Lonza

TECHNICAL DATA SHEET
August 2016

Wood Protection

NEW ZEALAND

Vacsol® Aqua PT

1.0 Description

Vacsol® Aqua PT is a waterborne, multi-functional micro-emulsion azole based wood preservative system for timber used above ground. It contains fungicides (propiconazole & tebuconazole), insecticide (permethrin and/or imidacloprid) with optional anti-mould, water repellent or colorant additives.

1.1 Active ingredients: (m/v)

Propiconazole	5.0%
Tebuconazole	5.0%
Permethrin	3.3%
Other ingredients (surfactants, solvents, water repellents)	Balance

1.2 Appearance: Clear viscous liquid

1.3 Specific Gravity: 1.05g/ml @ 20℃

2.0 Application

2.1 General

Vacsol® Aqua PT is a water-dispersible wood preservative which must be diluted with water to the correct working strength for treatment, in accordance with mixing instructions given in Section 3. It is intended for the treatment of timber to AS1604.1 hazard class H3 and NZS3640:2003 H3.1 applications (external above ground) providing protection against fungal decay and attack from borer and termites. It is also suitable for H1.2 under NZS3640 and AWPA UC3A applications in the USA (EPA Registration No. 75101-1).

2.2 Specific end uses

Under AS1604.1 Vacsol® Aqua PT treated timber can be used in general outdoor, exposed, above ground situations including decking, bearers and joists, fascia, weatherboards, plywood cladding, door and window surrounds, hand rails, laminated posts and beams, etc.

In New Zealand, outdoor uses include H3.1 only which are fully painted and for non-structural application such as cladding, fascia and reveals. NZS3640 allows water borne azole treatment for framing to H1.2 (see details in NZS3640 table 6.1).

Treatment of timber products destined for the US market can be deemed equivalent to AWPA UC3A requirements (close to NZ H3.1) and possibly UC3B in some cases. Consult Lonza for further details.

3.0 Directions for Use

3.1 Concentrate

The concentrate is typically supplied in 1000L IBCs. The concentrate must be diluted to the correct working strength before being used in the treatment plant. The exact dilution factor will depend on the timber product being treated and the treatment process parameters.

3.2 Mixing the RTU solution

Agitate the concentrate to ensure homogeneity before transferring product to make solutions. The concentrate will disperse readily into clean water with agitation. The preparation of treating solution in a pre-mixing tank is strongly recommended. The prepared dilute solution should be checked for correct strength before being added to the main solution tank. Typical treatment solution strength is 0.8 to 1.0% w/v as total azoles depending on the type of timber products to be treated, the process parameters and the end use required. A solution strength test kit is available from Lonza. Solutions should also be regularly analysed by an external laboratory to ensure that correct composition is being maintained. Additional components such as colorants and anti-mould additives can also be added.

3.3 Application to timber

Vacsol® Aqua PT is intended for treatment of kiln dried Radiata pine timber in a conventional vacuum-pressure plant. Consult Lonza regarding the treatment of other timber species.

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Timber to be treated should be kiln dried to less than 20% moisture content (<16% preferable), be in final shape and form with all machining completed before treatment and be free from decay, mould, insect attack and sapstain.

A solution uptake range of 50 to 70 litres/m^3 is typically required to meet compliance for preservative penetration and retention with non-structural timber sections (up to 30mm thickness). However, fluid uptake may need to be increased structural size timbers higher density wood or to comply with penetration requirements and/or inner 1/9^{th} core retention requirements (refer to NZS3640 and AS1604.1 for further details).

Lonza will advise on the most appropriate treatment schedule for the commodities being treated and specifications to be met.

After treatment, timber should be allowed to air-dry in a well ventilated area for at least 48 hours before wrapping or further processing.

3.4 Plant details

LOSP type plants are the most suitable although treatment through conventional CCA plants may be possible with some modifications. Solutions are not corrosive to steel. The Vacsol® Aqua PT solution is not compatible with CCA solution and cannot be mixed with normal LOSP solutions. Specific design and operation constraints will be required for plants operating with dual or more treatment chemical types.

3.5 Other recommendations

Vacsol® Aqua PT solutions should not be mixed with any other chemicals except under guidance from Lonza. For timber products that are not pre-painted addition of Tanamix mould control additive is strongly recommended. Pigment dispersions and other colouring additives are available if required at additional cost.

4.0 The treated timber

4.1 General

The treatment does not affect the colour of the treated wood (unless colouring additives are specifically included) and has very little or no odour. Allowing for the initial increase in moisture content from treating, there is no impact on the wood structural properties.

4.2 Moisture & dimensional stability

The low uptake treatment processes developed by Lonza result in minimal moisture increase and dimensional change in the wood. Treatment will typically increase the moisture content of the wood by 10% to 15% depending on the characteristics of the timber, the process used and solution uptake. Kiln drying may be required before additional processing such as painting or gluing. A moisture stabiliser additive in the treatment reduces swelling during short term exposure to rain and water. Consult with Lonza for further details.

4.3 Painting, gluing and fixings

The treated timber can be painted with alkyd or acrylic based paints once dry. All normal wood glues are compatible subject to checking for moisture content. The treated timber is not corrosive to steel, aluminium or copper alloy fixings. However corrosion resistant fixings (galvanized steel as a minimum) is recommended for all timber in exterior application.

5.0 Safety & handling

Vacsol® Aqua PT concentrate and treatment solutions may be irritating to the eyes and skin. Avoid contact with the concentrate and solutions and wear the recommended personal protection when handling the concentrate and preparing treatment solutions. A detailed Material Safety Data Sheet is available from Lonza for further information.

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Store the concentrate in a secure bunded area. Consult the MSDS before opening containers or using the product.

UN Number: 3082, Environmentally hazardous substance n.o.s. (permethrin)

DG Class: 9