

LEGIONELLA RISK ASSESSMENT — WATER SYSTEMS

ASSESSMENT — PREMISES FILE

Hot and cold water in premises you control — risk factors, control scheme, checks and records

KD-OH-LG-009 Rev A0

Legionella bacteria are found in most water systems in small numbers. They multiply where water sits between 20 and 45 °C, where it stands still, and where sludge, scale, rust or biofilm feed them; people catch legionnaires' disease by breathing in fine droplets — from showers, spray taps and hoses. Everyone is susceptible, and the risk is higher for people over 45, smokers, heavy drinkers, and people with chronic respiratory or kidney disease, diabetes, lung or heart disease or an impaired immune system (ACOP L8 (4th edition, 2013) paras 10 and 41). COSHH 2002 reg 6 requires a suitable and sufficient assessment of the risk before work exposes anyone, looked at again regularly and at once when it may no longer be valid; with five or more employees the significant findings, and the steps taken to prevent or control exposure, are recorded. Reg 7 requires exposure to be prevented or, where that is not reasonably practicable, adequately controlled. HSWA 1974 s.3 extends the duty to people who are not employees — tenants, visitors, the public — and s.4 puts a duty on whoever has control of non-domestic premises made available to people who are not their employees as a place of work, or where they use plant or substances provided there, to take the measures reasonable for someone in their position to make the premises and that plant safe and without risks to health so far as is reasonably practicable; a maintenance or repair obligation under a contract or tenancy counts as control (s.4(3)). The duty holder is the employer, the self-employed person, or whoever controls the premises or the system, such as a landlord who keeps responsibility for maintenance (L8 para 28). This sheet covers the hot and cold water in premises a construction business controls: the office, the yard or store, welfare units and cabins, a vacant or part-occupied building under refurbishment, and small let premises. HSE's guidance for landlords gives, as a typical low-risk example, a small building with small domestic-type water systems where daily use is enough to turn over the whole system, cold water comes straight from the mains with no stored water tanks, hot water comes from instantaneous or low-volume heaters supplying outlets at 50 °C, and the only outlets are toilets and wash hand basins; a simple assessment may then show there are no real risks. A welfare cabin with a shower is not that example. This sheet does not cover cooling towers, evaporative condensers, spa pools or other risk systems — section 3 stops there. Neighbours: the COSHH sheet for legionella is KD-COSHH-LG-046; control of a new installation from first fill to handover is KD-RA-MP-005; the RAMS for flushing, TMV servicing and tank cleaning is KD-RAMS-WH-002; the log for temporary site supplies is KD-INS-WH-034; work on the water system of a healthcare building is KD-HTM-WS-005, under that building's own HTM 04-01 arrangements. Written for Great Britain: the health and safety law cited applies in England, Wales and Scotland. Northern Ireland has its own equivalent regulations — check them.

1 PREMISES AND DUTY HOLDER

PREMISES REF	PREMISES — NAME AND ADDRESS	DATE	ASSESSED BY
☐ Office	☐ Welfare units and cabins		☐ Small let premises — the business is the landlord
☐ Yard, store or workshop	☐ Vacant or part-occupied building under refurbishment		☐ Other — describe in section 4
DUTY HOLDER	WHY THEY ARE THE DUTY HOLDER	EMPLOYEES	LOOK AT AGAIN BY
COMPETENCE OF THE ASSESSOR		EARLIER ASSESSMENT	

2 RESPONSIBLE PERSON — APPOINTED BY THE DUTY HOLDER

The duty holder appoints a competent person, or people, to take day-to-day responsibility for controlling the risk — the responsible person — with enough authority, competence and knowledge of the installation, trained and refreshed, with the training recorded. A competent self-employed duty holder may appoint themselves (L8 para 51). Using a contractor or consultant does not remove the duty holder's own responsibility (L8 para 57).

