



نظام الشارقة للسلامة والصحة المهنية  
Occupational Safety & Health Sharjah

حكومة الشارقة  
هيئة الوقاية والسلامة  
Government of Sharjah  
Prevention And Safety Authority



## Code of Practice

# Management of Hazardous Substances

OSHJ-Cop-11

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## 1 Introduction

Hazardous substances are substances that have the potential to harm to people, animals and the environment. They can also cause major damage to property and assets. This can be the result of the hazardous substances interaction with other factors or its own properties. A hazardous substance is any substance that has one or more of the following inherent hazardous properties:

- Flammability;
- Explosiveness;
- Toxicity;
- Oxidising;
- Corrosiveness;
- Sensitising agents;
- Carcinogens.

## 2 Purpose and Scope

This Code of Practice (CoP) has been developed to provide information to entities to assist them in complying with the requirements of the Occupational Safety and Health System in Sharjah.

This Code of Practice (CoP) defines the minimum acceptable requirements of the Occupational Safety and Health System in Sharjah, and entities can apply practices higher than, but not lower than those mentioned in this document, as they demonstrate the lowest acceptable level of compliance in the Emirate of Sharjah.

## 3 Definitions and Abbreviations

<b>Entities:</b>	Government Entities: Government departments, authorities or establishments and the like in the Emirate.  Private Entities: Establishments, companies, enterprises and economic activities operating in the Emirate in general.
<b>Risk:</b>	Is the combination of likelihood of the hazard causing the loss and the severity of that loss (consequences).
<b>Risk Assessment:</b>	The systematic identification of workplace hazards and evaluation of the risks associated. This process takes existing control measures into account and identifies and recommends further control measures where required.
<b>Hazard:</b>	Anything that has the potential to cause harm or loss (injury, disease, ill-health, property damage etc).
<b>Hazardous Substance:</b>	A hazardous substance is any substance that has one or more inherent hazardous properties. This includes flammability, explosiveness, toxicity, or the ability to oxidise.



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<b>Competence:</b>	The combination of training, skills, experience and knowledge that a person has and their ability to apply all of them to perform their work.
<b>SDS:</b>	Safety Data Sheets.
<b>GHS:</b>	Globally Harmonized System of Classification and Labelling of Chemicals.
<b>Workplace Exposure Limit:</b>	Is the legal limit for any toxin or substance that may have adverse health effects.
<b>Health Surveillance:</b>	Any activity that involves gathering information about an employees' health to help protect them from health risks at work.

## 4 Roles and Responsibilities

### 4.1 Employer Responsibilities

- Ensure that prohibited hazardous substances are not imported, produced, stored or used;
- Eliminate or reduce risks associated with the use of hazardous substances as far as is reasonably practicable;
- Identify all foreseeable hazards involving use hazardous substances, these hazards shall be recorded;
- Ensure all foreseen hazards are risk assessed and effective control measures identified;
- Ensure resources are available to implement adequate control measures required for the use hazardous substances;
- Ensure health issues related to the use hazardous substances are identified and adequately managed;
- Provide a copy of the current manufacturer's or importer's Safety Data Sheet (SDS) for all hazardous substances supplied to the workplace and ensure that employees have access to them;
- Ensure all containers of hazardous substances supplied are labelled with the manufacturer's or importing supplier's label;
- Ensure decanted or transferred hazardous substances are labelled;
- Ensure hazardous substances in systems/pipework are identified and labelled;
- Establish a register of hazardous substances;
- Identify containers of waste hazardous substances;
- Consult with employees;
- Where required, monitoring exposure and health surveillance;

- Provide employees with information, instruction, supervision and training;
- Have adequate emergency preparedness and response procedures in place.

## 4.2 Employee Responsibilities

- Not endanger themselves or others;
- Those involved in the manufacturing, transport, use, storage and disposal of hazardous substances use and understand the contents of safety data sheets and report any accidental exposure or release of hazardous substances;
- Follow precautionary control measures to ensure work activities are performed safely;
- Cooperate with the entity and receive safety information, instruction, supervision and training.

## 5 Requirements

The entity shall ensure that work involving hazardous substances is planned, assessed, appropriately supervised and carried out in a manner which ensures the safety and health of employees and others.

