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FORMAL POSITION PAPER

REGISTRATION IS NOT PROOF

Regulatory equivalence, evidentiary asymmetry and the Australian swimming-pool sanitisation framework

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CENTRAL PROPOSITION

Australia's pool-sanitation framework can produce regulatory equivalence without evidentiary equivalence. Registration is meaningful regulatory status; it is not, by itself, proof of contemporary, product-specific and technology-neutral efficacy.

Evidence-led | Technology-neutral | Equal accountability

Executive Summary

Australia's pool-sanitation framework depends on regulatory registration, technical standards and industry guidance. This paper examines whether equivalent regulatory status is being mistaken for equivalent scientific proof.

APVMA's current guidance requires new pool and spa sanitiser products to demonstrate efficacy, recognises the established record of traditional chlorine and bromine sanitisers, and encourages laboratory and full-scale field evidence. Yet APVMA's 2014 FOI response to Enviroswim stated that requested contemporary-guideline evidence for three named legacy products did not exist in its records because the later guideline had not been triggered for those registrations.

APVMA's 2020 review of specified hydrogen-peroxide and PHMB products provides a second illustration: registered products can later be found by the regulator to raise material efficacy concerns. The later setting aside of cancellation decisions on natural-justice grounds did not itself constitute scientific validation.

DR AS 3633:2026 and SPASA's published industry guide appear to carry the historical hierarchy downstream: chlorine is treated as the conventional benchmark while alternatives face additional proof requirements.

The central risk is circular validation: historical acceptance supports registration; registration supports standards recognition; standards recognition supports industry guidance; industry guidance supports market practice; and established practice reinforces the original assumption of legitimacy.

1. Scope and Evidentiary Discipline

This is a systems analysis, not an allegation of corruption, collusion, dishonesty or improper motive. It does not contend that chlorine is ineffective, that every registered product lacks evidence, that every alternative technology is effective, or that Enviroswim is entitled to automatic acceptance.

Primary records were recovered from Enviroswim's email archive wherever possible. The original 17 March 2004 recall notice and complete 30 July 2004 APVMA statement of reasons have not yet been located for the present paper, so the paper relies only on contemporaneous correspondence for the existence and description of that action.

2. Central Proposition

Australia's pool-sanitation framework can produce regulatory equivalence without evidentiary equivalence. APVMA registration is meaningful regulatory status, but registration alone does not disclose whether a product was supported by contemporary product-specific testing, a reference product, scientific argument, historical use, an established standard, legacy assessment or another lawful evidentiary pathway.

The public regulatory status may be uniform; the evidentiary history is not.

3. The Regulatory Legitimacy Loop

Historical scientific acceptance -> APVMA registration -> conventional or benchmark status -> Australian Standard -> industry guidance and training -> installer/operator/procurement reliance -> market acceptance and long history of use -> reinforcement of historical acceptance.

The missing checkpoint is contemporary, technology-neutral and independently auditable verification that the complete treatment pathway achieves the required microbiological and health outcome under relevant operating conditions.

No participant needs to act improperly for this loop to arise. The governance issue is whether repeated reliance on a shared historical foundation is mistaken for multiple independent confirmations.

4. APVMA: Registration and Efficacy

APVMA's current pool and spa sanitiser guidance says new products must satisfy efficacy criteria; traditional chlorine and bromine have an established efficacy record; applicants are encouraged to submit laboratory and field trials; and both components are important. APVMA also says it is the applicant's responsibility to prove that a proposed sanitiser or disinfecting process meets the criteria. **[A1]**

APVMA's broader efficacy framework recognises that efficacy can in some circumstances be addressed through trial data, scientific argument or reliance on a reference product. **[A2]** Different lawful regulatory pathways are not inherently defective. The problem arises when they are later represented as identical scientific proof.

5. 2001-2004: Enviroswim Under Scrutiny

Enviroswim's history demonstrates the burden experienced by a non-conventional treatment system. It relied on independent Tweed laboratory testing and later accumulated further system-level evidence and certification.

Contemporaneous correspondence dated 10 August 2004 refers expressly to an 'ENVIROSWIM SYSTEM RECALL ACTION', APVMA's 30 July 2004 letter and a nine-page statement of reasons signed by Dr Timothy Dykes. It records Enviroswim's challenge to the reasoning and reliance on the Tweed efficacy report, including the reported chlorine comparator result.

Because the original recall notice and complete reasons are not yet in the available source record, no finding is made here about their precise legal basis or scope. The policy point is narrower: Enviroswim was required to confront efficacy evidence directly. Its present position should therefore be framed as a demand for equal evidentiary accountability, not reduced scrutiny.