RESPONSIBLE PERSON	ROLE	DEPUTY	CONTACT
TRAINING — WHAT AND WHEN	WATER HYGIENE CONTRACTOR, IF ANY		APPOINTED ON

3 SCREENING — ANSWER BEFORE GOING FURTHER

QUESTION	IF YES	Y / N	NOTE
Is there a cooling tower or evaporative condenser on the premises — including one out of use but still connected?	STOP. This sheet does not cover it: get specialist help (HSG274 Part 1). The Notification of Cooling Towers and Evaporative Condensers Regulations 1992 reg 3: whoever controls non-domestic premises must not have such a device there unless the local authority has been notified in writing, on the form HSE has approved for the purpose, of the address, the name, address and phone number of a person in control, the number of devices and where each one is. Changes are notified within one month. When a device permanently stops being a notifiable device, the local authority is told as soon as reasonably practicable — this does not apply to a shutdown for maintenance or the season. A device counts unless it holds no water exposed to air and neither its water nor its electricity supply is connected (reg 2).		
Is there a spa pool or hot tub, or another system that holds water and makes spray — humidifier, air washer, emergency shower, eye-wash spray, indoor ornamental fountain?	Get specialist help for that system (HSG274 Part 3) and record it in section 10. Assess the hot and cold water here as normal.		
Is this a hospital, clinic or other healthcare building?	STOP. The building's own water safety arrangements govern (HTM 04-01); work on its water system is KD-HTM-WS-005.		

LEGIONELLA RISK ASSESSMENT — WATER SYSTEMS

ASSESSMENT — PREMISES FILE

continued

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QUESTION	IF YES	Y / N	NOTE
Do people especially at risk use the water — residents of care or supported housing, people with impaired immunity, young children, elderly people?	Get competent specialist help with this assessment. More frequent flushing may be needed for high-risk groups (HSG274 Part 2 para 2.78), and HSE's checklist calls for sampling where residents are immunocompromised.		
Is the water from anywhere other than the public mains — a borehole, a private supply, or a bowser or tank filled elsewhere?	Record the source in section 4 and assess how it could be contaminated before it reaches the system (L8 para 42). Temporary site supplies are also logged on KD-INS-WH-034.		

4 THE WATER SYSTEM

SCHEMATIC DIAGRAM — REF AND DATE		SUPPLY	STATE OF OPERATION
COMPONENT	HOW MANY	WHERE	DETAILS
Cold water storage tank(s)			
Hot water cylinder or calorifier — stored hot water			
Combination water heater — cylinder with its own header tank			
Point-of-use water heaters of 15 litres or less			
Instantaneous heaters and combination boilers — no storage			
Showers and spray taps			
Thermostatic mixing valves (TMVs) — type 2 or type 3			
Little-used outlets — not used for seven days or more: spare WCs, basins, showers, outside taps, hose points			
Dead legs, capped pipes and redundant pipework			
Water softeners, point-of-use and multiple-use filters, expansion vessels			
Parts of the building or system out of use — vacant floors, stripped-out areas, isolated risers			
Temporary connections — hoses, standpipes, bowsers, welfare unit tanks			

5 RISK FACTORS — WHAT TO LOOK FOR

RISK FACTOR	Y / N	WHAT WAS FOUND, AND WHERE
Stored or recirculated water — tanks, cylinders, header tanks, bowsers; more cold water stored than about a day's use (HSE)		
Cold water warmer than 20 °C — a tank in a warm roof space or plant room, pipes beside heating or hot pipes, sun on exposed pipework		
Hot water not hot enough — stored below 60 °C, or outlets not reaching 50 °C within one minute (55 °C in healthcare premises)		
Water standing still — outlets not used for seven days or more, dead legs, capped pipes, poor circulation, vacant floors, a site shut over a holiday		
Something to feed on — sediment at the base of the cylinder, scale, rust, biofilm, a tank without a tight-fitting lid, debris from building work		
Spray — showers, spray taps, hoses and any outlet that makes breathable droplets		
People especially at risk use the water (section 3, and L8 para 10)		
Unusual but foreseeable conditions — a heater breaking down, loss of supply, part of the building taken out of use (L8 para 42)		
Refurbishment changes — outlets removed, pipework cut and capped, new dead legs, parts drained or left full and unused, parts brought back into use		
Controls not being done — gaps in the flushing or temperature records, TMVs overdue, a heater turned down to save energy		

