

▶ ILO OSH Conventions relating to chemical safety



▶ Session objectives

At the end of the session, you will be able to:

1. Understand that the ILO has many different conventions and recommendations relating to chemical safety.
2. Describe key ILO conventions in the area of occupational safety and health (OSH).
3. Explain the two main ILO chemical conventions.
4. List the important functions of other relevant ILO conventions.



▶ Question:

Can you name any key ILO conventions relating to chemical safety?

Introduction

Characteristics of ILO instruments

- ▶ Have their own range of applications
- ▶ Mainly operate in the areas of domestic policy
- ▶ The ILO has a strong and elaborate supervisory system
- ▶ ILO Instruments promote the Sustainable Development Goals (SDGs)

Improving the application of ILO Conventions

- ▶ Implementation
- ▶ Ratification rates



► Categories of key conventions

The ILO has over 40 instruments related to OSH:

► Occupational safety and health conventions

- Occupational Safety and Health Convention, 1981 (No. 155) and Recommendation, 1981 (No. 164)
- Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)
- Occupational Health Services Convention, 1985 (No. 161)

► Chemical safety conventions

- Chemicals Convention, 1990 (No. 170) and Recommendation, 1990 (No. 177)
- Major Industrial Accidents Convention, 1993 (No. 174) and Recommendation, 1993 (No. 181)

► Categories of key conventions

► Other relevant conventions

- Asbestos Convention, 1986 (No. 162) and Recommendation, 1986 (No. 172)
- Working environment (air pollution, noise and vibration) convention, 1977 (No. 148) and recommendation, 1977 (No. 156)
- Radiation Protection Convention, 1960 (No. 115)
- Benzene Convention, 1971 (No. 136) and Recommendation, 1971 (No. 144)
- Occupational Cancer Convention, 1974 (No. 139) and Recommendation, 1974 (No. 147)
- Labour inspection (Agriculture) Convention, 1969 (No.129)
- Safety and health in agriculture convention, 2001 (No. 184) and Recommendation, 2001 (No. 192)
- Safety and health in construction convention, 1988 (No. 167) and Recommendation, 1988 (No. 175)
- Safety and health in mines convention, 1995 (No. 176) and Recommendation, 1995 (No. 183)
- List of Occupational Diseases Recommendation, 2002 (No. 194)

OSH conventions



▶ Occupational Safety and Health Convention, 1981 (No. 155) and Recommendation, 1981 (No. 164)

Applies to all hazards to which workers are exposed and prescribes measures to be taken by governments, employers and workers to prevent hazards to mitigate consequences: Ratified by 69 states (one of the most ratified ILO conventions on OSH).

- ▶ National OSH policy on design, testing, choice, substitution, installation, arrangement, usage and maintenance including chemical substances.
- ▶ Authorities must **determine all hazardous substances**, exposure to which is prohibited, limited or made subject to authorisation.
- ▶ Persons who design, manufacture, import, provide or transfer chemical substances for occupational use must **ensure that these substances do not entail a risk to health and safety** and must make available information and instructions on the correct use of the substances,
- ▶ Employers must ensure that chemical substances under their control are **without risk to health**.

► Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)

Aims to promote continuous improvements to OSH through the development of a national policy, national system and national programme: Ratified by 57 states.

- Formulate a national policy to promote a **safe and health working environment**.
- Develop a national preventative safety and health culture that includes **information, consultation and training**.
- A national system should include **laws and regulations, an authoritative body, mechanisms for ensuring compliance** and the **promotion of cooperation**. It may also include advisory OSH services, OSH training, research and the collection and analysis of data.
- A national programme should promote the development of a national OSH culture and the elimination of hazards and risks, whilst reviewing objectives and targets.

▶ Occupational Health Services Convention, 1985 (No. 161)

Outlines the functions of occupational health services with regard to protecting workers from health hazards in the workplace: Ratified by 35 states.

