

HAZARDOUS SUBSTANCES

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Date	Rev Level	Revision Description	Reviewed by
2014		Original	
2017	1	No changes	
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July 2020	4	COVID - 19	
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May 2022	6	REVIEWED	Mary Thomakutty

FOREWORD

The Health and Safety Authority, with the consent of Pat Breen, Minister of State for Trade, Employment, Business, EU Digital Single Market and Data Protection, and following public consultation, published the Code of Practice entitled “2020 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001-2015) and Safety, Health and Welfare at Work (Carcinogens) Regulations (2001-2019)” in accordance with Section 60 of the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005). The Code of Practice provides practical guidance as to the observance of Regulations 4(1)(e), 4(5)(d), 6(1)(c), (d)

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and (e) and 9(1)(b) of the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), as amended by S.I. No. 623/2015 - Safety, Health and Welfare at Work (Chemical Agents) (Amendment) Regulations 2015 (hereinafter collectively referred to as the 'Chemical Agents Regulations') in relation to occupational exposure limit values (OELVs) for a number of chemical agents as listed in Schedule 1 to the Code, having regard to the provisions of the Safety, Health and Welfare at Work Act 2005. This Code of Practice also provides practical advice as to the observance of the Safety, Health and Welfare at Work (Carcinogens) Regulations, 2001 (S.I. No. 78 of 2001), as amended by S.I. No. 622/2015 – Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations, 2015 and by S.I. No. 592/2019 Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations, 2019.

The Code of Practice came into operation on 17th January 2020 and from that date it replaced the “2018 Code of Practice for the Chemical Agents Regulations”, which was issued in accordance with the Safety, Health and Welfare at Work Act 2005.

Schedule 1 to this Code of Practice stipulates the OELVs which are currently legally binding under the Chemical Agents Regulations and Carcinogens Regulations.

The Schedule contains all the substances which have been assigned an indicative occupational exposure limit value (IOELV) under Commission Directives 2000/39/EC, 2006/15/EC, 2009/161/ EU and EU 2017/164 (the first, second, third and fourth IOELV Directives). The Schedule also contains all the substances which have been assigned as binding occupational exposure limit values (BOELVs) under Commission Directives 91/322/EEC, 98/24/ EC, 2003/18/EC, 2004/37/EC, (EU) 2017/2398, (EU) 2019/130 and (EU) 2019/983.

Schedule 2 to this Code of Practice provides an Advisory List of OELVs derived from authoritative sources other than EU Commission Directives.

Schedule 3 to this Code of Practice provides a list of OELVs under review by the Health and Safety Authority and the European Commission.

Schedule 4 to this Code of Practice provides a list of Carcinogenic Substances, Mixtures and Processes which are all listed in Annex 1 of the Carcinogens and Mutagens Directive [2004/37/EC].

Schedule 5 to this Code of Practice contains a Chemical Abstracts Service (CAS) Number index of all substances included in the Code of Practice. Notice of the publication of this Code of Practice, and the withdrawal of the 2018 Code of Practice, was published in the Iris Oifigiúil on 10th January 2020.

As regards the use of Codes of Practice in criminal proceedings, Section 61 of the 2005 Act provides as follows - “61.—(1) Where in proceedings for an offence under this Act relating to an alleged contravention of any requirement or prohibition imposed by or under a relevant statutory provision being a provision for which a code of practice had been published or approved by the Authority under Section 60 at the time of the alleged contravention, subsection (2) shall have effect with respect to that Code of Practice in relation to those proceedings. (2) (a) Where a Code of Practice referred to in subsection (1) appears to the court to give practical guidance as to the observance of the requirement or prohibition alleged to have been contravened, the Code of Practice shall be admissible in evidence. (b) Where it is proved that any act or omission of the defendant alleged to constitute the contravention— (i) is a failure to observe a Code of Practice referred to in subsection (1), or (ii) is a compliance with that Code of Practice, then such failure or compliance is admissible in evidence.

(3) A document bearing the seal of the Authority and purporting to be a Code of Practice or part of a Code of Practice published or approved of by the Authority under this section shall be admissible as evidence in any proceedings under this Act.

Periodic revision of the Code of Practice A revision of the OELVs listed in Schedule 1 and Schedule 2, to reflect current knowledge concerning the health hazards of the listed chemical agents, will be undertaken by the Health and Safety Authority periodically, through public consultation.

Schedule 3 to this Code of Practice provides a list of chemical agents which are under review by the European Commission and various international groups. This Schedule therefore serves to highlight the possibility of a change occurring to these substances, including, for example the introduction of an OELV or a change to an existing OELV, when appropriate. As the Code of Practice is updated periodically, specific attention should be paid to those substances listed in Schedule 3, as they are candidates for revision when the Code of Practice is next updated.