6 HAZARDS, EXISTING CONTROLS AND RISK RATING

Risk rating — the house 5×5 scale of KD-BL-MX-005; the lone working assessment KD-OH-LW-007 carries no rating, so this set uses the 5×5. Likelihood L: 1 very unlikely · 2 unlikely · 3 possible · 4 likely · 5 almost certain. Severity S, the worst credible outcome: 1 minor, first aid only · 2 moderate, off work up to seven days · 3 serious, off more than seven days, back within a month · 4 major, hospital admission or off more than a month · 5 fatal or permanent. Score = L × S. A score ranks risks for action; it is not a measurement. Legionnaires' disease can kill (L8 para 10), so severity is usually scored high and the controls bring the likelihood down. The band actions below are for water that is in use now: a HIGH or VERY HIGH score is acted on the same day, not left to the next check.

LOW score 1–4 Keep the controls and the section 7 checks going; reduce further where reasonably practicable.	MEDIUM score 5–10 Every control in place and checked to the scheme; set section 10 actions to bring it lower.	HIGH score 12–16 The same day: interim controls in place, a section 10 action dated today, and the responsible person and the duty holder told.	VERY HIGH score 20–25 The same day: the duty holder decides whether that part of the system is taken out of use until it is under control, and gets competent help.
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HAZARD — WHERE	WHO EXPOSED	EXISTING CONTROLS	L	S	SCORE	BAND	ACTION

7 CONTROL SCHEME — WHAT IS DONE, HOW OFTEN, BY WHOM, AND WHAT HAPPENS WHEN A CHECK FAILS

Keep cold water below 20 °C where possible; store hot water at 60 °C or above and distribute it so it reaches 50 °C at the outlets within one minute (55 °C in healthcare premises) (HSG274 Part 2 para 2.6). At those temperatures the scald risk is low for most people but higher for young children, elderly and disabled people and people with sensory loss — the assessment takes account of them. The table carries every row of HSE HSG274 Part 2 (Second edition, 2024) Table 2.1, the checklist for hot and cold water systems, with HSE's frequency; the wording is shortened in places, so read the table itself wherever a row applies. The assessment sets the frequency for this system — more often where the findings or the people using the water call for it. Write N/A where the item is not present, and in the last column the first action when the check is out of limits.

CHECK OR TASK — HSG274 PART 2 TABLE 2.1	HSE FREQUENCY	APPLIES	OUR FREQUENCY	WHO	RECORDED ON	IF OUT OF LIMITS
Calorifier or cylinder: inspect inside through the hatch or with a boroscope, and clean by draining; set how often by what is found, more or less often as conditions show	Annually, or as the rate of fouling shows					
Calorifier or cylinder with no inspection hatch: purge debris from the base to a suitable drain	Annually; more often if the assessment or the findings say so					
Hot water heaters: collect the first flush from the base and look at its clarity, the amount of debris in it and its temperature	Annually; more often if the assessment or the findings say so					
Calorifier flow temperature: thermostat set as close to 60 °C as practicable without going below 60 °C	Monthly					
Calorifier return temperature: not below 50 °C	Monthly					
Hot water, non-circulating: temperatures at the sentinel points — nearest outlet, furthest outlet and long branches — at least 50 °C within one minute (55 °C in healthcare premises)	Monthly					
Hot water, circulating: return legs of the principal loops (sentinel points) at least 50 °C (55 °C in healthcare premises); may be taken on the surface of metal pipework	Monthly					
Hot water, circulating: return legs of subordinate loops — on the pipe surface or, where that is not practicable, the last outlet on each loop above 50 °C within one minute (55 °C in healthcare premises); if the rise is slow, confirm the outlet is on a long leg and the flow and return has not failed there	Quarterly, ideally on a rolling monthly rota					

