File No PLC/1479

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in X102-537

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (the Act) and Regulations. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Australian Government Department of Health, and conducts the risk assessment for public health and occupational health and safety. The assessment of environmental risk is conducted by the Australian Government Department of the Environment and Energy.

This Public Report is available for viewing and downloading from the NICNAS website or available on request, free of charge, by contacting NICNAS. For requests and enquiries please contact the NICNAS Administration Coordinator at:

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Director
NICNAS

May 2018

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SUMMARY

The following details will be published in the NICNAS *Chemical Gazette:*

ASSESSMENT REFERENCE	APPLICANT	CHEMICAL OR TRADE NAME	HAZARDOUS SUBSTANCE	INTRODUCTION VOLUME	USE
PLC/1479	Tenaru Timber & Finishes Pty Ltd	Polymer in X102-537	No	< 100 tonnes per annum	Component of paint

CONCLUSIONS AND REGULATORY OBLIGATIONS

Human Health Risk Assessment
Based on the assumed low hazard and the assessed use pattern, the notified polymer is not considered to pose an unreasonable risk to the health of workers and the public.

Environmental Risk Assessment
Based on the assumed low hazard and the assessed use pattern, the notified polymer is not considered to pose an unreasonable risk to the environment.

Health and Safety Recommendations

- No specific engineering controls, work practices or personal protective equipment are required for the safe use of the notified polymer itself. However, these should be selected on the basis of all ingredients in the formulation.

  Guidance in selection of personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

- A copy of the SDS should be easily accessible to employees.

- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Globally Harmonised System of Classification and Labelling of Chemicals (GHS),* as adopted for industrial chemicals in Australia, workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation should be in operation.

Disposal

- Where reuse or recycling are not appropriate, dispose of the notified polymer in an environmentally sound manner in accordance with relevant Commonwealth, state, territory and local government legislation.

Emergency Procedures

- Spills and/or accidental release of the notified polymer should be handled by physical containment, collection and subsequent safe disposal.

Secondary Notification
This risk assessment is based on the information available at the time of notification. The Director may call for the reassessment of the polymer under secondary notification provisions based on changes in certain circumstances. Under Section 64 of the *Industrial Chemicals (Notification and Assessment) Act (1989)* the notifier, as well as any other importer or manufacturer of the notified polymer, have post-assessment regulatory obligations to notify NICNAS when any of these circumstances change. These obligations apply even when the notified polymer is listed on the Australian Inventory of Chemical Substances (AICS).

Therefore, the Director of NICNAS must be notified in writing within 28 days by the notifier, other importer or manufacturer:

(1) Under Section 64(1) of the Act; if
- the notified polymer is introduced in a chemical form that does not meet the PLC criteria;

or

(2) Under Section 64(2) of the Act; if
- the function or use of the notified polymer has changed from component of paint, or is likely to change significantly;
- the amount of notified polymer being introduced has increased, or is likely to increase, significantly;
- the notified polymer has begun to be manufactured in Australia;
- additional information has become available to the person as to an adverse effect of the notified polymer on occupational health and safety, public health, or the environment.

The Director will then decide whether a reassessment (i.e. a secondary notification and assessment) is required.

Safety Data Sheet

The SDS of the product containing the notified polymer was provided by the applicant. The accuracy of the information on the SDS remains the responsibility of the applicant.

ASSESSMENT DETAILS

1. APPLICANT AND NOTIFICATION DETAILS

Applicants
Tenaru Timber & Finishes Pty Ltd (ABN: 25 000 588 358)
Unit 9 and 10, 350 Edgar Street
CONDELL PARK NSW 2200

Exempt Information (Section 75 of the Act)
Data items and details claimed exempt from publication: chemical name, other names, CAS number, molecular and structural formulae, molecular weight, polymer constituents, residual monomers/impurities and use details.