Comments concerning any of the limit values proposed may be made in writing to the Occupational Hygiene Unit, Health and Safety Authority, at Metropolitan Building, James Joyce Street, Dublin 1, Lo-call: 1890 289 389 or e-mail chemicals@hsa.ie.

INTRODUCTION

Occupational exposure limit values (OELVs) provide a basis for ensuring that exposure to airborne contaminants in the workplace is controlled in such a way as to prevent adverse health effects. Existing information has been used to establish limit values for exposures which, for the majority of chemicals listed, even when repeated regularly throughout a working lifetime, are not expected to result in adverse effects on the health of exposed workers.

Exceptions to this may be (1) certain risk groups such as employees known to be sensitised or (2) certain chemicals listed in the Code of Practice as carcinogenic, mutagenic or as chemicals causing respiratory sensitisation, where identification of a safe level of exposure is extremely difficult.

An OELV for a given chemical represents the maximum exposure to the chemical in workplace air, which is considered consistent with this objective. In practice, exposure levels should be maintained well below the OELV and should always be as low as reasonably achievable. This is particularly important for carcinogens, mutagens, reprotoxins (CMRs) and substances causing sensitisation (occupational asthma or allergic contact dermatitis).

Almost every business uses chemicals. Even in the cleanest, most modern office, employees are exposed routinely to inks, toners and adhesives not to mention a wide range of materials used in cleaning and maintenance.

Exposure to chemicals in the workplace can cause many different types of harm, ranging from mild irritations to cancer.

In the nursing home industry, we are mostly concerned with chemicals brought directly into the workplace and handled, stored and used for processing (e.g. solvents, cleaning agents, glues, resins, paints), as distinct from substances generated by a process.



LAW/ REGULATIONS/GUIDELINES / CODES OF PRACTICE

The Chemical Act 2008

A Guide to The Chemical Act 2008 (HSA)

The registered provider ensures compliance with all relevant health and safety Legislation, this includes a “safe working environment”

2020 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001-2015) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001-2019)

PURPOSE

To provide useful information to enable employers to manage chemical hazards in the workplace and comply with the Chemical Agents Regulations 2001 and The Chemical Act 2008 other relevant chemical regulations.

SCOPE

All staff and all chemicals used in the home, including chemicals used in maintenance.

POLICY

It is our policy to ensure that exposure to chemicals will not be the cause of any injury or health problem to any of our residents, staff or visitors. While the magnitude of chemical usage is relatively low in the home, staff will be required to comply with this policy & Procedure, by treating all chemicals as a hazard and acting in a responsible manner when dealing with all hazardous substances.

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RESPONSIBILITY

Responsibility for training and the enforcement of this procedure rests with the PiC.

All staff who have access to chemicals must treat the substances as hazardous and take the necessary precautions to avoid contamination of themselves, colleagues, residents or others.

DEFINITIONS/GLOSSARY

Asphx. - Gaseous chemical substances which may not produce significant physiological effects in the exposed employee, but when present in high concentrations will act as simple asphyxiants.

Advisory OELV - Advisory Occupational Exposure Limit Values are derived from sources other than EU Commission Directives. Advisory OELVs are generally health based and therefore may not incorporate socio-economic and technical feasibility factors. Employers should take all reasonably practicable measures to comply with the advisory OELVs set out in Schedule 2.

BLV - Biological Limit Value, as defined in the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), means the limit of the concentration in the appropriate biological medium of the relevant agent, its metabolite or an indicator of effect

Chemical Agent - as defined in the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), means any chemical element or compound, on its own or admixed, as it occurs in the natural state or as produced, used or released, including release as waste, by any work activity, whether or not produced intentionally and whether or not placed on the market.

Chemical Agents Regulations - means the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), as amended by the

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Safety, Health and Welfare at Work (Chemical Agents) (Amendment) Regulations 2015 (S.I. No. 623 of 2015).

8-hour reference period - relates to the procedure whereby the occupational exposures in any 24-hour period are treated as equivalent to a single uniform exposure for eight hours

15-minute reference period - means the short term exposure reference period and is the sampling period used for assessing compliance with the associated short term exposure limit (STEL).

Hazardous chemical agent - has the meaning given to it by the Chemical Agents Regulations.

