File No PLC/948

September 2010

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

FULL PUBLIC REPORT

Polymer in Uralac SN905

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 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:

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Director
NICNAS

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1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)
Reschem Technologies Pty Ltd (ABN 90 315 656 219)
6/56 Kalang Road
ELANORA HEIGHTS NSW 3170

NOTIFICATION CATEGORY
Polymer of Low Concern

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 and Import Volume.

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)
No variation to the schedule of data requirements is claimed.

NOTIFICATION IN OTHER COUNTRIES
No

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
Uralac SN905 (containing the notified polymer at <40%)

MOLECULAR WEIGHT (MW)
Number Average Molecular Weight (Mn) > 1,000 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	Colourless flakes
Melting Point/Glass Transition Temp	51°C
Density	1200 kg/m^3

Water Solubility	Not determined. The notified polymer is expected to have low solubility in water based on its predominantly hydrophobic structure and experience in use.
Dissociation Constant	Not determined. The notified polymer has no dissociable functions at environmental pH (4 – 9).
Particle Size	2-4 mm
Reactivity	Stable under normal environmental conditions. Hydrolysis of the notified polymer is expected to be slow in the environmental pH range (4-9) despite the presence of hydrolysable functional groups in the 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	100-600	100-600	100-600	100-600	100-600

Use
The notified polymer will be used as an additive in coil coatings at < 50% concentration.

Mode of Introduction and Disposal
The notified polymer will not be manufactured in Australia. It will be imported in 75% solution of naptha or as flakes. The notified polymer will be imported in 1000 litre IBC containers.

6. HUMAN HEALTH IMPLICATIONS

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

Occupational Health and Safety Risk Assessment
The notified polymer will be transferred under exhaust ventilation to a mixing vessel for reformulation via mechanical or manual pumping. The reformulated product containing the notified polymer will be transferred under exhaust ventilation to a reservoir via a mechanical decanting pump. The reservoir will feed onto transfer rollers, which will then apply the coating formulation to the exterior of the article as it is fed through the coating machine, which is enclosed. During application, any residual coating formulation remaining on the application roller will be removed by a scraper and returned into the reservoir via a drip tray for reuse. After application the article will be fed into a multi-zone oven, where heat will dry and cure the coating. To minimise any further exposure during various procedures, workers will wear appropriate personal protective equipment such as coveralls, safety masks/safety glasses/shields and gloves.

Dermal and ocular exposure may potentially occur during the reformulation and application processes involving the notified polymer. However, exposure to significant amounts of the notified polymer will be limited because of the fully automated application processes, the engineering controls and the personal protective equipment worn by workers.

Overall, the OHS risk presented by the notified polymer is expected to be low, based on the minimal exposure to workers and the assumed low intrinsic hazard of the polymer.

Public Health Risk Assessment
The notified polymer will not be sold to the public except in the form of finished articles. There is potential for extensive public exposure to articles such as cans and tubes coated with the notified polymer. However, the notified polymer will be contained within an inert matrix and exposure to the public is not expected. Therefore, the risk to public health will be low, based on the anticipated low hazard of the notified polymer and expected minimal exposure.

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
The coating formulation containing the notified polymer will be applied by transfer rollers to metal sheets which are fed through a coating machine. During application, any residual coating formulation remaining on the application roller will be removed by a scraper and returned into the reservoir via a drip tray for reuse. Excess notified polymer arising from coating applications and cleaning (up to 10% and 1% of the total import volume, respectively) will either be recycled or sent to landfill. Once the applied coating containing the notified polymer is oven dried, it is cured into an inert matrix and the notified polymer will therefore not be bioavailable. The majority of the notified polymer disposed of to landfill is anticipated to be immobile due to its inert state and expected low solubility in water. Although not expected to be readily biodegradable, it is anticipated that in landfill the notified polymer would slowly degrade through biotic and abiotic processes to give water vapour and oxides of carbon. Some articles containing the notified polymer are expected to be recycled and the notified polymer will be destroyed thermally during metals reclamation. The high molecular weight of the notified polymer indicates a low potential for bioaccumulation. Based on its reported exposure levels and use pattern, the polymer is not expected to pose a risk to the environment when it is used in the proposed manner.

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 or to members of the public.

Environmental risk assessment
Based on the reported use pattern, the notified polymer is not expected 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.

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 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 an additive in coil coatings or is likely to change significantly;
- the amount of notified polymer being introduced has increased from 600 tonnes per year, 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 the product containing notified polymer provided by the notifier was reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.