2. IDENTITY OF POLYMER

Marketing Name
X102-537 (product containing the notified polymer at < 80% concentration)

Molecular Weight
Number Average Molecular Weight (Mn) is > 1,000 g/mol

3. PLC CRITERIA JUSTIFICATION

Criterion	*Criterion met*
Molecular Weight Requirements	Yes
Functional Group Equivalent Weight (FGEW) Requirements	Yes
Low Charge Density	Yes
Approved Elements Only	Yes
Stable Under Normal Conditions of Use	Yes
Not Water Absorbing	Yes
Not a Hazard Substance or Dangerous Good	Yes

The notified polymer meets the PLC criteria.

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20 °C and 101.3 kPa	Viscous liquid*
Melting Point/Glass Transition Temperature	Not determined
Density	960 kg/m^3 at 20 °C*
Water Solubility	Not determined. Not expected based on high molecular weight and predominantly hydrophobic structure
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

*Properties of X102-537 (product containing the notified polymer at < 80% concentration in organic solvent, not imported)

5. INTRODUCTION AND USE INFORMATION

Maximum Introduction Volume of Notified Chemical (100%) Over Next 5 Years

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	< 100	< 100	< 100	< 100	< 100

Use
The notified polymer will not be manufactured in Australia. It will be imported as a component of finished paints at ≤ 40% concentration. No further reformulation or repackaging will occur.

The finished paints containing the notified polymer at ≤ 40% concentration will be used by professional painters and DIY users. The paints will be applied by brush, roller or spray.

6. HUMAN HEALTH RISK ASSESSMENT

No toxicological data were submitted. The notified polymer meets the PLC criteria and is therefore assumed to be of low hazard. The risk of the notified polymer to occupational and public health is not considered to be unreasonable given the assumed low hazard and the assessed use pattern.

Although not considered in this risk assessment, NICNAS notes that the notified polymer contains residual monomers that are classified as hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), as adopted for industrial chemicals in Australia.

7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. Polymers without significant ionic functionality are generally of low concern to the environment.

The notified polymer will be imported into Australia as a component of finished paints. No further reformulation or repackaging will occur. Spills or accidental release of the products containing the notified polymer during import, storage and transport are expected to be collected with adsorbents, and disposed of to landfill in accordance with local government regulations.

The notified polymer will be predominantly used as a solvent borne coating for exterior substrates by professional painters and do-it-yourself (DIY) users. During use, paints containing the notified polymer are expected to be applied by brush and roller and possibly by spray and aerosol techniques. The overspray or spilt material will typically entail collection with adsorbents for disposal as solid wastes to landfill in accordance with local government regulations. Residues containing the notified polymer on brushes and rollers are expected to be rinsed into containers and then allowed to cure before disposal, as solid wastes, to landfill. Used brushes and rollers and wastes from container residues are expected to be disposed of to landfill in accordance with local government regulations.

As a worst case scenario, it is assumed that up to 5% of the finished paints containing the notified polymer used by DIY users may be incorrectly disposed of to the sewer, drains, or ground from waste and washing of application equipment. Under the worst case scenario the predicted environmental concentration (PEC) is calculated to be 2.81 µg/L assuming these releases occur nationwide and equally over the entire year [(100 000 kg/annum × 0.05) ÷ (200 L per person per day × 24.4 million persons × 365 days/annum)]. Given the notified polymer is non-ionic and of low concern for aquatic hazard, the release of the notified polymer during DIY use will not lead to ecotoxicologically significant concentrations in the aquatic environment.

The notified polymer will share the fate of the coated article, which is ultimately expected to be disposed of to landfill. In landfill, the notified polymer will be present as cured solids, which will be neither bioavailable nor mobile. Furthermore, the notified polymer is not expected to cross biological

membranes or bioaccumulate due to its high molecular weight. In landfill, the notified polymer is expected to eventually degrade to form water and oxides of carbon via biotic and abiotic processes.

Therefore, based on its assumed low hazard and assessed use pattern, the notified polymer is not considered to pose an unreasonable risk to the environment.