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FURTHER PUBLIC COMMENT

DR AS 3633:2026 - Residential and public pools - Water quality

An evidentiary standard must test every claimed outcome equally

Prepared for: Standards Australia public comment process - Technical Committee CS-061
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Status: Additional clause-specific public comment following two principal portal submissions

PUBLIC-INTEREST POSITION

DR AS 3633:2026 should not proceed in a form that presumes the acceptability of incumbent registered residual-chemical pathways while imposing a substantially heavier current-validation burden on alternative systems. Registration, history of use and manufacturer statements are not substitutes for independently reviewable, claim-specific evidence for the complete installed system.

Purpose and disclosure

This further comment supplements Enviroswim's earlier clause-by-clause and evidence-parity submissions. It does not repeat the full supporting record. Its purpose is to identify, for Standards Australia and for members of the public reading the comment record, the structural problem that remains in the draft: it is presented as an evidentiary and technology-neutral standard, but it does not apply the same proof rule to every sanitiser pathway.

Enviroswim has a direct commercial interest as the Australian developer of an alternative multi-barrier treatment system. That interest is expressly disclosed. Enviroswim does not seek preferential acceptance. Its system, and every claim made for it, should be tested under exactly the same independent evidence requirements as chlorine, bromine, hydrogen peroxide, PHMB, ionisation, mineral-electrolyte, ozone, ultraviolet and advanced oxidation systems. Enviroswim has already lodged condition-specific laboratory, NSF/ANSI 50, field and independent scientific material; that evidence must also be assessed according to its defined scope and limitations.

1. The central drafting defect

The draft does not yet establish a common performance test. Instead, it combines a prescriptive residual-chemical model with a separate and substantially more demanding validation pathway for alternatives.

Draft provision	What the draft presently does	Why this is not evidence parity
Clause 3.1.1	Uses 1.0 mg/L free available chlorine as the expression of minimum efficacy.	A residual concentration is an operating control; it is not itself an organism-specific efficacy outcome.
Clause 3.1.3 and Table 3.1.3	Structures primary and supplementary treatment around specified incumbent chemical/residual pathways.	Technology classification is substituted for proof of the claimed outcome under defined conditions.
Clause 3.1.4 and Table 3.1.4	Promises microbiological parameters and acceptance criteria, but the table duplicates treatment categories instead of supplying those criteria.	The quantitative pass/fail test expected of an evidentiary standard is missing or defective.
Appendix I	Requires tiered laboratory, pathogen, toxicological, by-product and field evidence for alternatives while treating chlorine and bromine as long-established pathways.	The evidentiary burden turns on incumbency and classification rather than equivalent public-health claims.

The practical effect: Whether intended or not, this structure protects the established registered-chemical and residual-treatment model. It confers presumed standing on incumbent pathways while requiring alternatives to establish current efficacy through a separate and more onerous route. This is a conclusion about the effect of the drafting, not an allegation about motive.

TEST OF AN EVIDENTIARY STANDARD

If two products or systems make the same public-health claim, they should face the same organisms, log reductions, contact times, water conditions, safety margins, laboratory-independence requirements and representative field validation.

Enviroswim's earlier submissions requested the technical bibliography and a clause-to-evidence map for each pathway. No complete clause-by-clause evidence trace has been identified or provided to Enviroswim. Without that trace, public commenters cannot independently test whether the draft's permissions, restrictions and comparisons are supported by equivalent evidence.

2. Registration is not whole-system proof

APVMA registration or approval has an important regulatory function. It does not automatically validate every claim made for a complete installed pool-treatment system, every combination of devices, every reduced-chlorine representation, every chloramine or disinfection-by-product claim, or every air-quality or health outcome. Nor do a patent, component certification, general scientific literature or a manufacturer brochure prove that a particular commercial model delivers the claimed result in an operating pool.

The APVMA's current efficacy guidance requires new pool and spa sanitiser products, including those using traditional active constituents, to demonstrate efficacy. The 2014 APVMA FOI response already on the project record is not proof that chlorine has no scientific literature. It demonstrates the narrower but important point that historic registration files cannot simply be represented as current product-specific validation where the requested records meeting the later guideline did not exist.

This distinction is especially important where the market description obscures the actual sanitiser. A 'mineral pool' may principally be a salt-water chlorine-generation system. Ozone, ultraviolet and AOP equipment may provide supplementary treatment at a reactor but no durable residual in the pool. Hydrogen peroxide or PHMB registration history does not remove the need to reconcile current claims with the publicly recorded APVMA efficacy concerns already placed before Standards Australia.

No product or system claim affecting public health should be carried into an Australian Standard merely because the manufacturer says it is so. The evidence must be claim-specific, independently reviewable and matched to the exact model and operating envelope.

