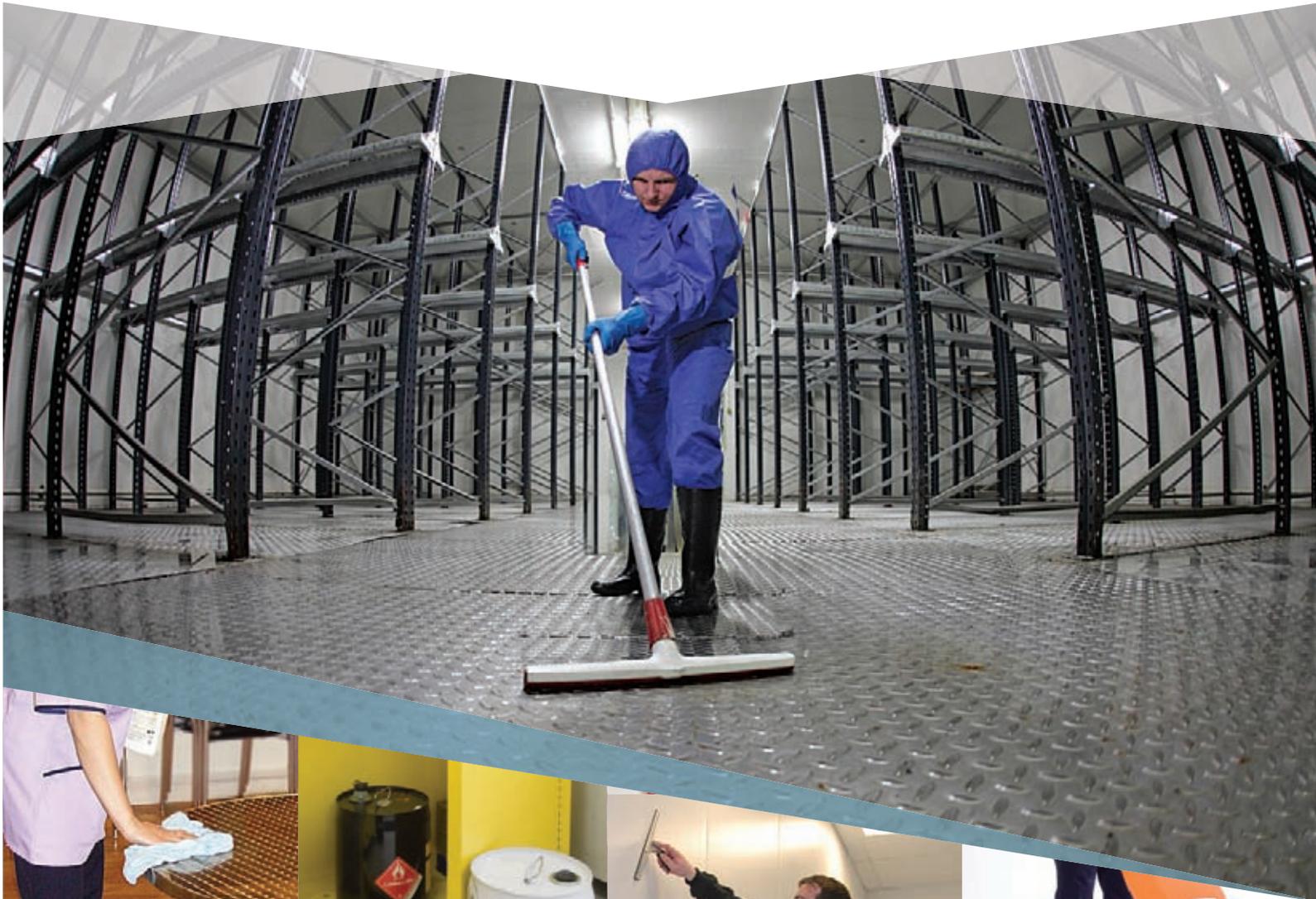


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HEALTH AND SAFETY  
AUTHORITY



# Safety in Contract Cleaning

Chemical and Biological Safety Guidance for  
Employers and Employees

Our vision:

A country where  
worker safety, health  
and welfare and the safe  
management of chemicals  
are central to successful  
enterprise

### This guidance document provides information in relation to chemical and biological safety with respect to those working in Contract Cleaning



Cleaners are employed in many different types of workplaces, including schools, offices, factories, hospitals, health care facilities and retail outlets. Cleaners employed by private contractors are likely to work in a variety of workplaces, while in-house cleaners usually work in the same environment.