The entity shall comply with:

- Federal Law No. (24) of 1999 for the Protection and Development of the Environment;
- Federal Regulations for Handling Hazardous Materials and Medical Wastes, issued by Cabinet Decree No. 37 of 2001;
- Any other Federal and Local Laws and other applicable regulations.

### 5.1 Planning

The entity shall ensure that a process is in place to manage hazardous substances and that key personnel such as those users of the hazardous substances, managers and procurement are involved in the management of hazardous substances.

Planning shall consist of the following factors, including but not limited to:

- Identification of hazardous substances being used and stored at the workplace;
- Reviewing SDS and labels to check which substances are hazardous;
- Establish and maintaining a hazardous substances register;
- Provision of SDS to all relevant employees;
- The provision of information, instruction, supervision and training for the employees;
- Procedures to ensure containers, packages, and systems are adequately labelled or identified;
- Assess risks to people, property and the environment;
- Safety control measures are implemented where required;

- A process to manage employees exposure to hazardous substances, if required including monitoring exposure and/or health surveillance;
- Document activities, where required;
- Engagement of specialists, where necessary.

## 5.2 Risk Assessment

The entity shall assess the risks associated with hazardous materials and take all reasonably practicable precautions to ensure the safety and health of employees and others who could be affected by the work activities.

The risk assessment shall take into consideration of the following factors, including but not limited to:

- The hazardous properties of the substance;
- How is the substance going to cause harm;
- Information on health effects provided by the supplier, including information contained in any relevant SDS;
- The level, type and duration of exposure;
- How employees could be exposed through:
  - Absorption;
  - Inhalation;
  - Ingestion;
  - Injection.
- The circumstances of the work, including the amount of the substance involved;
- Any relevant occupational exposure standard, maximum exposure limit or similar occupational exposure limit;
- The effect of preventive and control measures which have been or will be taken;
- The results of relevant health surveillance;
- The results of monitoring of exposure;
- Where the work will involve exposure to more than one substance hazardous to health, the risk presented by exposure to these substances in combination;
- The approved classification of any biological agent;
- Any additional information the entity may need in order to complete the risk assessment;
- Information, instruction, supervision and training;
- Provision of personal protective equipment;

- Emergency procedures and response.

Further information on risk assessment can be found in OSHJ-CoP-01: Risk Management and Control.

### 5.3 Manufacturers of Hazardous Substances

An entity that manufactures hazardous substances shall ensure the following, including but not limited to:

- Determine if substances manufactured are hazardous substances;
- Ensure hazardous substances classification follows the Globally Harmonised System of Classification and Labelling of Chemicals;
- Ensure SDS and labels follow the Globally Harmonised System of Classification and Labelling of Chemicals;
- Provide SDS for substances classified as hazardous substances;
- Provide containers or bulk packaging with suitable labelling for substances classified as hazardous substances, including appropriate safety warnings;
- Periodically review and revise SDS to ensure accuracy of information;
- Provide a current SDS to any entity the substance is supplied to.

### 5.4 Importers and Suppliers of Hazardous Substances

An entity that imports and/or supplies hazardous substances shall ensure the following, including but not limited to:

- Not import or supply any restricted substances, without approvals from relevant authorities and obtaining an import permit;
- Not store, transport, handle, supply or dispose of any hazardous substances unless it has been appropriately packaged, labelled and accompanied by a current SDS;
- Containers in which hazardous substances are supplied are labelled with the manufacturer's or importer's label, including appropriate safety warnings;
- Provide a current SDS to the entity the substance is supplied to;
- Disclose the ingredients of hazardous substances and any other relevant information requested by medical practitioners, emergency responders and relevant authorities;
- Maintain appropriate inventory records.

### 5.5 Transportation of Hazardous Substances

An entity that transports hazardous substances shall ensure the following, including but not limited to:

- The use of compatible and appropriately labelled containers, packages, vehicles or tankers;

- The use of appropriate vehicles, containers, tankers according to the classification of the hazardous substances;
- Display certain safety information about the goods on the vehicle, container or tanker;
- Ensure vehicles, containers, tankers are adequately maintained and serviced as per the manufacturers' recommendations;
- Ensure vehicles, containers, tankers are driven by competent drivers;
- Ensure vehicles, containers, tankers are equipped with appropriate firefighting and first aid equipment and that drivers are trained on how to use them;
- Follow safety procedures when substances are being loaded and unloaded.

