File No PLC/1211

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in DETAC DC779F

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.

For the purposes of subsection 78(1) of the Act, this Public Report may be inspected at our NICNAS office by appointment only at Level 7, 260 Elizabeth Street, Surry Hills NSW 2010.

This 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

July 2014

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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/1211	Nuplex Industries (Aust) Pty Ltd	Polymer in DETAC DC779F	No	≤ 100 tonnes per annum	Detackifier used in the pulp and paper industry

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.

- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Globally Harmonised System for the 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

- 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.

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 detackifier used in the pulp and paper industry, 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
Nuplex Industries (Australia) Pty Ltd (ABN: 25 000 045 572)
Building I, Suite 15, 22 Powers Road
SEVEN HILLS NSW 2147

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 manufacture/import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)
Polymer in DETAC DC779F

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

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	Odourless transparent liquid
Melting Point/Glass Transition Temp	Imported in solution
Density	1,103 kg/m^3 at 23 °C
Water Solubility	Not determined. The notified polymer is expected to be water dispersible based on the structure and the use pattern in aqueous products.
Reactivity	Stable under normal environmental conditions
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	< 100	< 100	< 100	< 100

Introduction and Use
The notified polymer will not be manufactured or reformulated in Australia. The notified polymer will be imported into Australia via the ports of Melbourne and Botany. The notified polymer will be used as a detackifier in the pulp and paper industry.

6. HUMAN HEALTH RISK ASSESSMENT

No toxicological data were submitted. The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. Given the assumed low hazard, the risk to workers and the public from exposure to the notified polymer is not considered unreasonable.

7. ENVIRONMENTAL RISK ASSESSMENT

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

Product containing the notified polymer will be used as detackifier in the pulp and paper. It is estimated by the notifier that less than 5% of the total import volume of the notified polymer will be released to a wastewater treatment facility. However, most of the product will remain bound to the fibres of the final paper product. At the wastewater treatment facility, the wastewater is expected to be treated to form a sludge, which is then expected to be disposed of to landfill.

It is assumed that 50% of the notified polymer may be washed into sewers due to paper recycling over 260 days per annum into the total Australian effluent volume. This corresponds to release from recycling processes only on working days, based on a 5 day work week. Assuming 90% of the notified polymer will be removed via absorption to sludge in sewage treatment plants (STPs). The PEC_{river} is 4.25 µg/L if the daily chemical release (50,000 kg/260 × 10% = 19.2 kg) is diluted by the daily effluent production (200 L/person/day × 22.613 million people = 4,523 ML). The remainder of the notified polymer partitions to biosolids with an estimated concentration of 383 mg/kg (dry wt), and is expected to be disposed of to landfill or applied to agricultural soils for soil remediation.

Notified polymer released to surface waters is not expected to reach ecotoxicologically significant concentrations. If the notified polymer reaches the aquatic environment, due to its non-ionic nature, the majority of notified polymer is likely to dissipate to sediment via adsorption onto soil/sediment particles in the aquatic environment. The notified polymer is not expected to be readily biodegradable based on its chemical structure and high molecular weight. The notified polymer is not expected to cross biological membranes due to its high molecular weight and thus it is unlikely to bioaccumulate.

Most of the notified polymer will reach landfill as a result of disposal of used paper, or sludge waste from paper recycling processes. In soils and the aquatic environment, the notified polymer is expected to eventually degrade through biotic and abiotic processes to form water and oxides of carbon. 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.