

## NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

### POLYMER OF LOW CONCERN PUBLIC REPORT

#### Polymer in Andecal 05

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**

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## **SUMMARY**

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

ASSESSMENT REFERENCE	APPLICANT(S)	CHEMICAL OR TRADE NAME	HAZARDOUS SUBSTANCE	INTRODUCTION VOLUME	USE
PLC/1335	Tenaru Timber & Finishes Pty Ltd	Polymer in Andecal 05	No	≤ 100 tonnes per annum	Component of coatings

## **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 (M)SDS should be easily accessible to employees.
- Spray applications should be carried out in accordance with the Safe Work Australia Code of Practice for *Spray Painting and Powder Coating* (Safe Work Australia, 2015) or relevant State or Territory Code of Practice.
- 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 coatings, 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.

**(Material) Safety Data Sheet**

The (M)SDS of the notified polymer was provided by the applicant. The accuracy of the information on the (M)SDS remains the responsibility of the applicant.

## ASSESSMENT DETAILS

### 1. APPLICANT AND NOTIFICATION DETAILS

#### Applicant

Tenaru Timber & Finishes Pty Ltd  
184-186 Campbell Street  
DARLINGHURST NSW 2010

#### Exempt Information (Section 75 of the Act)

Data items and details claimed exempt from publication: chemical name, other names, molecular and structural formulae, molecular weight, polymer constituents, residual monomers/impurities, use details and import volume.

### 2. IDENTITY OF POLYMER

#### Marketing Name

Andecal 05 (Product containing the notified polymer)

#### CAS Number

Unassigned

#### Molecular Weight

Number Average Molecular Weight (Mn) is > 1,000 Da

### 3. PLC CRITERIA JUSTIFICATION

<i>Criterion</i>	<i>Criterion met</i>
Molecular Weight Requirements	Yes
Functional Group Equivalent Weight (FGEW) Requirements	Not applicable
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 yellow liquid*
Melting Point/Glass Transition Temp	Not determined
Density	Not determined
Water Solubility	Not determined. Expected to have low water solubility based on the high molecular weight and hydrophobic molecular structure
Dissociation Constant	Not determined. Potential to be ionised under environmental conditions (pH 4-9)
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

\* – Refers to polymer in solution. The notified polymer is not isolated from the solvent in which it is prepared.

## 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 be imported into Australia as a component of woodcare and other coatings at concentrations  $\leq 75\%$ . The products will not be formulated in Australia but may be repackaged into smaller size containers for retail sales. The products containing the notified polymer will be available to professional painters and public for Do-It-Yourself (DIY) use. The product may be applied using brush, roller, spray or aerosols.

## 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. These are not present in the notified polymer as introduced above the cut off concentrations for classification.

## 7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. Anionic polymers are generally of low toxicity to fish and daphnia; however, they are known to be moderately toxic to algae. The mode of toxic action is over-chelation of nutrient elements needed by algae for growth. The highest toxicity is when the acid is on alternating carbons of the polymer backbone, which is not expected to apply to the notified polymer. Based on its molecular structure, the notified polymer is not expected to be strongly anionic. Furthermore, the toxicity to algae is likely to be reduced due to the presence of calcium ions in environmental waters, which will bind to the functional groups.

The notified polymer will be imported into Australia as a component of finished coating formulations for wood and other substrates. The product containing the notified polymer will not be reformulated in Australia, but may be repackaged for retail sale. Release of the notified polymer to the environment during import, repackaging, storage, and transport is expected to be limited to accidental spills or leaks and residue in import packaging. Spills or accidental release of the products containing the notified polymer are expected to be collected with adsorbents, and disposed of to landfill in accordance with local government regulations.

Products containing the notified polymer will be used by both professional and DIY users. During use, coatings containing the notified polymer are expected to be applied by brush, roller and spray techniques. Therefore, the main release of the notified polymer during use is expected to be in the form of overspray. These will typically entail collection with adsorbents for disposal as solid wastes to landfill, in accordance with local government regulations. During use, the notified polymer may also be released to the environment as accidental spills and container residues. These releases are expected to be collected with adsorbents and disposed of to landfill in accordance with local government regulations.

Residues containing the notified polymer in application equipment are expected to be rinsed into containers, and then allowed to cure before disposal as solid wastes to landfill. As a worst case scenario, it is assumed that up to 5% of the coatings 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. Release to surface waters may occur, as only partial partitioning to sludge and sediment is expected under environmental pH. However, based on its limited expected aquatic release, the notified polymer is not expected to be released to surface waters at ecotoxicologically significant concentrations. Based on its high molecular weight, the notified polymer is not expected to cross biological membranes, and is therefore unlikely to bioaccumulate.

The notified polymer in coatings cured on the substrate will share the fate of the coated article, which ultimately is 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. In landfill, the notified polymer is expected to eventually degrade via biotic and abiotic processes to form water and oxides of carbon.

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