## 5.6 Storage of Hazardous Substances

The entity shall ensure hazardous substances are stored safely, including but not limited to:

- Provision of a map or plan of the storage areas showing the locations of hazardous substances;
- Provision of an evacuation plan prominently displayed in storage areas displaying the location of firefighting and first aid equipment and the emergency evacuation routes;
- Safe access and egress for the placing of hazardous substances into and from the storage area;
- Separate storage areas to segregate incompatible hazardous substances;
- Ensure hazardous substances, when not in use, are stored in a secure area with containment bunding of 110% of the storage capacity;
- Maintain an accurate inventory of substances and maintain appropriate records, including:
  - The name of the hazardous substance;
  - The manufacturer;
  - The location;
  - The quantity of hazardous substances stored.
- Provide copies of up to date SDS and make available to employees in relevant languages at storage areas for all the hazardous substances stored;
- Ensure the storage area is adequately ventilated to prevent accumulation of flammable vapours;
- Ensure emergency procedures are in place to deal with spills, accidental release, fire and explosion.

## 5.7 Use of Hazardous Substances

The entity shall ensure employees using hazardous substances use safe systems of work to reduce exposure to hazardous substances, including but not limited to:



- Obtain information about the substance to assess and classify the physical, biological, physical and other hazards;
- Avoid mixing incompatible substances;
- Provision of access to the SDS in the relevant languages;
- Use compatible containers which are labelled to clearly identify the contents;
- Arrangements to prevent build up of static electricity, occurrence of sparks and the potential for fire and explosion;
- Arrangements for grounding or bonding of flammable material containers;
- The provision of detectors, alarms or tests to establish the presence of flammable or toxic mixtures in air;
- Ensure an emergency plan is in place;
- Wear suitable personal protective equipment;
- Any other control measure identified in the risk assessment.

## 5.8 Disposal of Hazardous Substances

The entity shall ensure that the disposal of hazardous substances and hazardous waste follows the requirements of Federal and Local Laws and other applicable regulations.

The entity shall engage a hazardous waste collection and transportation entity which is licenced and authorised by the relevant authority to collect and transport hazardous waste for further processing and its eventual final disposal.

Further information on waste management can be found in OSHJ-CoP-19: Waste Management.

## 5.9 Workplace Exposure Limit

The workplace exposure limit is the legal limit for any toxin or substance that may have adverse health effects.

The workplace exposure limits for hazardous substances can be found in **Appendix 1 – Workplace Exposure Limits**.

## 5.10 Monitoring Exposure

The entity shall ensure they monitor exposure to employees to assess if employees are potentially being exposed to a health hazard above the workplace exposure limit, and/or to detect whether the measures in place to control exposure to that hazard are working. It includes monitoring the conditions at the workplace, as well as biological monitoring of employees in the workplace.

Where required, the entity shall provide employees with personal monitoring equipment to wear as they conduct their work. Monitoring exposure includes monitoring the air an employee breathes to check how much of a substance they are inhaling, testing employee's bodily fluids for the presence of a harmful substance or the by-products of hazardous substances.

Due to the long period between exposure to a health hazard and harm occurring, the entity shall not rely solely on health monitoring. The combination of monitoring exposure and health surveillance shall be used where identified by risk assessment and/or exposure monitoring.

### 5.11 Health Surveillance

The entity shall ensure health surveillance is undertaken where the risk assessment and/or exposure monitoring have been undertaken to assess the extent of exposure. The entity shall consider health surveillance after all other control measures have been implemented to control exposure to an acceptable level.

Health surveillance shall be implemented where:

- There is a risk to the health of employees who have exceed the workplace exposure limit;
- Those employees are likely to be exposed to hazardous substances at or above the workplace exposure limit;
- The entity shall ensure that those employees are placed under suitable health surveillance, where appropriate.

