File No: SAPLC/173

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in WC-23-6556

This Self Assessment has been compiled by the applicant and adopted by NICNAS 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), administered by the Department of Health and the Department of the Environment, has screened this assessment report. The data supporting this assessment will be subject to audit by NICNAS.

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

June 2015

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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
SAPLC/173	PPG Industries Australia Pty Ltd	Polymer in WC-23-6556	No	≤ 50 tonnes per annum	Component of industrial 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.

- 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

- 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.

Storage

- The following precautions should be taken by the notifiers regarding storage of the notified polymer:
  - Bunding

Emergency procedures

- Spills/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 industrial coatings, or is likely to change significantly;
- the amount of notified polymer being introduced has increased, or is likely to increase, significantly;
- the method of manufacture of the notified polymer in Australia has changed, or is likely to change, in a way that may result in an increased risk of an adverse effect of the notified polymer on occupational health and safety, public health, or the environment;
- 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 product containing 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

Applicants
PPG Industries Australia Pty Ltd (ABN: 82 055 500 939)
Mc Naughton Road
Clayton VIC 3168

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 manufacture volume.

2. IDENTITY OF POLYMER

Marketing Name(s)
WC-23-6556 (containing the notified polymer at 15-30%)

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	Liquid
Melting Point/Glass Transition Temp	Manufactured in solution
Density	1,050 kg/m^3 at 25 °C
Water Solubility	Expected to be water dispersible based on the presence of hydrophilic and hydrophobic functionality and its use in aqueous products.
Dissociation Constant	Contains dissociable functionality that may ionise under environmental conditions (pH 4-9).
Reactivity	Stable under normal environmental conditions.
Degradation Products	Small amounts of monomers and oxides of carbon produced on combustion.

5. INTRODUCTION AND USE INFORMATION

Maximum Introduction Volume of Notified Chemical (100%) Over Next 5 Years

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	10-30	20-40	20-40	30-50	30-50

Use
The notified polymer will be manufactured at 15-30% in solution in in Australia. This solution will then be transported in 200 L steel drums *via* road and ship to New Zealand for formulation into industrial paints containing the notified polymer at < 15% concentration. The finished coatings will not be used in Australia.

6. HUMAN HEALTH RISK ASSESSMENT

No toxicological data were available. The notified polymer meets the PLC criteria and can therefore be considered 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.

7. ENVIRONMENTAL RISK ASSESSMENT

7.1. Exposure Assessment

ENVIRONMENTAL RELEASE

The notified polymer will be manufactured in Australia for export only; no reformulation or application of the notified polymer will occur locally. Manufacture of the notified polymer will occur within automated closed systems with appropriate engineering controls. Release of the notified polymer to the environment during manufacture, transport and warehousing is expected to occur only through accidental spills or leaks of containers. No release of the notified polymer to sewers and the aquatic environment is expected. When spills occur, they are expected to be contained by bunding, collected with absorbent material and sent to landfill or a licensed off site waste disposal centre in accordance with local government regulations.

ENVIRONMENTAL FATE

The notified polymer in accidental spills and wastes during manufacture, transport and warehousing will be disposed of to landfill or sent to a licensed off site waste disposal centre in accordance with local government regulations. Based on its high molecular weight and low water solubility, the notified polymer disposed of to landfill is not expected to bioaccumulate. In landfill, the notified polymer is expected to eventually degrade by biotic and abiotic processes to form water and oxides of carbon and nitrogen.

7.2. Environmental Hazard Characterisation

No ecotoxicological data were submitted. Anionic polymers 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 alternative carbons of the polymer backbone, which may apply to the notified polymer. However, no significant aquatic release of the notified polymer is expected; in the event of aquatic release, 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.

7.3. Environmental Risk Assessment

No significant aquatic release of the notified polymer is expected during manufacture. Reformulation and end use will occur outside of Australia. Therefore, based on its assumed low hazard and no local application, the notified polymer is not considered to pose an unacceptable risk to the environment.