Functions include:

- ▶ **Identification** and assessment of the risks from health hazards.
- ▶ **Surveillance** of the working environment and working practices.
- ▶ Advice on planning and organisation of work, including **substances used in work**.
- ▶ **Surveillance of workers' health**.
- ▶ Contribution to measures of **vocational rehabilitation**.
- ▶ Collaboration in providing **information, training and education**.
- ▶ Participation in **analysis** of occupational accidents and occupational diseases.



Key chemical conventions

► Preamble of the ILO Chemicals Convention No.170

► *It is essential to prevent or reduce the incidence of chemically induced illnesses and injuries at work.*



▶ **Chemicals Convention, 1990 (No. 170) and Recommendation, 1990 (No. 177)**

The main ILO instruments dealing with chemicals: Ratified by 22 member states.

Adopted in 1990 and among the first international instruments dealing with all major chemical hazards in a comprehensive manner.

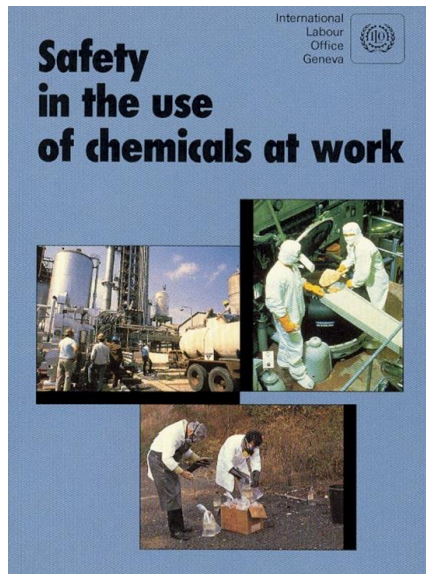
- ▶ Targeted and specific instrument.
- ▶ Provides the basis for the sound management of **all types of chemicals**.
- ▶ Convention No.170 served as the **basis for the negotiation of the Rotterdam Convention**, which was adopted in 1998.
- ▶ Convention No.170 has also been a **basis for the development of GHS**.
- ▶ Complimented by the ILO Code of Practice on the Safety and use of chemicals at work.

▶ Key elements of Convention No. 170

- ▶ Covers **all hazardous chemicals** and take into account **new substances**.
- ▶ Focus on **chemical risks in the workplace**, but also protects the public and the environment.
- ▶ Prescribes the **classification and labelling** of all chemicals by hazards with appropriate information and symbols.
- ▶ Provision of **safety data sheets** for workers on all hazardous chemicals used in their workplace.
- ▶ Obliges ratifying states to implement a general national policy on the **prevention of occupational accidents** and **work-related diseases** caused by chemicals.
- ▶ Defines detailed **responsibilities for employers** regarding assessment of hazards and measures to limit exposure.
- ▶ Approach of **prioritizing prevention** over protection.

▶ Code of Practice: Safety in the use of chemicals at work

- ▶ Classification systems for chemicals
- ▶ Labelling and marking of chemicals
- ▶ Safety Data Sheets (SDS)



- ▶ Duties of employers:
 - Design and installation of workspaces
 - Work systems and practices
 - Personal protection
 - Information and training
 - Maintenance of engineering control measures
 - Monitoring in the workplace
 - Medical and health surveillance
 - Emergency procedures and first aid
 - Investigation and reporting of accidents, occupational diseases and other incidents

▶ Major Industrial Accidents Convention, 1993 (No. 174) and Recommendation, 1993 (No. 181)

Provide for precautionary measures to avoid or minimize the consequences of industrial disasters due to chemicals and other hazardous substances: Ratified by 18 member states.

▶ Provides:

- A systematic and comprehensive model framework for the protection of workers, the public and the environment against **MIA involving hazardous substances**.
- The **mitigation of the consequences of such accidents** where they do occur.

