

Testing of products for use in contact with drinking water

Amendment No. 1

Revised text amendment

Publishing and Approval Dates

Council of Standards Australia Approval: 18 September 2022

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Summary

This Amendment applies to the following elements:

- Preface
- Clauses 2, 6.8, L2 and N4.7

Amendment Details

AS/NZS 4020:2018 is amended as follows. The amendments should be inserted in the locations as instructed.

Element	Instruction / New text
Preface	After fourth paragraph, <i>add</i> the following. Some network utility operators use monochloramine to disinfect drinking water in their distribution systems. This practice may have an effect on the release of NDMA from elastomeric products. During commissioning, a network that utilized monochloramine was found to have high levels of NDMA in a DN100 pressure pipeline. Amendment 1 amends the organic compound test to address this concern regarding NDMA formation in water disinfected with monochloramine. In this amendment the limit set for NDMA for the organic compounds test using monochloraminated water departs from the ADWG limit. The 30 ng/L NDMA limit for elastomeric seals in the organics compound test has been set with the objective of complying with the ADWG NDMA limit of 100 ng/L for supplied water. This limit has been set for NDMA for the following reasons: (1) In a water distribution system there can be an existing residual NDMA content in the water. (2) The cumulative impact of contributions of leachate from different products. (3) The residence time for new pipelines in a water distribution system is often much longer than the standard exposure time of 24h that is used in tests in this Standard.
Cl 2	1 After “AS 1012.8.2 Part 8.2: Method for making and curing concrete — Flexure test specimens”, <i>add</i> the following: 1579 Arc-welded steel pipes and fittings for water and waste-water 2 After “2567 Laminar flow cytotoxic drug safety cabinets”, <i>add</i> the following: 3571 Plastics piping systems — Glass-reinforced thermoplastics (GRP) systems based on unsaturated polyester (UP) resin

Element	Instruction / New text
	3571.2 Part 2: Pressure and non-pressure water supply (ISO 10639:2004, MOD)
3	After “2243.3 Part 3: Microbiological safety and containment”, <i>add</i> the following: 2280 Ductile iron pipes and fittings
4	After “7887 Water quality — Examination and determination of colour”, <i>add</i> the following: 10639 Plastics piping systems for pressure and non-pressure water supply — Glass-reinforced thermosetting plastics (GRP) systems based on unsaturated polyester (UP) resin
5	After “8270D Method 8270D: Semivolatile organic compounds by chromatography/mass spectrometry (GC/MS)” <i>add</i> the following: EN 545 Ductile iron, pipes, fittings, accessories and their joints for water pipelines – Requirements and test methods 12842 Ductile iron fittings for PVC-U or PE piping systems — Requirements and test methods

Cl 6.8 *Delete* text and *replace* with the following:

The product leachate shall be obtained in accordance with Appendix D6.1 (as applicable).

For products containing elastomeric components, that are used with pipes and fittings $\geq$ DN100, as specified in AS/NZS 1477, AS 1579, AS/NZS 2280, AS 3571.2, AS/NZS 4441, AS/NZS 4765, EN 545, EN 12842 and ISO 10639, the test water shall be in accordance with Appendix D3.1, but with chlorine and ammonia additions, to result in a monochloramine concentration of 2.5 ± 0.25 mg/L, with a free ammonia concentration ≤ 0.2 mg/L in the test water.

For all other products, the test water shall be either as specified in Appendix D3.1 or as detailed above.

The product leachate shall be extracted in accordance with EPA 625, EPA 3510 or EPA 3520 and then analysed in accordance with EPA 8260B and EPA 8270D, with the exception of pesticides.

The amounts of organic compounds detected shall not exceed the health guideline values, with the exception of pesticides, listed in the Australian Drinking Water Guidelines and/or the Drinking Water Standards for New Zealand as applicable. In addition, products that are tested with monochloramine shall meet an NDMA maximum limit of 30 ng/L.

NOTE: The option for testing with monochloramine has been allowed for those products that are not required to be tested with monochloramine. This avoids the need for a product to be tested with both test waters.

App L, Para. L2 After item (n), *add* the following:

- (o) The product standard to which the product complies.
- (p) If the product is not listed in the standards list in Clause 6.8, whether monochloramine should be used in the organic compounds test.

App N, Para N4.7 After item (b), *add* the following:

- (c) Where the test water contained monochloramine, a statement to that effect.