CHECK OR TASK — HSG274 PART 2 TABLE 2.1	HSE FREQUENCY	APPLIES	OUR FREQUENCY	WHO	RECORDED ON	IF OUT OF LIMITS
All hot water systems: a representative selection of other points — intermediate outlets on single-pipe systems, tertiary loops on circulating systems — at least 50 °C (55 °C in healthcare premises), building a temperature profile of the whole system over a set period	A representative selection of other outlets, on a rotation that covers the whole system					
Point-of-use water heaters of 15 litres or less: operating at 50–60 °C (55 °C in healthcare premises), or the installation shown to have a high turnover	Monthly to six-monthly, or as the assessment indicates					
Combination water heaters: inspect the integral cold water header tank with the cold tank inspections, and clean and disinfect as needed; where the unit often overflows hot water into the header tank, start temperature monitoring and act on it	Annually					
Combination water heaters: water temperature at an outlet confirms the heater operates at 50–60 °C	Monthly					
Cold water storage tanks: inspect, and carry out remedial work where needed	Annually					
Cold water storage tanks: water temperature away from the ball valve, and the incoming mains temperature; record the maximum stored and supply temperatures from fixed max/min thermometers where fitted	Annually (summer), or as temperature profiling indicates. HSE's web checklist: every 6 months at the ball valve outlet					
Cold water sentinel taps — usually nearest and furthest from the tank, and key points on long branches: below 20 °C within two minutes of running; watch the thermometer while flushing to catch local heat gain	Monthly					
Cold water, other points: a representative selection below 20 °C, building a temperature profile; peaks, or temperatures slow to fall, point to a local problem	A representative selection of other outlets, on a rotation that covers the whole system					
Thermal insulation intact; weatherproofing considered where parts are outdoors	Annually					
Showers and spray taps: dismantle, clean and descale removable parts, heads, inserts and hoses	Quarterly, or as the rate of fouling or other risk factors indicate					
Point-of-use filters: record the service start date and the lifespan or end date, and replace as the manufacturer recommends; 0.2 µm membrane filters are mainly a temporary control while a permanent engineering fix is found	To the manufacturer's guidelines					
Base exchange softeners: check the salt level and top up; hardness check to confirm the softener is working	Weekly, depending on the vessel size and salt use					
Base exchange softeners: service and disinfect	Annually, or to the manufacturer's guidelines					
Multiple-use filters: backwash and regenerate as the manufacturer specifies	To the manufacturer's guidelines					
Infrequently used outlets: consider removing them, cutting redundant pipework back as far as possible to a common supply, preferably by removing the feeding tee; put any equipment not used for seven days or more on the flushing regime	Weekly, or as the assessment indicates					
Infrequently used outlets that are kept: flush until the temperature at the outlet is steady and comparable to the supply, and purge to drain; once started, keep it up and log it; more often for high-risk groups	Weekly, or as the assessment indicates					

CHECK OR TASK — HSG274 PART 2 TABLE 2.1	HSE FREQUENCY	APPLIES	OUR FREQUENCY	WHO	RECORDED ON	IF OUT OF LIMITS
TMVs: assess whether each TMV is needed and remove it if not; where needed, inspect, clean, descale and disinfect its strainers or filters, and have it maintained by a competent person to the manufacturer's instructions (paras 2.152 to 2.168)	Annually, or as the assessment sets, taking account of the manufacturer's recommendations					
Expansion vessels: flush through and purge to drain where practical; change the bladders to the manufacturer's guidelines or as the assessment indicates	Monthly to six-monthly, as the assessment indicates					

When a check is out of limits, or the scheme is not working

The written scheme includes the remedial action to take if it is shown not to be effective (L8 para 60(e)), the remedial measures when control limits are exceeded with the lines of communication (para 62(e)), and emergency procedures (para 62(g)).