▶ Includes:

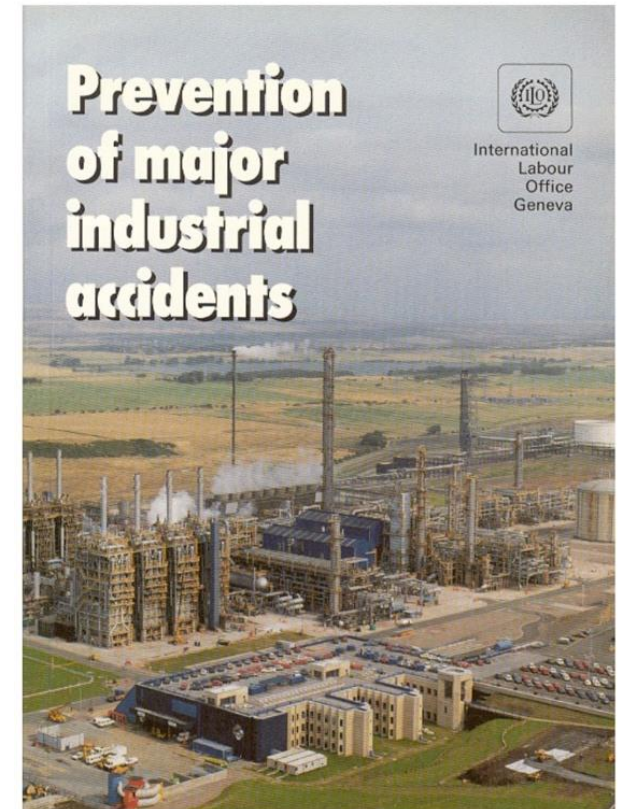
- **Identification of major hazard installations** and their control
 - **Responsibilities** of the employers, competent authorities and the rights and responsibilities of workers.
 - It also defines the responsibilities of exporting States.
- ▶ Recommendation (No. 181) contains further provisions , for example, the international transfer and the rapid compensation of victims of accidents.

▶ Code of Practice: Major Industrial Accidents

Adopted in 1991 prior to the adoption of Convention No. 174 and Recommendation No. 181

Aims to provide guidance for **setting up an administrative, legal and technical system** for the **control of major hazard installations**.

- ▶ Aims to protect workers, the public and the environment by **preventing major accidents** from occurring at these installations.
- ▶ Also, to **minimize the consequences** of a major accident either on- or off-site.
- ▶ Proposes an **appropriate separation** of major hazard installations and housing, as well as other nearby centres of population, such as hospitals, schools and shops.
- ▶ Provides guidance on appropriate **emergency planning**.





Other relevant conventions

▶ **Asbestos Convention, 1986 (No. 162) and Recommendation, 1986 (No. 172)**

Prevention and control of health hazards relating to the use of asbestos: Ratified by 35 member states.

- ▶ **Preventative and control measures** in exposure to asbestos.
- ▶ **Replacement** of asbestos by substitutes and the **prohibition** of certain types of asbestos shall be undertaken.

Recommendation No. 172

Provides guidance on the implementation of provisions from Convention No. 162 and proposes more advanced measures beyond obligations:

- ▶ Additional preventative and protective measures to **limit the exposure** of workers to asbestos.
- ▶ **Supervision** of the health of workers.
- ▶ **Information and education** of workers.

▶ Working environment (air pollution, noise and vibration) Convention, 1977 (No. 148) and Recommendation, 1977 (No. 156)

Covers the contamination of air by all harmful or dangerous substances, including chemicals: Ratified by 46 member states.

General Provisions

- ▶ Ratifying states must adopt regulations prescribing measures to **protect workers from hazards due to air pollution.**
- ▶ Social partners must be involved in drafting, adoption and implementation of the regulations.

Preventative and Protective Measures

- ▶ Authorities must establish and regularly update **criteria for hazards and exposure limits.**
- ▶ Working environments must be kept **free from hazards** as far as possible.