Cleaning staff are often employed in workplaces that have been planned with other workers in mind. Therefore it is important that a risk assessment is completed to identify any hazards which the cleaner may come in contact with in the workplace, and steps should be taken to minimise or reduce the risks from those hazards.

*Cleaners may be exposed to many different types of hazards in the workplace such as;*

- Chemicals
- Biological hazards
- Manual handling
- Lone Working
- Confined Spaces
- Slips, trips and falls
- Machinery hazards
- Fire and Electricity

This guidance document will focus on the chemical and biological hazards that cleaners may encounter and recommended control measures to control those hazards, for both employers and employees.





## What are the chemical hazards in Contract Cleaning?

Many different products are used in cleaning companies. The cleaning products chosen depend on the product to be cleaned. Most cleaning products are made up of the following:

- Acids and bases such as hydrochloric acid, sulfamic acid, formic acid, sodium hydroxide, and ammonium hydroxide are found in cleaning products for bathrooms and in products to remove lime, concrete, and cement. They can cause irritation and severe burns of the skin, eyes and respiratory system if their fumes are inhaled.
- Organic solvents and detergents such as white spirits, turpentine, acetone, aromatic hydrocarbons, and alcohol may be found in degreasing products used on floors and other surfaces. These can cause irritation of the skin, respiratory system (through inhalation of vapours), and a toxic effect on the nervous system, brain, kidneys, and liver.
- Disinfectants such as formaldehyde, glyoxal, and quaternary ammonium compounds can cause allergic reactions and burns to the skin and mucous membranes.
- Fragrances and colouring agents found in many types of product can cause allergic reactions.

## What protective measures should be taken when working with chemicals?

### Risk Assessments

A risk assessment should be completed for each place of work prior to the worker commencing cleaning activities there. This should take account of any hazards which the worker may be exposed to in the course of their duties e.g. lone working, machinery, manual handling, fire safety, chemical and biological safety. The workplace should also make available their own risk assessment to the cleaning staff to ensure that they are made aware of any other hazards and precautions which should be taken whilst working at that place of work.



### Safety Data Sheets (SDS)

Safety Data Sheets should be available for all hazardous chemicals used by cleaning staff. The chemical supplier or manufacturer is responsible for providing this. The Safety Data Sheet should be in English and should be easily accessible to the worker. Information in the SDS should be used to make workers aware what hazards are present in the chemicals being handled and how to protect themselves whilst handling it e.g. safety gloves may be required if the chemical is an irritant or corrosive. For more information on SDS's refer to the 'Safety Data Sheets for Hazardous Chemicals Information Sheet' which can be downloaded for free from the publications section on [www.hsa.ie](http://www.hsa.ie).

**Note: Employers should substitute hazardous substances with less hazardous substances, where practicable**

### Labels on Chemical Containers

The hazard classification information provided on the label of the chemical provides some information on the hazards and precautions to take when using the product. More detailed information is provided in the Safety Data Sheet (SDS). All substances must be labelled according to the Classification Labelling and Packaging (CLP) Regulations i.e. hazard pictogram, hazard classification, hazard phrase, precautionary statements. Training should be provided to cleaning workers on understanding the danger symbols, now called hazard pictograms on the label and SDS and the safety advice for each chemical handled.



### Storage of Chemicals

It is useful to keep an inventory or list of all chemicals used in the workplace. This helps to keep track of what is in stock, and may also be used to identify out of date or un-used chemicals. Any un-used chemicals should be disposed of safely. Chemicals should be stored in a safe and secure location. Cleaning workers often have a central storage depot where all products are stored and where they collect their cleaning chemicals and equipment needed. Chemicals should be stored in a tidy manner and separated according to their hazard classification i.e. chemicals labelled as flammables should be stored separately from chemicals labelled as oxidisers.



### Diluting Chemicals

Diluting chemicals can create risks if too little or too much of the chemical is used. The manufacturer's instructions should be followed closely. The use of pre-measured chemicals or measuring devices which remove the need for the worker to measure amounts at each time of use can be useful to reduce the risk of waste and of accidents.

### Incompatible Chemicals

Some chemicals should never be mixed. This information is contained in the Safety Data Sheet. For example bleach contains sodium hypochlorite, a chemical which can cause skin and respiratory damage. This should not come in contact with ammonia or with toilet cleaners or drain cleaners as a harmful gas can be created which can cause severe health affects.