Health surveillance will be appropriate if:

- A link can be established between the workplace exposure limit to a hazardous substance or any other adverse effect on health;
- It is probable that the exposure to hazardous substances or other effect on health may occur during specific working conditions;
- There are valid ways of detecting hazardous substances or other effect on health.

The entity shall:

- Ensure that a record is kept and maintained for each employee who undergoes health surveillance and that records are readily available in a suitable form;
- Allow employees to see their health surveillance records upon being given reasonable notice.

Where, as a result of health surveillance, an employee is found to have been exposed to hazardous substances or other adverse effect on health, which is considered by a medical professional to be the result of exposure to hazardous substances, the entity shall ensure the following, including but not limited to:

- That the employee is informed by a suitably qualified person, including advice regarding a need for further health surveillance and medical screening/examination, if required;
- That the employee is informed of any significant findings of the health surveillance, allowing for medical confidentiality;
- Review the risk assessment;
- Review existing control measures, taking into account any advice given by a medical professional;

- Consider reassigning the employee to other work where there is no risk from further exposure, taking into account any advice given as above;
- That the health of any other employee/s who has been similarly exposed is reviewed, including the provision of a medical examination when recommended by a medical professional.

The frequency of health surveillance will depend on the results of the risk assessment and the type of safety measures implemented.

Where safety measures are fully implemented and are demonstrated to be highly effective in controlling risks to health and ensuring that there is no likelihood of health effects, then health surveillance will not be required.

## 5.12 Documentation and Records

The entity shall record how hazardous substances are managed in the workplace and include resources, procedures, records and any checklists used. The entity shall ensure that they maintain an accurate inventory of substances and maintain appropriate records, including but not limited to:

- Import licences and approvals from relevant authorities;
- The name of the hazardous substance;
- The manufacturer;
- The location;
- The quantity of hazardous substances stored;
- SDS for each hazardous substance.

The documentation ensures that there is a systematic and consistent way of managing the use of hazardous substances even if there are changes in personnel. It can also form the basis for training employees and for continuous improvement.

## 5.13 Personal Protective Equipment

So far as is reasonably practicable the entity shall ensure that work activities involving hazardous substances have implemented all available control measures prior to considering the need for personal protective equipment.

A risk assessment of the workplace shall be conducted to decide what personal protective equipment should be issued. In deciding which type to issue, the entity must take into account the risk that the personal protective equipment will fit the wearer and allow them to work comfortably. If more than one task is to be performed, the entity shall ensure that the personal protective equipment is compatible and of use for every task that is to be undertaken.

Employees shall be provided with the personal protective equipment identified in the task specific risk assessment and ensure that it is:

- Suitable for the use for which it is provided;
- Maintained in a condition suitable for that use;
- Used properly.

Specific personal protective equipment that could be selected for work activities involving hazardous substances, including but not limited to:

- Safety helmets;
- Safety glasses;
- Respiratory protection;
- Gloves;
- Rubber or plastic aprons;
- Suitable coveralls;
- Suitable safety footwear.

Further information on the maintenance and storage of personal protective equipment can be found in OSHJ-GL-07: Personal Protective Equipment.

## 6 Training and Competence

Work activities which are liable to expose employees to substances hazardous to health shall be provided with adequate information, instruction, supervision and training.

The entity shall provide employees with training in languages and in a format that employees understand, including but not limited to:

- The appropriate safety measures that are in place and how to use them correctly;
- How to read chemical labels and SDS;
- How hazardous substances can contact and enter the body;
- The possible health effects of hazardous substances;
- The significant findings of risk assessments;
- Details of the substances hazardous to health to which employees are liable to be exposed including:
  - The names of those substances and the risk which they present to health;
  - Any relevant occupational exposure standard, maximum exposure limit or similar occupational exposure limit, access to any relevant safety data sheet;
  - Other legislative provisions which concern the hazardous properties of those substances.
- How to report a leak, spill or uncontrolled release of a substance;
- How to choose, wear and use personal protective equipment;
- Emergency and first aid procedures.

The type and level of information, instruction, supervision and training will depend on the risks present, work activities being conducted and the skills, knowledge, experience and literacy of the people to be trained.