▶ Radiation Protection Convention, 1960 (No. 115) and Recommendation, 1960 (No. 114)

Protection of workers against ionising radiations: Ratified by 50 states.

Protective measures:

- ▶ Restrict worker exposures to the **lowest practical level**.
- ▶ **Maximal permissible doses** should be reviewed.
- ▶ **No worker under the age of 16** should be engaged in work involving ionising radiations.
- ▶ **Warnings** to indicate the presence of hazards from ionising radiations.
- ▶ **Proper instruction on OSH** for workers.
- ▶ **Workplace monitoring** to measure exposure.
- ▶ Regular **medical examinations**.

▶ Benzene Convention, 1971 (No. 136) and Recommendation, 1971 (No. 144)

Protect workers from health hazards arising from exposure to benzene: Ratified by 38 member states.

- ▶ Require the use of **less harmful substitute products** when available.
- ▶ **Prohibition of benzene** use in certain work processes when adequate protection from exposure cannot be provided to workers.

Recommendation No. 144

- ▶ **Further restrictions** on the use of benzene.
- ▶ Additional **technical measures** for the prevention of hazards.
- ▶ **Surveillance** of workers health.
- ▶ **Education** on the risks.

► Occupational Cancer Convention, 1974 (No. 139) and Recommendation, 1974 (No. 147)

Addresses the prevention and control of occupational hazards caused by carcinogenic substances and agents: Ratified by 41 member states.

Reflects the most essential principles on the mitigation of occupational risks related to carcinogenic substances.

- **Replacement** of carcinogenic substance by less dangerous substances.
- Establishment of a list of carcinogens to be **prohibited** or made subject to authorisation or control.
- **Recording of data** concerning exposure and exposed workers.
- **Medical surveillance** and information.
- **Education** on carcinogenic substances, dangers and protections measures.

▶ Labour Inspection (Agriculture) Convention, 1969 (No. 129)

Regarding labour inspection in agriculture: Ratified by 54 states.

Functions:

- ▶ To secure the **enforcement of the legal provisions** related to work and the protection of workers while engaged in their work.
- ▶ To **supply technical information** and advice to employers and workers concerning the most effective means of complying with the legal provisions.
- ▶ To bring to the notice of the competent authority defects or abuses not specifically covered by existing legal provisions and to submit to it proposals on the improvement of laws and regulations.

▶ **Safety and health in agriculture convention, 2001 (No. 184) and recommendation, 2001 (No. 192)**

**Adopted in 2001 addressing numerous aspects of occupational safety and health in agriculture and forestry:
Ratified by 18 member states.**

Includes a section addressing the sound management of chemicals in agriculture, making them relevant to chemical hazards.

- ▶ **Suitable system for the import, classification, packaging and labelling** of chemicals.
- ▶ **Safe collection, recycling and disposal** of chemical waste.
- ▶ Importers, producers or other providers of chemicals must **comply with safety standards and must inform users and the authorities of risks**.
- ▶ Preventative and protective measures for the use of chemicals and the handling of chemical waste at the level of the undertaking, covering the **preparation, handling, application, storage and transportation, maintenance, cleaning and disposal**.

▶ Code of Practice on Occupational Safety and Health in Agriculture and Code of Practice on Safety and Health in Forestry work

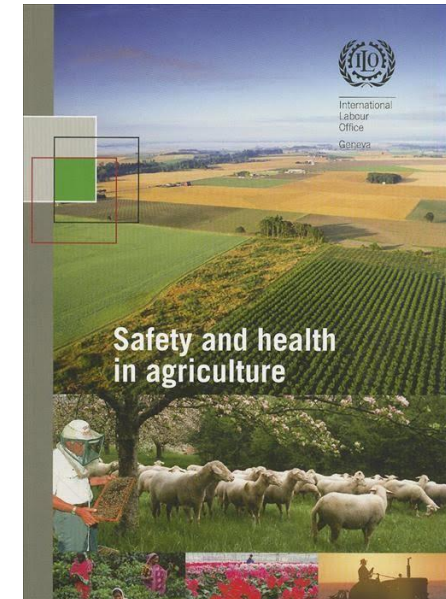
ILO Code of Practice on Occupational Safety and Health in Agriculture

Section on the **safe handling of hazardous chemicals**, such as pesticides.