Occupational Exposure Limit Value (OELV) - is defined in the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001) as meaning, unless otherwise specified, the limit of the time-weighted average of the concentration of a chemical agent in the air within the breathing zone of a worker in relation to a specified reference period (8 hour or a 15-minute reference period), as approved by the Health and Safety Authority. The concentration of the chemical agent in the air is expressed as parts per million (ppm), milligrams per cubic metre (mg/ m³), fibre(s) per milliliter (fibre(s)/ml) or fibre(s) per cubic centimeter (fibre(s)/cm³) as appropriate.

OES - Occupational Exposure Standard is a generic term which includes all occupational exposure limit values such as OELV, TLV etc.

Sens. - in the workplace respiratory or dermal exposures to sensitising agents may occur. Sensitizers may evoke respiratory or dermal reactions, e.g. asthma, rhinitis and allergic contact dermatitis. The notation does not distinguish between respiratory or dermal sensitisation. Chemical agents that are sensitizers present special problems in the workplace. Should an employee become sensitised,

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subsequent exposure may cause intense responses, even at low exposure concentrations well below the OELV. Exposure should be eliminated or significantly reduced through control measures such as engineering and process controls and use of Personal Protective Equipment (PPE). The absence of a "Sens." note does not signify that the chemical agent lacks the ability to produce a sensitisation but may reflect the lack of, or inconclusiveness of, scientific evidence.

Sk - substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body.

STEL - Short Term Exposure Limit, defined as the concentration to which workers can be exposed for short periods of time, usually 15 minutes, four times per day, without suffering adverse effects and are set to help prevent effects such as eye irritation which may occur following exposure for a few minutes. (Note: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit value should be used) (U.S.A., American Conference of Governmental Industrial Hygienists (ACGIH) and European Union (EU)).

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The Safety, Health and Welfare at Work Act, 2005 and the Safety, Health and Welfare at Work (General Application) Regulations 2006 provides the need to carry out Risk Assessment where hazards are identified. Hazardous Substances, as the title implies is a risk to staff and residents in the nursing home.

Risks of exposure by hazardous substances to employee, to residents and visitors must be considered. The Provider must introduce appropriate precautions to prevent or control the risk that has been identified. It is critically important in a nursing home that residents do not have access to hazardous substances and it must be assured that appropriate safety procedures are in place and that hazardous substances are properly managed. It is also important that employees are trained about the risks and the precautions to be taken.

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Hazardous substances used in care homes include some cleaning materials, disinfectants and microorganisms, usually associated with soiled laundry and clinical waste.

When undertaking a Risk Assessment, the provider should look at the work activities and consider the following:

- What substances are present and what for?
- What harmful effects do the substances pose?
- Where and how are the substances stored, used and handled?
- Are harmful fumes produced, especially if products are mixed?
- Can a safer substance be used?
- Who could be effected, to what extent, for how long and under what circumstances?
- How likely is it that exposure will happen?
- Are precautions required, such as ventilation and protective equipment?

Certain information about products will be found on labels, which on hazardous substances may include a risk phrase such as *“avoid contact with skin”*. If the information is not readily available on the label or an advice leaflet, then a data sheet for the product should be obtained from the supplier or manufacturer, who have a legal obligation to provide such information.

Risk Assessments should be relatively simple in a nursing home. First establish what products or biological hazards, such as clinical waste and soiled linen are in the home. Identify if any less harmful products can be used to decrease the risk. With regard to biological risks, the Provider must reduce the potential for exposure to staff and residents. This will mean providing PPE such as gloves, overall, aprons and receptacles that will avoid direct contact with the employee or the resident. Good ventilation to the outside will likely be an additional requirement.

It is extremely important that staff are given information, instruction and training on how to use the product safely, how to clear up and how to check and wear the

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appropriate protective equipment, e.g. goggles, gloves, aprons etc. Staff should also be aware of how to deal with faulty equipment in terms of replacement and repair.

All cleaning materials should be kept out of reach of residents. They should be locked in a cupboard when not in use. Cleaning materials should not be decanted into unmarked containers. There have been deaths recorded in the UK, where residents have mistaken cleaning fluids for a drink.

Particular care should be taken with regard to, for example, cleaners trolleys where hazardous substances may be present. Staff should ensure that these substances are not left in a manner where a resident or another person can remove them from the trolley.

Essential Safety Rules

- Always study the label on chemical containers with care
- Read and follow safety instructions before use
- Use the PPE recommended
- Ensure chemicals are out of reach of residents and children
- Never transfer Chemicals into an unmarked container
- Never use flammable chemicals close to sources of ignition
- Never throw an aerosol container into a fire
- Never mix chemicals, unless written instructions advise that they do not react to one another.

Dangers from Chemicals

Chemicals present a range of dangers.