### Training and Awareness

The level of training that workers receive varies from company to company. Some companies develop their own procedures and train staff internally using their own training programmes. The Quality and Qualifications Ireland (QQI) which incorporates the Further Education and Training Awards Council (FETAC) awards also has some courses which are relevant to cleaning. Refer to [www.fetac.ie](http://www.fetac.ie). Accredited training courses are also available from the British Institute of Cleaning Science (BICSc). Refer to [www.bics.org.uk](http://www.bics.org.uk).

## What are the biological hazards in Contract Cleaning?

Sources of biological hazards may occur through contact with bacteria, viruses, insects, animals, and humans. These sources can cause a variety of health effects ranging from skin irritation and allergies to more serious infections.



### Needle stick injuries

Cleaners are at risk from needle stick or sharp injuries. Sharps injuries in the healthcare setting may result in the transmission of blood borne viruses (BBVs) such as hepatitis B (HBV) hepatitis C (HCV) or Human Immune Deficiency Virus (HIV).

If working in areas where needles or syringes may be present, workers should ensure that a risk assessment is completed in advance of the work being done, suitable gloves are worn, sharps containers are used for the storage of discarded sharps and that good hand hygiene is practised.

### Weil's disease (Leptospirosis)

Exposure to mouse or rat urine in sewers can occur via drains or contaminated river/sewer water. Workers working on or near drains could be exposed. They should exercise good personal hygiene by either washing their hands or wearing gloves especially in instances of broken or damaged skin.

Employees should also check for visible evidence of the presence of rodents i.e. droppings prior to carrying out the work. Early symptoms of Weil's Disease are non-specific (flu like) and may be misdiagnosed as a result.

### Legionnaire's disease (Legionella)

Some people can be infected with the Legionella bacteria and have only mild symptoms or no illness at all. Legionnaire's disease occurs in temperatures between 25 and 45 °C with an optimum around 35 °C. Infection normally occurs after inhaling an aerosol (fine airborne particles) containing Legionella bacteria. Such particles could originate from any infected water source. Infected water sources are areas of standing stagnant water, such as air-conditioning units, water towers, water standpipes, fire hose reels.

Workers involved in cleaning of leisure centres, spa's , jacuzzi's or shower heads may be exposed by inhaling small droplets of water, suspended in the air, containing the bacteria.

#### *Symptoms include :*

- |   |                     |  |
|---|---------------------|--|
| 1. Fever  | 4. Muscle aches     | 8. Loss of coordination (ataxia)       |
| 2. Chills   | 5. Headache         | 9. Occasionally diarrhoea and vomiting |
| 3. Cough, which may be dry or may produce sputum. | 6. Lethargy         |  |
|   | 7. Loss of appetite |  |

A risk assessment from the workplace should be available outlining what measures are in place to manage and prevent the risk from legionnaire's disease. This should be made available to the worker in advance of any cleaning activities.

## Asbestos

Cleaning employees should be aware of the possible risk of exposure to asbestos. Any building which has the risk of asbestos should have an asbestos survey completed and a subsequent risk assessment identifying the locations, type and safe management of the asbestos. Cleaning workers as a rule will not be exposed to asbestos risks as it is only a risk once it is disturbed however they should be made aware of presence of asbestos containing materials (ACM's) in their workplaces.

There are 3 types of asbestos

1. Chrysotile (White Asbestos)
2. Amosite (Brown Asbestos)
3. Crocidolite (Blue Asbestos)

Asbestos in Buildings may be contained in:

- Sprayed Insulation ( found on pipework)
- Ceiling and Floor Tiles
- Pipe Lagging
- Asbestos textiles
- Insulation Boards
- Asbestos cement (found in roofing material)

Health Issues associated with exposure to asbestos are:

1. Asbestosis :Pitting and scoring of the lungs similar to silicosis (miner's lung)
2. Mesothelomia :Cancer of the Pleura
3. Lung Cancer :Risk increases dramatically in smokers

## Human or Animal Waste

Workers involved in cleaning activities which may allow them to come into contact with human or animal waste should be extra cautious in relation to personal hand hygiene and use of Personal Protective Equipment. Pathogenic organisms may be present including Salmonella and E.Coli. Health surveillance should be made available to workers including vaccinations where appropriate i.e. Hepatitis A vaccination.

