File No PLC/956

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN FULL PUBLIC REPORT

Polymer in Neo-Rez R-2180

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (the Act) and Regulations. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Australian Government 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 Australian Government Department of Sustainability, Environment, Water, Population and Communities.

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 Level 7, 260 Elizabeth Street, Surry Hills NSW 2010.

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:

Street Address:	Level 7, 260 Elizabeth Street, SURRY HILLS NSW 2010, AUSTRALIA.
Postal Address:	GPO Box 58, SYDNEY NSW 2001, AUSTRALIA.
TEL:	+ 61 2 8577 8800
FAX:	+ 61 2 8577 8888
Website:	www.nicnas.gov.au

Director
NICNAS

February 2011

Table of Contents

1. APPLICANT AND NOTIFICATION DETAILS

Applicant

Reschem Technologies Pty Ltd (ABN: 90 315 656 219)
6/56 Kalang Road
Elanora Heights NSW 2101

Exempt Information (Section 75 of the Act)

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

2. IDENTITY OF POLYMER

Marketing Name(s)
Polymer in Neo-Rez R-2180 (containing 20-40% notified polymer)

Molecular Weight

Number Average Molecular Weight (Mn) is > 10,000 Da

Reactive Functional Groups

The notified polymer contains only low concern functional groups.

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:	Solid
Melting Point/Glass Transition Temp	Notified polymer not isolated
Density	1100 kg/m^3
Water Solubility	Expected to be water dispersible based on the presence of polar functionality and the use pattern in water containing solvent systems.
Dissociation Constant	The notified polymer is a salt and is expected to be ionised under environmental conditions.
Reactivity	Stable under normal environmental conditions. Hydrolysis is not expected to occur in the environmental pH range 4–9.

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	< 10	< 10	10-20	10-20	10-20

Use
The notified polymer will not be manufactured in Australia. The notified polymer will be imported at a concentration of 20-40% and subsequently reformulated.

The notified polymer will be used as a component of a coating for timber, concrete, glass and other substrates at a concentration of < 20%. It will be used by both industrial (80%) and Do-It-Yourself (DIY) users. Application may be performed using spray, brush or roller. Of the coatings applied industrially, ~75% will be applied using spray (in spray booths), ~20% using brush, and ~5% using roller.

6. HUMAN HEALTH RISK ASSESSMENT

Occupational Health and Safety 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 health is not considered to be unacceptable given the assumed low hazard.

Public Health and Safety Risk Assessment
The public may be exposed during use of DIY coating products containing the notified polymer at < 20%. However, given the assumed low hazard, the risk to the public posed by exposure to the notified polymer is not considered unacceptable.

7. ENVIRONMENTAL RISK ASSESSMENT

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

Reformulation wastes, container residues and fully cured solid wastes containing the notified polymer are expected to be sent to a licensed waste facility for disposal in accordance with state/territory waste standards. The main release as overspray during use will typically entail landfill disposal, following interception by spray booth filters. If paint residues are washed to sewer from cleaning of reformulation and application equipment, the notified polymer is expected to partition to sludge during sewage treatment.

Once cured, the coatings containing the notified polymer will form an inert polymer matrix, and the incorporated notified polymer will not be bioavailable. Discarded coated articles will be either sent to landfill or thermally decomposed during the recycling of the coated substrates at the end of their useful lives. In landfill, the notified polymer contained in solid waste or on coated surfaces is expected to be immobile due to its incorporation into an inert matrix of cured coatings and will eventually degrade via abiotic or biotic processes into water and oxides of carbon and nitrogen. The notified polymer is not expected to be readily biodegradable, but bioaccumulation is not likely based on its high molecular weight.

Therefore, the notified polymer is not expected to pose an unacceptable risk to the aquatic environment based on the reported use pattern and its characteristics as a PLC.

8. RECOMMENDATIONS

Human Health Risk Assessment
When used in the proposed manner, the notified polymer is not considered to pose an unacceptable risk to the health of workers and the public.

Environmental Risk Assessment
Based on the assumed low hazard and the reported use pattern, the notified polymer is not considered to pose an unacceptable 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 MSDS should be easily accessible to employees.

- Spray application should be carried out in accordance with the Safe Work Australia *National Guidance Material for Spray Painting* [NOHSC (1999)].

- 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.

Environmental Recommendations

Disposal

- The notified polymer should be disposed to landfill.

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 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 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 was provided by the applicant. The accuracy of the information on the MSDS remains the responsibility of the applicant.