File No: SAPLC/163

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in HC-71-5811

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 (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

July 2014

Part 2 – PLC Self Assessment Exempt Information

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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/163	PPG Industries Australia Pty Ltd	Polymer in HC-71-5811	No	≤ 18 tonnes per annum	Component of refinish automotive 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.

- Spray applications should be carried out in accordance with the Safe Work Australia Code of Practice for *Spray Painting and Powder Coating* (Safe Work Australia, 2012) or relevant State or Territory Code of Practice.

- 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.

Environmental Recommendations

- The following control measures should be implemented by the customer to minimise environmental exposure during (manufacture, formulation, use) of the notified polymer:
  - Bunding
  - Exhaust ventilation with filter

Disposal

- The notified polymer should be disposed of to landfill.

Storage

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

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 component of automotive 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 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)
McNaughton Rd,
Clayton Victoria 3168

Exempt Information (Section 75 of the Act)
Data items and details claimed exempt from publication: Chemical Name, Other Names, Molecular and Structural Formulae, Molecular Weight, Polymer Constituents, Residual Monomers/Impurities, Use Details and Import Volume.

2. IDENTITY OF POLYMER

Marketing Name(s)
Acrylic HC-71-5811
Acrylic copolymer solution
Acrylic

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	Not applicable
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 (product)
Melting Point/Glass Transition Temp	Imported in solution
Density	1058 kg/m^3 at 25°C (product)
Water Solubility	Not determined. The notified polymer is expected to be insoluble due to predominantly hydrophobic structure and high molecular weight.
Dissociation Constant	Not determined. Due to the expected insolubility of the notified polymer, it is not likely to ionise in the environmental pH range (4-9).
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

The residual carboxylic functional groups are not expected to be dissociated in the aquatic environment due to the molecular weight of the polymer and the small number of functional groups. Furthermore the polymer is unlikely to be released to the aquatic environment during the normal

course of its use as it is converted into an inert coating of very high molecular weight during the curing process.

5. INTRODUCTION AND USE INFORMATION

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

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	10-15	10-15	10-18	10-18	10-18

Use
The notified polymer will be imported at 60-80% solution (in organic solvent) in 180 L steel drums. The notified polymer will be reformulated into coatings and then transported in 5 L containers to customer sites for mixing and application.

The notified polymer will be used as a binder in automotive repair coatings. The coatings will be applied by a spray gun and will be used by smash repair companies only.

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.

Although not considered in this risk assessment, the notified polymer contains residual monomers that are classified as hazardous according to the *Globally Harmonised System for the Classification and Labelling of Chemicals (GHS),* as adopted for industrial chemicals in Australia. These are not present in the notified polymer as introduced above the cut off concentrations for classification.

Occupational Health and Safety Risk Assessment
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 IMPLICATIONS

7.1. Exposure Assessment

ENVIRONMENTAL RELEASE
Release to the environment during shipping, transport and warehousing will only occur through accidental spills or leaks of the drums or steel packaged containers.

During reformulation and packaging, spills are expected to be negligible. Any spills will be contained by bunding, collected with absorbent material and will be sent to an offsite waste disposal centre. Empty drums will be collected by drum recyclers and polymer residues will be disposed of according to State and Territory regulations. Total waste from all sources is expected to be approximately 2% of the total import volume.

Under normal use procedures, losses of the notified polymer through overspray, mixing of components and cleaning of equipment as well as losses from residues in containers have been estimated to be a maximum of 70% which equates to a maximum of 13 tonnes per annum. Waste from application will be hardened and disposed of to landfill.

ENVIRONMENTAL FATE
It is expected that most of the notified polymer will be land filled at the end of its useful life. The notified polymer in coated articles is expected to share the fate of these articles and, at the end of their useful lives, will be disposed of to landfill. The notified polymer is expected to slowly degrade in situ following disposal to landfill, based on its very low water solubility

and stable structure.

7.2. Environmental Hazard Characterisation

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

7.3. Environmental Risk Assessment

No aquatic exposure is anticipated during reformulation and use of the notified polymer. It is expected that the notified polymer will be disposed of in approved landfills as inert solid waste or coated articles at the end of their useful lives. In landfill, the notified polymer is not expected to be mobile or bioavailable and will degrade slowly through biotic and abiotic processes to form water and oxides of carbon. Therefore, based on its assumed low hazard and reported use pattern, the notified polymer is not expected to pose an unreasonable risk to the environment