- ▶ Detailed guidelines on hazard descriptions, control strategies, exposure mitigation, medical surveillance and other issues.

ILO Code of Practice on Safety and Health in Forestry Work

Contains several guidelines on **safety requirements for hazardous chemicals**.



► Safety and health in construction convention, 1988 (No. 167) and recommendation, 1988 (No. 175)

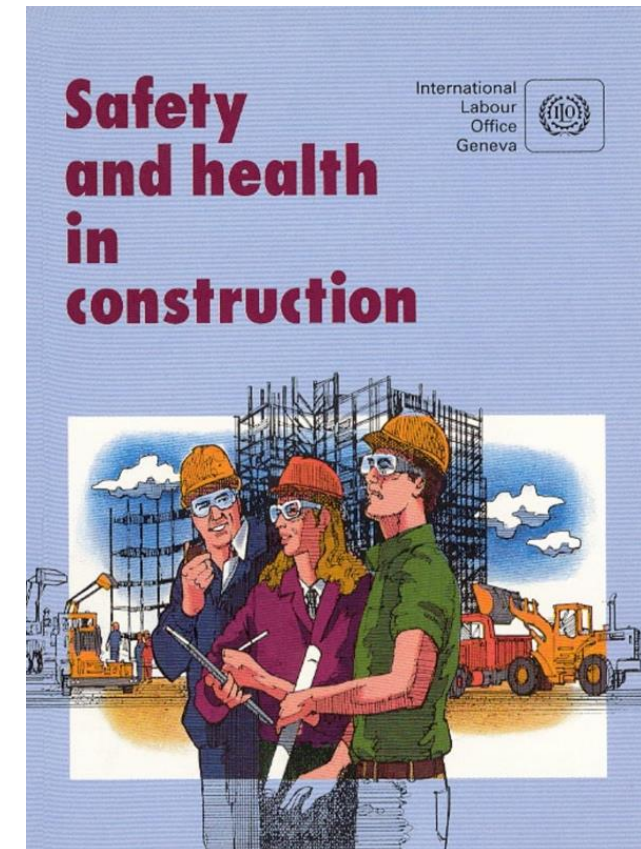
Sectoral OSH instruments addressing numerous aspects of OSH in construction: Ratified by 32 member states.

OSH risks relating to explosives:

- Explosives can only be **handled, transported and stored** by appointed competent persons.
- Appropriate **measures against the exposure** of workers to chemical hazards must be taken, including the **replacement** of hazardous substances with less dangerous substances, **safety precautions** in the event that workers enter areas where toxic chemicals are present.
- Provision of **personal protective equipment**.
- Hazardous waste at a construction site must be disposed of in a manner that presents no risks to safety and health.

▶ Code of Practice on Safety and Health in Construction

- ▶ Contains chapters on explosives and other hazardous substances.
- ▶ Provides detailed guidelines on safety measures to prevent and mitigate risks relating to these substances.



▶ Safety and health in mines convention, 1995 (No. 176) and recommendation, 1995 (No. 183)

Preventative and protective measures for workers in mine: Ratified by 33 member states.

- ▶ Includes provision protecting workers from chemical hazards.
- ▶ Employers must **inform workers of existing chemical hazards** and all relevant preventative and protective measures for these hazards.
- ▶ Take appropriate measures to **eliminate or minimise those hazards.**
- ▶ Provide **free protective equipment** in the event that safety cannot otherwise be ensured.
- ▶ Provision of **first aid, transportation and appropriate access to medical facilities** for workers suffering from injury or illness due to chemical hazards.