## Occupational Health Effects

### Skin diseases

Cleaners are at an increased risk of developing skin problems due to the substances they work with. The use of detergents, soaps, caustic soda, disinfectants, bleaches, cleaning fluids and ammonia are all likely to cause dermatitis, in addition high calcium content in hard water can cause skin problems such as Eczema.

**Eczema** is a non-infectious, non-contagious skin condition, marked by dryness, rashes, itching and in severe cases the formation of blisters. Constant contact with water also damages the protective skin barrier and enables dangerous substances to penetrate into deeper skin layers. Excessive sweating is regarded as a contributing factor.

**Occupational dermatitis** is caused by coming into contact with certain substances and is the most common type of occupational disease in Ireland. There are two main types of dermatitis, these are; Contact Irritant Dermatitis and Allergic Contact Dermatitis.

**Contact irritant dermatitis** can be caused by an irritant such as detergents e.g. soap used for repeated hand washing, by physical damage, i.e. small cuts, or through the use of chemical products. Contact irritant dermatitis makes up approximately 80% of contact dermatitis with allergic contact dermatitis making up the remaining 20%. In most cases irritant contact dermatitis occurs only on the body parts in direct contact with the irritant i.e. hands, face, arms, etc.

**Allergic contact dermatitis** occurs where an employee becomes sensitised or develops an allergic reaction some time after the initial contact to the substance. An example of this is the reaction of some people to powdered latex gloves; this is caused by continuous use of the product where the powder used to aid the putting on or removal of the gloves works as a catalyst for the latex in the gloves causing it to act as a sensitiser. Therefore gloves which are powder free, constructed of vinyl, nitrile or similar material and resistant to splashes from chemicals products are recommended. Workers should be vigilant for any signs of dry or chapped skin, hands should be kept dry as much as possible and moisturising creams applied.



**Eye damage**

Some chemicals may also cause eye irritation or burns. Splashes may occur when diluting chemicals or when cleaning overhead objects. The use of safety glasses or goggles should be encouraged if deemed necessary from the risk assessment.

**Asthma and respiratory problems**

Long-term studies have shown that cleaners are at increased risk of developing asthma, chronic bronchitis and other respiratory problems. If sprays are used during cleaning, or mists are created i.e. when using a pressure-washer, there is an increased risk of inhaling substances.

**Asthma**

Asthma is defined as an allergic reaction which causes chronic inflammation of the airways (bronchial tubes) that causes swelling and narrowing (constriction) of the airways resulting in difficulty breathing. Asthma related to the workplace can be categorised into Workplace aggravated asthma and Occupational asthma:

***Work aggravated asthma***

Employees with work aggravated asthma will usually have a history of pre-existing asthma. They may still be symptomatic (on going use of medication) or may not have had an episode since childhood.

These employees may get wheezy or complain of shortness of breath in work and may have to use their asthma relieving medication. The problem can often be eliminated by improving the work environment (ventilation) or avoiding the irritant by preventing the employees exposure to the irritant.

***Occupational Asthma***

Occupational asthma is caused as a direct result of workplace exposure. There are two forms of occupational asthma:

***Irritant Induced Occupational Asthma:***

This usually develops after a single, very high exposure to an irritant chemical. It is a direct "burn" effect on the airways and is not related to the immune system. Examples of causal agents include ammonia, acids and smoke.

The high levels of exposure required are usually the result of accidents or some major failure of controls, often in enclosed spaces. Symptoms manifest within 24 hours of the exposure, that is, there is no latent period. Symptoms will tend to improve over time and may go away entirely but if symptoms persist beyond 6 months on-going problems are possible.

### ***Allergic Occupational Asthma:***

This is the cause of the vast majority of occupational asthma cases. Allergic occupational asthma is caused by sensitisation or becoming allergic to a specific chemical agent in the workplace over a period of time. This is the mechanism for the vast majority (>90%) of cases of occupational asthma. The sensitisation process develops over time. This can be as short as several weeks or as long as 30 years.

Sensitisers will be identified on the label of the chemical and on the Safety Data Sheet. A risk assessment should be completed outlining what precautions should be taken.

### **The Use of Respiratory Protective Equipment (R.P.E)**

Respiratory protection should only be used when all other options have been examined. A disposable particulate dust mask may be used for substances which generate dusts. Section 8 of the Safety Data Sheet should be checked for recommended Personal Protection Equipment.