Periodic refresher training shall be conducted to ensure employees competency is maintained, including but not limited to:

- Where training certification has expired;
- Where identified as part of a training needs analysis;
- Where risk assessment findings identify training as a measure to control risks;
- Where there is a change in legal requirements;
- Where incident investigation findings recommend refresher training.

The entity must record and maintain accurate training records of OSH training provided to employees.

Further information on training can be found in OSHJ-GL-26: Training and Competence.

## **7 Emergency Preparedness and Response**

The entity shall be prepared for emergencies and have an emergency plan detailing the procedures and the actions the entity will take in an emergency. The manufacture, import, supply, transport, storage, use and disposal of hazardous substances require the entity to have a robust plan to deal with emergencies.

The entity shall ensure:

- The provision of spill kits and containment measures to prevent hazardous substances reaching ground water, sewage system or municipality water drainage system;
- Provision for decontamination of hazardous substances within the workplace and safe disposal of waste;
- Warning signs with information on what to do in an emergency are clearly and prominently displayed in Arabic, English and any other relevant language;
- Emergency response personnel are available who can take charge and make decisions on behalf of the entity during an emergency and liaise with emergency services;
- Emergency response personnel are available who are familiar with the work area ensuring the prompt evacuation of the workplace in the event of a fire;
- Adequate firefighting and first aid equipment is available for the identified hazardous substances;
- Employees are trained in emergency response, including information of first aid arrangements and where first-aiders, first aid equipment and facilities are located;
- Employees are appointed as first-aiders and available at each location and each working shift.

Further information on first aid can be found in OSHJ-CoP-16: First Aid at Work.

Further information on developing an emergency plan can be found in OSHJ-CoP-18: Emergency Preparedness and Response.

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## 8 References

OSHJ-CoP-01: Risk Management and Control

OSHJ-CoP-16: First Aid at Work

OSHJ-CoP-18: Emergency Preparedness and Response

OSHJ-CoP-19: Waste Management

OSHJ-GL-07: Personal Protective Equipment

OSHJ-GL-26: Training and Competence

## 9 Document Amendment Record

<b>TITLE</b>	Management of Hazardous Substances		
<b>DOCUMENT AMENDMENT RECORD</b>			
<b>Version</b>	<b>Revision Date</b>	<b>Amendment Details</b>	<b>Pages Affected</b>
1	15 SEP 2021	New Document	N/A

## **APPENDIX 1. Workplace Exposure Limits**





### Appendix 1: Workplace Exposure Limits

Name of Substance	Workplace Exposure Limit
Ammonia	100 parts per million
Lacy acetate or Butyl	400 parts per million
Carbon disulphide	10 parts per million
Carbon monoxide	100 parts per million
Carbon tetrachloride	100 parts per million
Chlorine gas	1 part per million
Diphenyl Chlorine	0.5mm per cubic metre
Ethylene	5 parts per million
Arsine	0.05 parts per million
Naphthalene tetrachloride	5 mg per cubic metre
Chromic acid	0.10 mg per cubic metre
Benzine dichloride	76 parts per million
Ethyl dichloride	15 parts per million
Ether	400 parts per million
Ethylene dichloride	200 parts per million
Gasoline	500 parts per million
Chloride acid	10 parts per million
Hydrogen Cyanide	10 parts per million
Formalin	20 parts per million
Fluoridate acid	2.5 parts per million
Hydrogen sulphide	20 parts per million
Lead	0.2 mg per cubic metre
Mercury	0.1 mg per cubic metre
Methanol	200 parts per million
Benzene monochloride	75 parts per million
Nitrobenzene	1 part per million



Name of Substance	Workplace Exposure Limit
Nitrogen oxide	5 parts per million
Nitrogen	1 part per million
Phosgene	1 part per million
Sulphur dioxide	5 parts per million
Phosphine	0.5 parts per million
Tetra chloro apsheline	5 parts per million
Toluene	100 parts per million
Trientine	250 parts per million
Coal tar naphthalene	200 parts per million
Zinc oxide fumes	0.15 mg per cubic metre
Ethylene dichloride	200 mg per cubic metre
Ethylene tetrachloride	50 mg per cubic metre
Silica parts	150 million silica bodies per cubic metre
Asbestos (all types)	5 parts per cubic centimetre (part length more the 5 micrometre)