable forms of work.

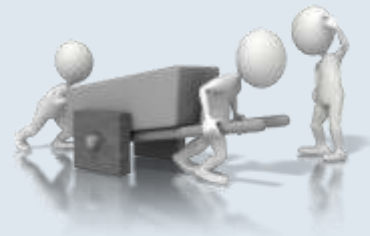
Each of them seeks to respond to situations:

- which are major and topical, affecting large numbers of employers and workers and of high concern in a significant number of countries;
- where the need for change is evident and where the ILO can make a difference; and
- which have been the subject of Conference, Governing Body or Regional Meeting decisions or concerns otherwise expressed by constituents.



## Aim

- ✓ The aim is for the ILO to achieve greater focus and collaborative action on key issues in the world of work.
- ✓ The ACIs will allow for greater teamwork across established ILO structures and promote multidisciplinary inputs on key issues that matter most to Member States.





# Thank you!

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