6. 2014 FOI: The Evidence-Traceability Finding

In 2014 Enviroswim sought scientific evidence demonstrating efficacy, against the then-current APVMA guideline, for three named registered pool sanitiser products. APVMA refused access on the

basis that 'the documents sought do not exist'. Its reasons stated that searches of relevant files did not reveal documentation within the request.

The qualification is essential. APVMA explained that the relevant efficacy guideline applied to applications or reviews commenced on or after 1 July 2014 and had not been triggered for the named legacy products. The defensible conclusion is not that those products had never been supported by any evidence. It is that APVMA did not hold evidence demonstrating compliance with the later guideline because it had not been retrospectively applied.

A product may remain registered while never having been retrospectively assessed against a later efficacy standard applied to a new entrant. Registration therefore cannot, by itself, establish evidentiary equivalence.

7. 2020-2022: Registered Products and Regulatory Reconsideration

In 2020 APVMA reviewed specified hydrogen-peroxide and PHMB pool/spa products. Its published final decisions found inadequate performance for specified products. For the hydrogen-peroxide products addressed, APVMA concluded that stipulated use concentrations could not achieve the minimum antibacterial sanitiser performance characteristics. **[A3]**

The cancellation decisions were subsequently set aside on natural-justice grounds. Procedural reversal is not scientific validation; equally, the court outcome should not be represented as a merits endorsement of APVMA's scientific findings.

APVMA's 2022 consultation then examined proposed amendments to how efficacy of certain pool and spa chemicals should be assessed. Published submissions from SPASA and Enviroswim show broad agreement that efficacy and public-health protection matter, but differences over how prescriptive, independent and field-based the proof framework should be. **[A4]**

8. DR AS 3633:2026: From Regulation to Benchmark

Enviroswim's 19 August 2026 critique records that clause 3.1.1 uses 1.0 ppm free available chlorine as the efficacy reference, while Appendix I creates a detailed validation pathway for alternatives. The critique identifies simulated-use assessment, bacterial and viral challenge, protozoan requirements, toxicological analysis and by-product assessment for alternatives, while conventional systems receive deemed acceptance based on a long-established efficacy record.

A concentration is an operational parameter, not itself a microbiological outcome. Performance depends on organism, contact time, pH, stabiliser, organic demand, temperature, hydraulics and the treatment train.

The concern is not that alternatives are tested too rigorously. The concern is that incumbent pathways may not be required to demonstrate equivalent contemporary evidence.

9. Residual Measurement, CYA and By-products

Residual measurement is operationally valuable, but it does not directly measure pathogen inactivation. Enviroswim's critique records that DR AS 3633:2026 recognises that stabilised chlorine

is less effective than unstabilised chlorine and that cyanuric acid can materially affect disinfecting performance.

The standards question is therefore what evidence connects permitted free chlorine, pH, CYA, temperature, organic demand, sunlight and circulation to the microbiological outcome the Standard intends to assure.

The critique also identifies an apparent asymmetry in by-product assessment: alternatives face toxicological and by-product requirements while conventional chlorination does not face the same Appendix I burden despite acknowledged chloramines, trichloramine and trihalomethanes.

A familiar residual is an operational control measure, not a substitute for a transparent evidence trace.

10. SPASA: Industry Guidance and Amplification

Enviroswim's email records confirm that SPASA convened an Advisory Working Group over 2025-2026 involving representatives associated with major pool equipment, chemical, sanitisation and service businesses, together with Enviroswim and Dr Simon Toze. Industry participation is legitimate and necessary; it also makes transparent conflict management and independent technical review important.

Enviroswim's 25 August 2026 analysis of the published 44-page SPASA Guide records that it defines a primary sanitiser by reference to a continuous measurable residual, describes chlorine as the benchmark primary sanitiser, permits alternative or novel products where equivalent efficacy and safety are demonstrated, categorises ionisers as supplementary, and relies on APVMA and AS 3633 within its evidence framework.

The Guide reportedly states that SPASA is not a regulator, investigative authority or provider of scientific advice. That makes source traceability important: if SPASA is not the scientific authority, the technical basis for its classifications should be identifiable and independently reviewable.

SPASA appears to inherit and amplify regulatory and standards assumptions. That does not prove improper influence. It does mean that APVMA registration, AS 3633 recognition and SPASA guidance can appear to provide several independent confirmations even where the evidentiary foundation is substantially shared.

11. Three Concepts That Must Not Be Blurred

Scientific efficacy of a sanitising mechanism under defined conditions; APVMA registration of a particular chemical product under a particular regulatory pathway; and real-world microbiological performance of a complete treatment system under conditions permitted by a Standard or guide are related but not identical propositions.

