

1 **S410 Standard for Professional Cleaning of the Built Environment for Infection**
2 **Prevention and Control**

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4 **Substantive Changes Document**

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6 Second Limited Public Review (January 2025). Draft shows Proposed Changes to Current Standard.
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8 **Note to Reviewers:** *These changes are indicated in the text by underlining (for additions) and strikethrough*
9 *(for deletions). Only these changes to the current standard are open for review and comment at this time.*
10 *Additional material is provided for context only and is not open for comment except as it relates to the*
11 *proposed changes.*

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13 **S410 Draft Standard Title**

14 IICRC S410 Standard for Professional Cleaning of the Built Environment for Infection Prevention and
15 Control

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17 **A.1 Scope and Purpose**

18 It addresses how to enhance routine cleaning processes to decrease exposure risks to microorganisms
19 that are classified as Bio Safety Risk Groups 1 and 2, but not Bio Safety Risk Groups 3 and 4, germs and
20 pathogens and increase confidence through consistent optimal outcomes during outbreak or crisis events.

21
22 This includes but is not limited to professional cleaners cleaning technicians and cleaning operations who
23 clean residential properties, schools, congregant and community living facilities, group homes,
24 commercial property, and facility managers, ~~all cleaning companies whether~~ Cleaning operations is
25 inclusive of in-house or contract services, ~~and cleaning technicians.~~

26
27 **A.2 Application**

28 This includes but is not limited to cleaning technicians and cleaning operations who clean residential
29 properties, schools, congregant and community living facilities, group homes, commercial property, and
30 facility managers. Cleaning operations is inclusive of in-house or contract services.

31
32 This Standard is not intended for emergency response of a hazardous substance as defined in OSHA CFR
33 1910.120, biological safety facilities such as institutional laboratories, pharmaceutical research, food
34 manufacturing facilities, and government laboratories.

35
36 **Definitions**

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38 **Bio Safety Risk Group 1** (no or low individual and community risk): a microorganism that is unlikely to
39 cause human disease or animal disease.

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41 **Bio Safety Risk Group 2** (moderate individual risk, low community risk): a pathogen that can cause human
42 or animal disease but is unlikely to be a serious hazard to laboratory workers, the community, livestock or
43 the environment. Laboratory exposures may cause serious infection, but effective treatment and
44 preventative measures are available and the risk of spread of infection is limited.

45
46 **Bio Safety Risk Group 3** (high individual risk, low community risk): a pathogen that usually causes serious
47 human or animal disease but does not ordinarily spread from one infected individual to another. Effective
48 treatment and preventive measures are available.

49
50 **Bio Safety Group 4** (high individual and community risk): a pathogen that usually causes serious human
51 or animal disease and that can be readily transmitted from one individual to another, directly or indirectly.
52 Effective treatment and preventive measures are not usually available.
53

1 **Hazard identification:** the process of finding, listing, and characterizing hazards.
2

3 **One-Step Disinfectant:** a product with an EPA registered (or equivalent) claim that it can clean and
4 disinfect a non-porous surface in the presence of light to moderate organic soiling without a separate
5 cleaning step.
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7 **1.1 Cleaning Principles - Introduction**

8 It is a process to clean and disinfect what is not visible to the naked eye (targeting microorganisms).
9

10 **1.3 Enhanced Cleaning**

11 It is recommended that cleaning operations are aware of health alerts within their facility and the community
12 that may pose health risks to occupants such as an increase in viral respiratory illnesses or an increase in
13 vomiting and diarrhea in the area. Enhanced cleaning *should* be implemented when there are health
14 indicators/alerts which are unusual for the environment. This proactive step uses reasonable precautions
15 to reduce the risk of an infectious outbreak. It is recommended that enhanced procedures include, but are
16 not limited to, the following:
17

- 18 ▪ additional hazard and risk assessments for workers and occupants;
- 19 ▪ consideration of isolation of the contamination zone using appropriate engineering controls;
- 20 ▪ using enhanced Personal Protective Equipment (PPE), appropriate to the microorganism/hazard;
- 21 ▪ increasing the cleaning frequency (increased staffing as required (surge capacity));
- 22 ▪ enhanced cleaning work procedures with introduction of a disinfectant;
- 23 ▪ review of disinfectant efficacy against microorganism/hazard of concern;
- 24 ▪ prioritize high touch surfaces (e.g., pens, counters, door handles, stair rails, elevator buttons,
25 touchpads, restroom fixtures, desks);
- 26 ▪ increased supervision (quality control);
- 27 ~~▪ increasing contact cleaning (high touch surfaces) in common areas within the environment;~~
- 28 ▪ initiating audit and testing processes (Refer to Section 11 Quality Assurance Management);
- 29 ~~▪ ensuring enhanced supervision and communication between all stakeholders;~~
- 30 ~~▪ confirming that the disinfectant's efficacy covers the target pathogen;~~
- 31 ~~▪ using enhanced Personal Protective Equipment (PPE), appropriate to the pathogen; and~~
- 32 ▪ increasing documentation and communication where necessary; and
- 33 ▪ consideration of use of a specialty service contractor.
34

