

File No PLC/883

November 2009

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

**FULL PUBLIC REPORT**

**Polymer in Setal 1601**

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (the Act) and Regulations. This legislation is an Act of the Commonwealth of Australia. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Department of Health and Ageing, and conducts the risk assessment for public health and occupational health and safety. The assessment of environmental risk is conducted by the Department of the Environment, Water, Heritage and the Arts.

For the purposes of subsection 78(1) of the Act, this Full Public Report may be inspected at our NICNAS office by appointment only at 334-336 Illawarra Road, Marrickville NSW 2204.

This Full Public Report is also 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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**FULL PUBLIC REPORT****Polymer in Setal 1601****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT(S)

Nuplex Industries (Aust). Pty Ltd (ABN 25 000 045 572)  
49-61 Stephen Road  
BOTANY NSW 2019

Akzo Nobel Pty Limited (ABN 59 000 119 424)  
115 Hyde Road  
YERONGA QLD 4104

## NOTIFICATION CATEGORY

Polymer of Low Concern

## 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, Use Details and Import Volume.

## VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

No variation to the schedule of data requirements is claimed.

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

Setal 1601 (containing 30-50% notified polymer)

## MOLECULAR WEIGHT (MW)

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

**3. PLC CRITERIA JUSTIFICATION***Criterion*

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

*Criterion met*

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes

The notified polymer meets the PLC criteria.

**4. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance at 20°C and 101.3 kPa:	Dark yellow liquid
Glass Transition Temp	-27°C
Density	1060 kg/m <sup>3</sup> at 20°C
Water Solubility	Insoluble in water. The combination of low polarity and relatively high

Dissociation Constant	molecular weight means that the notified polymer is not water soluble.
Reactivity	The notified polymer contains no dissociable functionalities. Stable under normal environmental conditions. Hydrolysis is not expected to occur in the environment despite the presence of hydrolysable functionalities in the notified polymer.
Degradation Products	None under normal conditions of use

## 5. INTRODUCTION AND USE INFORMATION

### MAXIMUM INTRODUCTION VOLUME OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

Year	1	2	3	4	5
Tonnes	< 20	< 20	< 20	< 20	< 20

#### Use

The notified polymer will be used as a component of varnishes.

#### Mode of Introduction and Disposal

The notified polymer will be imported at 30-50% in finished varnish products (Setal 1601).

It will be applied to timber substrates by professionals and members of the public by brush, roller and spray.

## 6. HUMAN HEALTH IMPLICATIONS

### Hazard Characterisation

No toxicological data were submitted. The notified polymer meets the PLC criteria and can therefore be assumed to be of low hazard.

### Occupational Health and Safety Risk Assessment

Varnish products containing the notified polymer at 30-50% will be distributed to various commercial and retail outlets from the notifier's warehouse. Tradesmen may experience dermal, ocular and inhalation exposure to the notified polymer during application of the varnish to timber substrates by spray, roller or brush.

The MSDS for the varnish containing the notified polymer recommends the use of appropriate personal protective equipment (PPE) to lower exposure levels during use of the product. In particular, the use of a respirator is recommended in certain circumstances during spray application to lower inhalation exposure to aerosols of the varnish.

After application and once dried, the varnish containing the notified polymer will be cured into an inert matrix and the polymer is hence unavailable to exposure.

Overall, the OHS risk presented by the notified polymer is not considered unacceptable, based on the assumed low hazard of the polymer and the PPE that may be used to lower exposure during its application.

### Public Health Risk Assessment

Domestic users will apply varnish products containing the notified polymer at 30-50% similarly to that described above for tradesmen, though they may not wear PPE. The frequency and quantities used by domestic users is thought to be lower. In addition, spray application is expected to be less likely for domestic users, leading to a lower level of inhalation exposure.

After application and once dried, the varnish containing the notified polymer will be cured into an inert matrix and the polymer will hence be unavailable to exposure.

The notified polymer is not considered to pose an unacceptable risk to public health, based on the assumed low hazard of the notified polymer.

## 7. ENVIRONMENTAL IMPLICATIONS

### Hazard Characterisation

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

### Environmental Risk Assessment

No significant release of the notified polymer is expected to occur to the aquatic environment. In landfill, the notified polymer will undergo slow degradation processes via biotic and abiotic pathways, forming water and oxides of carbon and silicon.

Based on the above reported use pattern, the notified polymer is not expected to pose an unacceptable risk to the environment.

## 8. CONCLUSIONS AND RECOMMENDATIONS

### Human health risk assessment

Under the conditions of the occupational settings described, the notified polymer is not considered to pose an unacceptable risk to the health of workers.

When used in the proposed manner, the notified polymer is not considered to pose an unacceptable risk to public health.

### Environmental risk assessment

Based on the reported use pattern, the notified polymer is not considered to pose a risk to the environment.

### Recommendations

#### CONTROL MEASURES

##### Occupational Health and Safety

- 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 MSDS should be easily accessible to employees.
- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)], workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.
- Spray application should be carried out in accordance with the *Safe Work Australia National Guidance Material for Spray Painting* [NOHSC (1999)].

##### Disposal

- The notified polymer should be disposed of to landfill.

##### Emergency procedures

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

## Regulatory Obligations

### *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 a component of varnishes, 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 chemical 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 MSDS of a product containing the notified polymer provided by the notifier was reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.