A scientifically valid chlorine comparator does not automatically establish that every registered chlorine product was tested against the current comparator. Registration does not automatically establish field performance under every permitted pH, CYA, loading and circulation condition. A residual reading does not directly demonstrate pathogen log reduction.

12. The Evidence Parity Test

Every sanitiser or sanitisation system accorded benchmark, primary, conventional, deemed-to-satisfy or equivalent status should have an evidence map identifying its mechanism, target organisms, log reductions, contact times, active concentration, safety margin, pH, temperature, organic demand, stabiliser conditions, laboratory accreditation, controls, exact formulation/system tested, full-scale field evidence, supplementary chemicals/processes, known by-products and limitations, regulatory pathway, evidence date and continuing relevance.

Where evidence is confidential, a non-confidential technical map should still identify its nature, scope and conclusions sufficiently for meaningful independent scrutiny.

The same Evidence Parity Test should apply to Enviroswim.

13. Recommendations

- APVMA should provide a non-confidential evidence-provenance map for recognised pool and spa sanitiser pathways, distinguishing contemporary product-specific testing from legacy or alternative evidentiary routes.
- Standards Australia should require an evidence map for every conventional and alternative sanitiser recommendation in AS 3633 and explain the scientific bridge between operational residuals and intended microbiological outcomes.
- DR AS 3633:2026 should receive independent multidisciplinary review where novel microbiological and toxicological validation methods are proposed.
- Equivalent health risks, including by-products and occupational exposure, should receive equivalent evidentiary scrutiny across incumbent and alternative technologies.
- SPASA should publish source mapping, conflict-management arrangements, consultation/revision history and the evidence basis for material technology classifications.
- No technology should receive preferential treatment merely because it is old, familiar, chemically conventional, commercially dominant or innovative. The required outcome should be demonstrated safety and efficacy.

14. Conclusion

The evidence reviewed does not establish a conspiracy between APVMA, Standards Australia and SPASA. It establishes something more ordinary and potentially more consequential: a system in which historical acceptance, registration status, standards recognition and industry practice can mutually reinforce one another while the evidentiary provenance beneath individual pathways becomes difficult for outsiders to see.

The result is a risk that regulatory equivalence is mistaken for scientific equivalence.

The appropriate response is not to displace chlorine or privilege Enviroswim. It is to require every sanitiser pathway receiving regulatory, standards or industry recognition to demonstrate an equivalent level of health-based efficacy assurance under relevant operating conditions, with an evidence trail transparent enough to be independently audited.

Registration is regulatory status. A Standard is technical authority to the extent of its adoption and use. Industry consensus is professional opinion. None is a substitute for evidence.

The Australian swimming-pool industry does not need a preferred sanitiser. It needs a preferred standard of proof.

Evidence Schedule and Source Notes

[A1] APVMA, Demonstrating efficacy of pool and spa sanitisers: current official guidance on statutory efficacy, traditional chlorine/bromine, laboratory and field testing, residuals and applicant responsibility.

[A2] APVMA, Pesticides efficacy and crop safety general guideline (Part 8), and APVMA statutory-criteria guidance: efficacy may be addressed through data, scientific argument and, in appropriate circumstances, reference products or established standards.

[A3] APVMA Gazette No. 15, 28 July 2020: final regulatory decisions for specified swimming and spa pool sanitiser products, including findings concerning specified hydrogen-peroxide products.

[A4] APVMA, Proposed amendments to how the efficacy of certain pool and spa chemicals is assessed - submissions received, published 9 August 2022.

[E1] APVMA 2014 FOI decision and statement of reasons recovered from Enviroswim's email archive; primary source for the 'documents sought do not exist' finding and the 1 July 2014 guideline qualification.

[E2] Enviroswim correspondence dated 30 July and 10 August 2004 recovered from Enviroswim's email archive; contemporaneous evidence of the 2004 APVMA dispute and recall-action references. Original recall notice and full APVMA reasons remain to be located.

[E3] Enviroswim, Evidence-Based Critique of DR AS 3633:2026, 19 August 2026, recovered from Enviroswim's email archive.

[E4] Enviroswim, Updated Formal Request for Documentary and Technical Clarification - Published Sanitisation Guide, Working Group governance and SPLASH! 2026 presentation, 25 August 2026, recovered from Enviroswim's email archive.

[E5] SPASA Advisory Working Group email records from Enviroswim's email archive, 2025-2026, documenting participants, recurring meetings, draft development and final-feedback process.

Public APVMA sources are identified by their official titles. Email-derived primary records should be attached or separately indexed wherever this paper is relied upon externally, so that every material proposition can be independently checked.