▶ Code of Practice on Safety and Health in Opencast Mines and Code of Practice on Safety and Health in Underground Coalmines

Code of Practice on Safety and Health in Opencast Mines

Adopted in 2018

- ▶ Contain detailed guidelines on the safe handling, storage and disposal of chemicals and other hazardous substances used in mines.

Code of practice on Safety and health in underground coalmines

Adopted in 2006

- ▶ Contain detailed guidelines on the safe handling, storage and disposal of chemicals and other hazardous substances used in coalmines.



▶ ILO List of Occupational Diseases, Recommendation (No. 194)

Contains a list of the main diseases that should be qualified as occupational diseases, updated in 2010.

- ▶ Represents **latest worldwide consensus on diseases** which are internationally accepted as caused by work.
- ▶ Determines the **types of diseases for which workers should be compensated** under employment injury schemes.
- ▶ Relevant to chemical risks at work as it mostly covers diseases caused by exposure to hazardous substances.
- ▶ Section No. 1.1 of the Annex lists **40 different chemical substances** and groups of substances of which exposure can cause diseases.

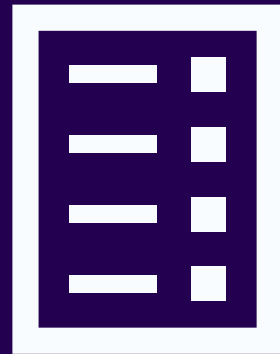
▶ ILO List of Occupational Diseases: Chemicals

- ▶ Beryllium
- ▶ Cadmium
- ▶ Phosphorus
- ▶ Chromium
- ▶ Manganese
- ▶ Arsenic
- ▶ Mercury
- ▶ Lead
- ▶ Fluorine
- ▶ Carbon disulfide
- ▶ Halogen derivatives of aliphatic or aromatic hydrocarbons
- ▶ Benzene
- ▶ Nitro and amino derivatives of benzene
- ▶ Nitroglycerine, nitric acid esters
- ▶ Alcohols, glycols or ketones
- ▶ Asphyxiants
- ▶ Acrylonitrile
- ▶ Oxides of nitrogen
- ▶ Vanadium
- ▶ Antimony
- ▶ Hexane
- ▶ Mineral acids
- ▶ Pharmaceutical agents
- ▶ Nickel
- ▶ Thallium
- ▶ Osmium
- ▶ Selenium
- ▶ Copper
- ▶ Platinum
- ▶ Tin
- ▶ Zinc
- ▶ Phosgene
- ▶ Corneal irritants
- ▶ Ammonia
- ▶ Isocyanates
- ▶ Pesticides
- ▶ Sulphur oxides
- ▶ Organic solvents
- ▶ Latex
- ▶ Chlorine
- ▶ Other chemicals with direct link

▶ ILO List of Occupational Diseases: Diseases caused by chemicals

- ▶ Pneumoconioses
- ▶ Silicotuberculosis
- ▶ Siderosis
- ▶ Bronchopulmonary diseases
- ▶ Asthma
- ▶ Extrinsic allergic alveolitis
- ▶ Chronic obstructive pulmonary disease
- ▶ Diseases of the lung caused by aluminium
- ▶ Upper airways disorders
- ▶ Allergic contact dermatoses
- ▶ Irritant contact dermatoses
- ▶ Cancer caused by chemical agents

End of session activity



Quiz and word search

Quiz

1. Which are the 2 main ILO chemicals conventions?
2. Can you name a convention related to a specific solvent?
3. Which convention, relating to a specific chemical, aims to help construction workers?
4. Can you name another convention for the construction industry?
5. Which convention is related to the most common occupational disease?
6. Which are the two conventions which are important to the agricultural sector?
7. Can you name of the OSH conventions?
8. Name 10 chemicals on the ILO List of Occupational Diseases
9. Name 2 diseases caused by chemical in the ILO List of Occupational Diseases.