35 **1.4 Crisis or Outbreak Cleaning**

36 Outbreak cleaning is triggered when the relevant public health authority (e.g., US Public Health Service,
37 Public Health Agency of Canada) declares an outbreak. Cleaning operations *shall* work in collaboration
38 with, and follow directions established by the health authority to address the outbreak appropriately, when
39 required. The cleaning operation *should* protect the personnel performing the cleaning as well as the
40 occupants of the space being cleaned from exposure to airborne hazards.
41

42 ~~Crisis cleaning is triggered by an event requiring an immediate, elevated response (e.g. vomit, crime or~~
43 ~~trauma scene, anthrax). It is recommended that crisis or outbreak procedures include, but are not limited~~
44 ~~to, the following:~~
45

- 46 ~~▪ additional hazard and risk assessments;~~
- 47 ~~▪ increased personal protective equipment (PPE);~~
- 48 ~~▪ isolation of the contamination zone using appropriate engineering controls;~~
- 49 ~~▪ enhanced cleaning work procedures;~~
- 50 ~~▪ review of disinfectant efficacy;~~
- 51 ~~▪ designated equipment and enhanced cleaning controls of that equipment;~~
- 52 ~~▪ increased cleaning frequency;~~
- 53 ~~▪ increased staffing (surge capacity);~~
- 54 ~~▪ increased supervision (quality control);~~

- 1 ~~▪ testing, sampling verification (auditing of efficacy); and~~
- 2 ~~▪ increased communication and documentation; or use of a specialty service contractor.~~

3
4 Cleaning for infection control needs to be considered as:

- 5
- 6 1. ~~cleaning of settled biological agents, such as during Covid; and~~
- 7 2. ~~biological agents introduced by other ways.~~

8
9 ~~In the airborne sources of contamination, during cleaning, t~~The act of cleaning itself may reintroduces the
10 biological agents back into the air. The cleaning operation *should* be aware of these concerns and provide
11 preventive measures ~~to not only prevent biological agents getting into the air, but also have~~ and controls to
12 deal with it.

13
14 ~~The engineering controls are ventilation and filtration, and the equipment *should* be considered as part of~~
15 ~~the process such as HEPA equipped air scrubbers and or negative air machines. The a~~Air quality would will
16 depend on the cleaning agent's effectiveness in cleaning, the work practices engineering controls, work
17 practices, and the cleaning agent's effectiveness. ~~as well as the presence or absence of chemicals used in~~
18 ~~the process. The cleaning operation needs to be aware that the personnel performing the cleaning are~~
19 ~~protected from exposure to airborne hazards, as well as the occupants of the space being cleaned. HEPA~~
20 filtration equipment (vacuums, air scrubbers) can be an engineering control.

21 22 **3.1 Equipment, Tools, and Supplies - Introduction**

23 The cleaning operation should conduct a risk assessment related to possible scenarios that may be
24 encountered during enhanced/outbreak cleaning and have the appropriate ETS sourced for future use.

25 26 **3.3.2 Wipes, Cleaning Cloths/Microfibers, Flat Mops and String Mops**

27 If manufacturer's instructions for use are not available, the following rules *should* be applied to re-usable
28 items:

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- 30
 - 31 ~~▪ pre-rinse heavily soiled cloths and mops of all types before laundering;~~
 - 32 ~~▪ launder colors in separate loads if using color coding;~~
 - 33 ~~▪ launder used cloths and mops as soon as reasonably possible. Launder after each use to prevent~~
34 ~~bacteria or fungi/mold from growing; and~~
 - 35 ~~▪ avoid high heat during dry cycle for many microfiber products to prevent fiber breakdown.~~
 - 36 ~~▪ bleach *should* not be used as it can damage the fiber.~~
 - 37 ~~▪ fabric softener *should* not be used as it coats the fiber ruining many of the benefits/properties of~~
38 ~~the microfiber (Rutala 2007).~~
 - 39 ~~▪ mixing microfiber with other fibers in the same load *should* be avoided to prevent lint attraction.~~

40 41 **4.4 Disinfectant Product Use**

42 The risks of application methods *should* be considered (i.e., PPE required, health issues).

43 44 **4.4.1 Dilution Control Systems**

45 Dilution control testing *should* be performed when a new bottle of concentrate is added to the dilution station
46 and at least weekly is recommended to confirm dilution accuracy.

47 48 **8.3 Risk Management**

49 In order to protect all parties involved, cleaning operations *should* offer infection prevention measures (e.g.,
50 cleaning, sanitizing and disinfecting services, identify risks early) and adapt them as needed during the
51 project. It is recommended that a written risk management plan include a strategy to promote a culture of
52 prevention and safety, aimed at minimizing harmful events and responding to crisis situations quickly and
53 competently. To ensure a successful risk management strategy, effective communication and ongoing
54 training programs are recommended. These infection prevention measures *should* be regularly assessed
and revised throughout an outbreak.

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10.1 Limitations, Complexities, Complications, and Conflicts - Introduction

Before initiating work, and minimizing challenges or hurdles for employees, occupants, and other end-users cleaning operations *should* carry out an initial inspection using a qualified person to identify any known or anticipated Limitations, Complexities, ~~Complications, or Conflicts (LCCs)~~ that may arise during the project.

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