3. Why the defect matters beyond the committee

AS 3633 may be described as voluntary, but it can influence specifications, tenders, council and facility decisions, professional advice, training, insurance expectations and what consumers are told is 'compliant' or 'approved'. A drafting presumption therefore has commercial and public-health consequences. It can preserve the existing chemical supply and service model, including continuing residual chemical consumption, while raising the cost and uncertainty of entry for technologies asked to prove more.

A national standard should not convert market incumbency into a scientific presumption. If evidence exists for a pathway, it should be identified. If equivalent evidence is unavailable, the standard should not conceal that gap by describing one pathway as established and another as alternative.

The need for transparency is greater, not smaller, where committee participants may have connections to the established pool industry. Enviroswim does not allege that those connections prove misconduct. It says that declarations and committee assurances cannot substitute for a published technical record and genuinely independent scientific review.

4. One evidence rule for every pathway

Enviroswim proposes that the following principle be inserted as a normative requirement applying to every treatment product, process and installed system relied upon for compliance:

PROPOSED NORMATIVE PRINCIPLE

Where a treatment product, process or installed system is relied upon to satisfy a microbiological, chemical, by-product, exposure or performance requirement of this Standard, each claimed outcome shall be supported by independent evidence for the exact product model and configuration at its specified operating envelope. The evidence shall identify the test method, organisms or endpoints, starting concentrations, log reduction and contact time where applicable, hydraulic and water-chemistry conditions, residual disinfectant relied upon, testing provider, relevant accreditation scope, limitations and representative field verification. General literature concerning a treatment mechanism, a patent, manufacturer testing, registration of an active constituent or product, safety or materials certification, or history of use shall not constitute validation of a complete system unless its scope expressly supports the claimed outcome.

Minimum evidence fields

Exact identity: product name, model, configuration, software/control settings and all components necessary to achieve the claim.
Treatment role: primary residual disinfectant, supplementary disinfection, oxidation, filtration/process aid, electrolyte feedstock, or validated combined system.
Residual protection: identity and minimum concentration of the disinfectant relied upon in the pool, including any continuing dependence on chlorine or another registered chemical.
Microbiological result: organism and strain, starting concentration, log reduction, contact time, dose, flow and whether the result is single-pass, recirculating or whole-pool.
Operating envelope: pH, temperature, cyanuric acid, organic loading, bather loading, turbidity, UV transmittance where relevant, and other conditions capable of changing performance.
Independence and scope: testing provider, accreditation status and the precise scope to which the accreditation or certification applies.
Field verification: representative full-scale operation, not laboratory mechanism alone, with identified limitations, maintenance, failure modes and safety controls.
Claim-specific endpoints: direct measurements for claims concerning chloramines, disinfection by-products, chlorine reduction, air quality, resistant organisms, health or material compatibility.

Application to the technologies identified in the draft

Incumbent residual chemicals.

Chlorine and bromine should remain available where they meet the standard, but their performance claims should be supported under defined real-pool conditions, including pH, cyanuric acid where used, organic loading, resistant pathogens, biofilm and incident-response conditions. A residual reading alone should not be labelled minimum efficacy.

Hydrogen peroxide and PHMB.

The draft should identify current product-specific independent evidence and reconcile it with the APVMA's 2020 findings and the later procedural history. A decision set aside on natural-justice grounds is not a merits finding that efficacy was demonstrated.

Ozone, UV and advanced oxidation processes.

Evidence should identify the exact model, dose, flow, contact time, reactor and whole-pool result, continuing residual disinfectant, ozone destruction and safety controls. Claims of reduced chlorine, reduced chloramines or disinfection by-products, improved air quality or resistant-organism control require separate measurements appropriate to each claim. General AOP literature is not product validation.

Mineral-electrolyte systems.

The actual active sanitiser should be disclosed. Where mineral salt is principally feedstock for chlorine generation, the system should not be treated as a distinct sanitiser technology unless an additional antimicrobial contribution is independently demonstrated. Wellness claims do not establish sanitiser efficacy.

Integrated alternative systems.

The complete installed configuration should be assessed rather than rejecting or accepting it by reference to one isolated component. Enviroswim accepts that its own system and evidence should be evaluated under this same whole-system rule.

5. Exact corrections requested

Provision or issue	Required correction
Clause 3.1.1	Replace concentration-as-efficacy wording with organism-specific, outcome-based performance criteria under defined conditions.
Clause 3.1.3 / Table 3.1.3	Adopt a controlled taxonomy distinguishing residual disinfection, supplementary disinfection, oxidation, filtration/process aid, mineral/electrolyte feedstock and validated combined systems.
Clause 3.1.4 / Table 3.1.4	Insert the promised microbiological parameters and acceptance criteria; remove the duplicated technology listing.
Appendix I	Apply one evidence schedule to every pathway and every material claim, including incumbent and deemed-to-satisfy pathways where current quantitative outcomes are asserted.
Evidence traceability	Identify the bibliography and test conditions supporting every preferred, permitted or deemed-to-satisfy pathway.
Consultation	If these defects are corrected through material redrafting, reissue the affected provisions for further public comment before ballot or publication.