- Whoever takes a reading outside the limits re-runs the outlet and measures again, writes both readings and the first action in the log, and tells the responsible person the same day
- The responsible person finds the cause — heater setting or failure, a TMV fault, a stagnant branch, heat gain in cold pipework, a failed circulating pump — puts it right, and records the remedial work and its completion date
- Where temperatures or disinfectant levels are not being achieved consistently, sampling for legionella is considered (section 9) and the results are acted on under HSG274 Part 2 Table 2.2
- A result not put right within the time set is reported to the duty holder, and the assessment is looked at again (section 11)
- If legionnaires' disease is suspected in anyone who uses the water, the emergency procedure below is followed at once and the duty holder is told

OUT-OF-LIMITS RESULTS REPORTED TO	ESCALATED TO THE DUTY HOLDER WHEN	WATER HYGIENE CONTRACTOR — EMERGENCY LINE
EMERGENCY PROCEDURE — REFERENCE AND WHERE IT IS KEPT	CAN OUTLETS BE ISOLATED QUICKLY?	

Design and housekeeping controls — tick those in place; carry the rest to section 10

- Redundant pipework and dead legs removed, cut back as close as possible to the common supply (HSG274 Part 2 Table 2.1)
- Outlets that are not needed removed and their pipework cut back; outlets kept but little used are on the weekly flushing list (para 2.78)
- Cold water tank fitted with a tight-fitting lid and air vent and kept clean; stored volume kept to about a day's use; linked tanks arranged so water flows through each (HSE)
- Water pipes insulated where heat from other sources could reach them (HSE)
- Pipe runs after a TMV kept short — HSE's checklist says no more than 2 m
- Type 3 TMVs (pre-set and fail-safe, fitted where the scald risk is significant) checked regularly to make sure they fail safe if the cold supply pressure is interrupted (HSG274 Part 2 Info box 2.3)
- Flushing purged to drain without making spray (HSE)
- Nobody turns a water heater thermostat down — a change goes through the responsible person

8 BUILDINGS OUT OF USE, VACANT OR UNDER REFURBISHMENT

- A building, part of a building or a system taken out of use is managed so that growth in the water is controlled; it is normally left filled, not drained, because water left in pockets of a drained system lets biofilm grow (HSG274 Part 2 paras 2.50 to 2.52)
- Before it is used again the system is brought back into use as though it were new — thoroughly flushed, cleaned and disinfected (para 2.52); the works are under KD-RAMS-WH-002
- Vacant let premises: outlets on hot and cold systems used at least once a week, or a flushing regime, or draining where the property will stand empty for a long time (para 2.144)
- New pipework filled and pressure tested during the works but not yet in use: the regime from first fill to handover is KD-RA-MP-005
- Welfare units and cabins brought onto site, or restarted after a shutdown, flushed through before use — as a let property is flushed before it is occupied (para 2.142) — then logged on KD-INS-WH-034

AREAS OUT OF USE, AND SINCE WHEN	REGIME WHILE OUT OF USE

9 SAMPLING FOR LEGIONELLA

For hot and cold water systems, sampling for legionella is not usually needed. It may be needed where there is doubt about the control regime, or where the temperatures or disinfectant levels are not being achieved consistently; HSE's checklist calls for it where residents are immunocompromised. Samples go to a UKAS-accredited laboratory, and the actions on the results are in HSG274 Part 2 Table 2.2. Temperature monitoring is the reliable routine check; HSE states that the law does not require landlords to obtain a "legionella test certificate".

SAMPLING NEEDED?

