

**NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME
(NICNAS)**

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in RP-47-7710

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 and Energy, has screened this assessment report. The data supporting this assessment will be subject to audit by NICNAS.

This Public Report is 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**

March 2019

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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/212	PPG Industries Australia Pty Ltd	Polymer in RP-47-7710	No	≤ 30 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 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.

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 a 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.

Safety Data Sheet

The SDS of a product containing the notified polymer was provided by the applicant. The accuracy of the information on the 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)
14-20 McNaughton Road
CLAYTON VIC 3168

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 import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)

RP-47-7710 (product containing the notified polymer at 50-70% concentration)

Molecular Weight

Number Average Molecular Weight (Mn) is > 1,000 g/mol.

3. PLC CRITERIA JUSTIFICATION

<i>Criterion</i>	<i>Criterion met</i>
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	Clear liquid*
Melting Point/Glass Transition Temp	Not determined
Density	1,080 kg/m ³ at 25 °C*
Water Solubility	Not determined. Expected to be dispersible in water based on presence of hydrophilic and hydrophobic functionalities
Dissociation Constant	Not determined. Contains terminal dissociable functionalities
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

* For the product containing the notified polymer at 50-70% concentration in organic solvent

5. INTRODUCTION AND USE INFORMATION

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

<i>Year</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Tonnes	10-30	10-30	10-30	10-30	10-30

Use

The notified polymer will be imported at 50-70% concentration in organic solvent for reformulation of finished industrial coil coatings. The finished coatings containing the notified polymer at < 10% concentration will be applied to steel by roller coater in an industrial setting.

At a later date, the notified polymer will be manufactured within Australia at 50-70% concentration in organic solvent for reformulation of finished industrial coil coatings containing the notified polymer at < 10% concentration.

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

There is the potential for release during manufacture and application. Any spills that occur during transport, storage, reformulation and application will be contained by bunding and disposed of in accordance with local government regulations. Approximately 600 kg per annum of waste is expected to be generated due to spills and cleaning equipment during resin usage. A licensed waste disposal contractor will collect the solvent based waste from the manufacturing process for destruction through cement kilns.

ENVIRONMENTAL FATE

The notified polymer is expected to be stable under normal environmental conditions. The notified polymer will be used in coil coatings that will eventually be incorporated in metal recycling programs or sent to landfill for disposal following its lifecycle. During reclamation, the notified polymer would be destroyed in furnaces and converted to water vapour and oxides of silicon and carbon. Due to its low water solubility, the notified polymer in solid wastes is expected to remain bound within the soils and sediments of landfills and eventually degrade through biotic and abiotic processes to form water and oxides of carbon and silicon. If spilt on land, the notified polymer is expected to bind to soil and become immobilised in the soil layer. If spilt to water, it is not expected to dissolve but rather disperse or settle to sediment. It is not expected to be readily biodegradable and due to its high molecular weight, it is not expected to bioaccumulate.

7.2. Environmental Hazard Characterisation

No ecotoxicological data were submitted. Anionic polymers are generally of low toxicity to fish and daphnia, however they 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 alternating carbons of the polymer backbone, leading to chelation of essential nutrients. However, this does not apply to the notified polymer and it is therefore not considered to be an over-chelation hazard to algae.

7.3. Environmental Risk Assessment

Based on its assumed low hazard and the report use pattern, the notified polymer is not expected to pose an unreasonable risk to the environment.