A respirator with disposable filters may be used for gases, vapours and mists. The filter selected should be suitable for the chemical being handled. Masks should be stored in a clean air tight container and the filter labelled with date for first use to remind the user as to when to change the filter. Always check the Safety Data Sheet and with the supplier of the product for the recommended mask. Refer to the HSA document 'A Guide to Respiratory Protective Equipment' available on [www.hsa.ie](http://www.hsa.ie) for further information.



## What is an employer required to do?

The employer must ensure a safe working environment for their staff in the different work locations that cleaners may be involved in. The employer should have or provide the following:

- An up to date Safety Statement.
- A written Risk Assessment for all work locations where cleaning activities are involved.
- A system to manage all chemicals which are used in the cleaning process i.e maintaining a list or inventory of all chemicals used and disposing safely of un-used or expired chemicals.
- A policy of purchasing less harmful chemicals where possible or replacing more harmful chemicals with less harmful ones.
- Safety Data Sheets for all chemicals handled and a means of training staff on the hazards and precautions to take on handling and use of chemicals.
- Information, instruction and training for staff on risk assessments.
- Make available appropriate health surveillance where required.



## What do employees need to know?

Employees should be familiar with the hazards in each workplace and the control measures to take to keep themselves safe. This is all contained in the Risk Assessment. Workers who handle cleaning chemicals should be familiar with the hazards of the chemicals and the precautions to take when handling them. This includes the use of any personal protective equipment. Employees should also be vigilant for any signs of dry skin, dermatitis or respiratory problems and report these to their employer as soon as possible.

### Summary of Key Points

- Cleaning workers may be exposed to many different chemicals during their work and should be made aware of the hazards and the precautions to take when handling chemicals.
- Employers should make available the risk assessment identifying the hazards in each place of work which cleaners may be working in. This should detail any relevant hazards in it and how workers should protect themselves.
- Safety Data Sheets should be available for all hazardous chemicals and workers should have an understanding of the hazards of the chemicals they are in contact with.
- Chemicals should have clear legible labels on them, hazard pictograms should be visible and they should be stored in a secure location, where they cannot be accessed by unauthorised persons.
- Chemicals should be diluted carefully according to manufacturer's instructions, and workers should be made aware of the danger of mixing incompatible chemicals.
- Workers should be trained on how to complete their work safely and this may be in the form of documented training and procedures.
- Workers may be exposed to biological hazards in the form of needlestick injuries, weill's disease from rat's urine, legionella bacteria from stagnant water or asbestos. These hazards should be identified in the risk assessment of the workplace and precautions taken to avoid exposure.
- Cleaners are at risk from developing skin and respiratory problems due to contact with chemicals. Early symptoms should be identified and reported for follow up to the employer as soon as possible.



## What legislation is applicable to Contract Cleaning Work?

The Safety, Health and Welfare at Work Act, 2005 (S.I. No. 10 of 2005)

The Safety, Health and Welfare at Work (General Application), Regulations 2007 (S.I. No. 299 of 2007)

The Safety, Health and Welfare at Work ( Chemical Agents) Regulations, 2001 (S.I. No. 619 of 2001)

Safety, Health and Welfare at Work ( Exposure to Asbestos) Regulation, 2006 (S.I. No. 386 of 2006) and Amendment Regulations 2010 (S.I. No. 589 of 2010)

The Safety, Health and Welfare at Work ( Confined Spaces) Regulations, 2001 (S.I. No. 218 of 2001)

## Where can I get further information?

A list of some of the free information available on the HSA website [www.hsa.ie](http://www.hsa.ie) is shown below:

- A Guide to Respiratory Protective Equipment
- Safety Data Sheets (SDSs) information sheet
- Guidelines on Occupational Asthma
- Your Steps to Chemical Safety
- 2011 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001
- Legionnaire's Disease Information Sheet
- Safety with Asbestos Information Sheet

### Information is also available from the following sources:

- The Irish Contract Cleaners Association (ICCA) [www.ibec.ie/icca](http://www.ibec.ie/icca)
- Irish Association of Hygiene Professionals (IAHP) [www.iahp.ie](http://www.iahp.ie)
- The British Institute of Cleaning Science (BICSc) [www.bics.org.uk](http://www.bics.org.uk)
- European Agency for Safety and Health at Work <http://osha.europa.eu> E-FACTS 41 Cleaners and Dangerous Substances

For further information please contact the HSA workplace contact unit on 1890 289 389 or email: [wcu@hsa.ie](mailto:wcu@hsa.ie).

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