LABORATORY

OUTLETS SAMPLED AND HOW OFTEN

RESULTS REF

10 FURTHER ACTIONS — EACH WITH AN OWNER AND A TARGET DATE

NO.	ACTION	OWNER	TARGET DATE	DONE

Residual risk — scored again once the actions are complete

HAZARD (SECTION 6 ROW)	ACTIONS DONE (NOS.)	L	S	SCORE	BAND	SCORED ON	BY

11 RECORDS AND WHEN TO LOOK AT THE ASSESSMENT AGAIN

Keep while current and for at least two years after; keep the results of monitoring, inspections, tests and checks, with their dates, for at least five years (L8 para 72). Records are signed or otherwise authenticated by the person who did the work (L8 para 73). With fewer than five employees there is no statutory duty to write the assessment down, but a record shows it was done (L8 para 70). The law sets no fixed interval for looking at the assessment again (HSE) — set one, and act on any trigger below at once. Tick each record held (L8 paras 71 and 74; COSHH 2002 reg 6(4)):

- | | |
|---|--|
| ☐ Responsible person and deputy, their responsibilities and lines of communication | ☐ Results and dates of every check, inspection and test |
| ☐ Significant findings of this assessment | ☐ Remedial work required and done, with the completion date |
| ☐ The steps taken to prevent or control exposure (COSHH 2002 reg 6(4)) | ☐ Log of visits by contractors, consultants and others |
| ☐ The written control scheme (section 7) and how it is carried out | ☐ Cleaning and disinfection reports and certificates |
| ☐ Schematic diagrams of the water system | ☐ Results of any chemical or microbiological analysis |
| ☐ State of operation — in use, not in use, drained | ☐ Training records of the people doing the work |

WHERE THE RECORDS ARE KEPT

CHECK LOGS USED

RETENTION SET

- | | |
|--|--|
| ☐ A change to the water system or its use | ☐ A change of key people — duty holder, responsible person, contractor |
| ☐ A change to the use of the building | ☐ A case of legionnaires' disease or legionellosis linked to the system |
| ☐ New information about the risks or the controls | ☐ A stage of refurbishment starts or ends; areas taken out of use or brought back |
| ☐ Checks show a control is no longer working | ☐ Handover, a new occupier or a new tenant |

NEXT LOOK AT THE ASSESSMENT BY INTERVAL SET BY THE DUTY HOLDER TRIGGER THAT PROMPTED THIS ASSESSMENT

12 HOW THE FINDINGS WERE SHARED WITH THE PEOPLE AFFECTED

Employers consult employees or their representatives on the risks found and the controls, and let them know the assessment has been done (L8 para 44). Tenants are told the risk, the controls they must keep to — not changing the heater setting, cleaning showerheads — and to report hot water that is not hot (HSG274 Part 2 para 2.143).

WHO WAS TOLD	HOW THEY WERE TOLD	DATE	BY	COMMENTS AND RESPONSE

13 SIGNATURES

Assessed by — I carried out this assessment:

PRINTED NAME	ROLE	COMPANY	SIGNATURE	DATE	TIME

Duty holder — I appoint the responsible person named in section 2 and accept the actions in section 10:

PRINTED NAME	ROLE	COMPANY	SIGNATURE	DATE	TIME

Responsible person — I accept the appointment and the control scheme in section 7, including what to do when a check fails:

PRINTED NAME	ROLE	COMPANY	SIGNATURE	DATE	TIME

R REVISION HISTORY

Every revision of this document, and every review that found nothing to change. The revision on the front of this sheet is the one you are holding — check kubitdocs.com for the current one before use.

Rev	Date	Class	What changed	Authorised by
D0	2026-09-13	first-issue	First issue.	— not yet approved —
A0	2026-09-13	review	Approved for issue by the author. Content unchanged from the reviewed draft; the draft status strip is removed. No independent third-party review has been carried out.	Author — director, UK principal contractor, SMSTS. Not an independent review.

Class: first-issue · material (the law, a control, a field or the scope changed — past buyers are notified) · editorial (wording or layout only) · review (checked, nothing changed) · withdrawal. Revision prefix D = draft, not approved and not for sale; A = approved for issue by the person named, on the date shown.