6. Formal request

Do not advance the affected provisions to ballot or publication until the missing microbiological criteria and unequal evidence pathways have been corrected.

Refer the efficacy framework for independent multidisciplinary review involving water microbiology, public health, occupational hygiene and treatment-system engineering expertise not dependent upon the incumbent pool-chemical market.

Provide an issue-by-issue disposition of the corrections requested in this comment and the earlier Enviroswim submissions, stating the technical reason and evidence for any rejection.

Confirm that product registration, historical use, committee assertion or manufacturer literature will not substitute for evidence supporting the complete-system outcome represented in the Standard.

CONCLUSION

This comment does not ask Standards Australia to ban chlorine, automatically accept Enviroswim or prefer one technology over another. It asks the Standard to prove what it permits and to apply the same proof rule to every competing pathway. If the supporting evidence exists, identify it and map it to the claimed outcome. If it does not, the draft should not convert inherited practice, registration status or manufacturer assertion into a scientific presumption. In its current form, DR AS 3633:2026 is not yet a consistently evidentiary standard; its practical effect is to protect the established registered-chemical and residual-service model.

Independent WHO benchmark

The final World Health Organization guidance for swimming pools and similar environments provides an independent international benchmark directly relevant to the defects identified above. The following WHO material supports the need for outcome-based criteria while remaining subject to Australian risk assessment and drafting review.

Microbiological verification. WHO recommends microbial monitoring even where residual disinfectant, pH and filtration are properly managed. Its operational benchmarks include heterotrophic plate count below 200 cfu/mL, thermotolerant coliforms or E. coli below 1 per 100 mL, and Pseudomonas aeruginosa below 1 per 100 mL in continuously disinfected pools. WHO also recommends sampling when a pool is heavily loaded. This demonstrates why the missing acceptance criteria in Table 3.1.4 are a substantive evidentiary defect, not a minor editorial omission (WHO, 2006, pp. 96-97).

Residual concentration and outcome. WHO treats residual disinfectant, pH and turbidity as important operational controls but still requires microbial monitoring to judge the effectiveness of the measures taken. This supports distinguishing a residual reading from organism-specific proof of performance under defined conditions (WHO, 2006, pp. 95-97).

Ozone, UV and indoor air. WHO states that ozone and UV operate principally at the treatment plant, do not leave a lasting disinfectant residual and are ordinarily used with chlorine- or bromine-based residual protection. It also requires attention to deozonation and ventilation, identifies 0.12 mg/m3 as an ozone air-quality guideline, proposes 0.5 mg/m3 for airborne chlorine species expressed as nitrogen trichloride, and states that ventilation design should account for exposure close to the water surface (WHO, 2006, pp. 63-65, 68-71 and 93).

Independence of certification. WHO distinguishes manufacturer self-certification, trade-association certification and independent third-party certification. It warns that trade-association certification may not be completely independent where manufacturers control the association, while independent third-party certification with ongoing audits and representative-product testing provides greater assurance. This supports evidentiary weighting and independent review; it is not advanced as proof of misconduct by any committee participant (WHO, 2006, p. 112).

RELEVANCE TO THE DRAFT

WHO does not provide automatic Australian drafting language, but it demonstrates that an internationally recognised public-health framework combines operational residual controls with microbiological outcomes, technology-specific safety controls, representative monitoring and appropriately independent certification. DR AS 3633:2026 should identify and justify any departure from those principles.

Sources and record relied upon

1. Standards Australia, DR AS 3633:2026, particularly Clauses 3.1.1, 3.1.3, 3.1.4, Tables 3.1.3 and 3.1.4, and Appendix I.
2. Australian Pesticides and Veterinary Medicines Authority, Efficacy and safety of pool and spa sanitisers. APVMA guidance
3. OECD, Guidance Document No. 170 for demonstrating efficacy of pool and spa disinfectants in laboratory and field testing. OECD publication
4. NSF, Ozone and UV systems and product-specific certification under NSF/ANSI/CAN 50. NSF information
5. APVMA Gazette, 28 July 2020, findings concerning specified hydrogen-peroxide and PHMB pool sanitiser products, as supplied in Enviroswim's earlier evidence record. APVMA Gazette
6. Enviroswim Supplementary Technical Submission dated 23 August 2026; Formal Technical Defect and Evidence Parity Notice dated 24 August 2026; Further Supplementary Notice dated 25 August 2026.
7. Enviroswim independent testing, certification and scientific-report record. Enviroswim accreditation record
8. World Health Organization, Guidelines for Safe Recreational Water Environments, Volume 2: Swimming Pools and Similar Environments (2006), particularly pp. 63-65, 68-71, 93, 95-97 and 112. WHO publication

END OF FURTHER PUBLIC COMMENT