▶ ILO List of Occupational Diseases word search

How many diseases and chemicals can you find in the word search puzzle on the next slide?

ILO List of Occupational Diseases word search

	Q	W	E	R	T	Y	N	I	T	R	I	C	A	C	I	D	O	L	
	B	A	L	L	T	I	C	E	R	I	D	H	A	D	A	N	I	N	
	C	A	D	M	I	U	M	P	O	P	A	L	A	Z	O	R	I	D	
	H	A	T	A	N	A	T	Y	A	M	M	O	N	I	A	Q	W	A	
	R	A	B	I	T	B	P	O	R	T	O	R	I	N	S	A	I	L	
	O	R	A	N	G	E	P	O	S	T	A	I	N	T	T	E	O	V	
	M	A	N	G	A	N	E	S	E	P	O	N	I	U	H	Y	T	E	
	I	T	I	N	I	Z	E	A	N	E	R	E	R	T	M	Y	U	O	
	U	A	T	I	B	E	L	L	I	N	M	Z	X	C	A	C	Z	L	
	M	S	R	D	A	N	V	B	C	Q	W	E	P	R	T	Y	U	I	
	I	G	O	E	B	E	L	A	S	D	C	A	N	C	E	R	T	T	
	N	H	G	D	U	Y	A	O	L	P	H	G	E	N	M	N	O	I	
	S	I	L	I	C	O	T	U	B	E	R	C	U	L	O	S	I	S	
	G	U	Y	N	T	L	E	T	Y	S	A	S	M	T	B	I	T	T	
	N	I	C	K	E	L	X	A	B	T	N	A	O	T	Y	D	L	Y	
	U	N	E	O	O	A	Q	A	N	I	M	D	C	H	L	E	A	D	
	I	A	R	N	N	S	T	Y	G	C	N	A	O	B	A	R	T	S	
	O	Z	I	N	C	D	A	S	D	I	A	D	N	T	R	O	N	B	
	P	O	N	Y	K	F	N	A	T	D	A	S	I	H	A	S	O	N	
	D	M	E	R	C	U	R	Y	M	E	B	N	O	T	Y	I	G	T	
	A	A	T	D	A	G	H	A	O	S	H	T	S	Y	I	S	O	O	
	U	B	T	A	D	H	B	N	M	Z	C	T	E	B	H	Y	N	M	
	X	V	Q	D	E	S	O	L	V	E	N	T	S	V	B	N	M	C	

Key ILO resources

- ▶ [Occupational Safety and Health Convention, 1981 \(No.155\) and Recommendation, 1981 \(No. 164\).](#)
- ▶ [Promotional Framework for Occupational Safety and Health Convention, 2006 \(No. 187\).](#)
- ▶ [Occupational Health Services Convention, 1985 \(No. 161\).](#)
- ▶ [All You Need to Know: Convention No. 170.](#)
- ▶ [Chemicals Convention, 1990 \(No. 170\) and Recommendation, 1990 \(No. 177\).](#)
- ▶ [Prevention of Major Industrial Accidents Convention, 1993 \(No. 174\) and Recommendation, 1993 \(No. 181\).](#)
- ▶ [Asbestos Convention, 1986 \(No. 162\) and Recommendation, 1986 \(No. 172\).](#)
- ▶ [Working Environment Convention, 1977 \(No. 148\) and Recommendation, 1977 \(No. 156\).](#)

Key ILO resources

- ▶ [Radiation Protection Convention, 1960 \(No. 115\).](#)
- ▶ [Benzene Convention, 1971 \(No. 136\) and Recommendation, 1971 \(No. 144\).](#)
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- ▶ [Safety and Health in Mines Convention, 1995 \(No. 176\) and Recommendation, 1995 \(No. 183\).](#)
- ▶ [List of Occupational Diseases Recommendation, 2002 \(No. 194\).](#)