A splash from caustic soda can cause loss of sight. Vapors from solvents found in adhesives, paint strippers and aerosols can affect the brain and nervous systems. Breathing air which is contaminated with chemicals can cause health problems.

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Chemicals can also enter the body by ingestion, that's where someone touches his/her mouth with a hand contaminated by chemicals. Another very good reason to wear gloves and remove them on completion of the task. Chemicals can enter the body through skin contact. Even where no cut or abrasion exists.

Ingestion of chemicals,

I.E **Bleach** is an irritant to the skin, the mucous membranes, and the gastrointestinal tract. Accidental ingestion of 1-2 mouthfuls can cause minor **mouth** and throat irritation, stomach upset and vomiting. ... Airborne mist from spraying **bleach** can irritate the eyes, nose, and throat.

Safe Storage of Chemicals.

When storing Chemicals;

- Keep them out of direct sunlight and in their own clearly labeled original containers
- Keep the chemicals in a locked storage area, with clear definition as to the duties of the key holder.
- Only remove chemicals from storage for use.
- Spillages must be cleaned up immediately with the spillage removed on a metal tray and disposed of immediately as hazardous waste.
- Chemicals must never be transferred to an unlabeled container.

For all cleaning Materials ensure there is

- An Inventory of all chemicals.
- MSDS sheets for each chemical is available.
- Less hazardous chemicals are used where possible.
- All bleaches and material will be carefully stored and labeled
- All bleaches and disinfectants will be kept in the original containers.

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- PPE, such as gloves, face masks and aprons must be worn
- Used containers will be disposed of immediately.
- Secure cleaning locker with chemicals stored.
- Do not use chemicals which have no labels on the bottle.
- Residents should not have access to store rooms.
- Residents should not have access to any chemicals.
- Staff have received basic training on the safe use of chemicals.
- Hand washing facilities are provided.
- There is adequate ventilation.
- Chemicals are disposed of as per MSDS sheet.

COVID-19

The causative agent involved in the current outbreaks of coronavirus disease (COVID-19), SARS-CoV-2 (genus: Betacoronavirus), belongs to the family of Coronaviridae, a large family of enveloped, positive-sense single-stranded RNA viruses. Coronaviruses are transmitted in most instances through large respiratory droplets and contact transmission.

ENVIRONMENTAL CLEANING OPTIONS

Due to the potential survival of the virus in the environment for several days, the Home and areas potentially contaminated should be cleaned before their re-use, using products containing antimicrobial agents known to be effective against coronaviruses.

Cleaning should be performed using the proper personal protective equipment (PPE). The correct donning and doffing of PPE should be followed

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Disposable PPE should be treated as potentially infectious material and disposed in accordance with national rules. When using chemical products for cleaning, it is important to keep the facility ventilated (e.g. by opening the windows) in order to protect the health of cleaning personnel.

Hand Sanitizer

Handling and Storage Measures

- Product must be stored in its original container
- Container kept closed when not in use
- Product stored away from all sources of ignition
- Containers stored in cool conditions.
- Product (highly flammable) not to be used to clean hands when ignition sources are present

Current control measures:

- Hand sanitiser alcohol gel to be used in accordance with product user instructions.
- Small amount (10-20 ml) of product dispensed to clean hands.
- Allow the handrub to dry:
- Staff should be advised to let their hands dry and the vapours disperse after using alcohol handrub, which minimises these risks.
- Product kept in original container.
- Container kept closed when not in use.
- Product not used when sources of ignition are present e.g. naked flame, high temperatures, static charge etc.
- A properly ventilated and fire-resistant room.
 - All staff should be made aware, that there exists the possibility that static electricity.

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- A risk assessment and review of training and fire safety measures to be undertaken prior to installation of these dispensing units, with specific reference to these units and the hazard of fire.
- The Hazardous Substance Inventory needs to be updated for alcohol-based hand sanitizers. Safety Data Sheets need to be obtained for the hand sanitizer gel.
- Dispensers are not to be installed above electrical outlets, light switches or other heat or potential ignition sources.
- A drip tray to be located under dispensing point and any waste to be disposed of safely and regularly into a fire-resistant waste container.
- Fire extinguishers to be located near dispensing point.
- All storage of replacement alcohol-based hand sanitising containers on floors, should be limited in quantity.

Bibliography

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The Health Act 2007

National Quality Standards for Residential Care Settings for Older People in Ireland

Health Information and Quality Authority

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Health and Safety in Care Homes, HSE (UK) 2001.

The Chemical Act 2008

A Guide to The Chemical Act 2008 (HSA)

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