

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

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in Polyester Powder Gloss Black

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 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**

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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/202	PPG Industries Australia Pty Ltd	Polymer in Polyester Powder Gloss Black	No	< 1 tonne per annum	Component of powder 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.

Storage

- The following precautions should be taken by workers regarding storage of the notified polymer:
 - Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (oxidising substances, strong acids, strong bases).

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 powder 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.

Safety Data Sheet

The SDS of the 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

Applicant

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

Polyester Powder Gloss Black (product containing the notified polymer at < 1% 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	White powder
Melting Point/Glass Transition Temp	> 190 °C*
Density	1,081 kg/m ³ at 20 °C
Water Solubility	< 10 g/L at 20 °C
Dissociation Constant	Does not contain dissociable functionality that may ionise under environmental conditions (pH 4-9)
Particle Size	30 – 100 µm*
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

* Powder coating formulation containing the notified polymer at < 1% concentration.

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	< 1	< 1	< 1	< 1	< 1

Use

The notified polymer will be imported as a component of a pigmented powder coating formulation at < 1% concentration for industrial use. The notified polymer will not be reformulated or manufactured in Australia. The coating containing the notified polymer at < 1% concentration will be applied to metallic substrates on an industrial line by electrostatic spraying followed by heat curing in a baking oven. The coated metallic substrates will then be exported outside of Australia.

6. HUMAN HEALTH RISK ASSESSMENT

No toxicological data were available. The notified polymer meets the PLC criteria and is therefore assumed 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 not be manufactured or reformulated in Australia. Therefore, release to the environment is expected to only occur through accidental spills or leaks of the storage containers during shipping, transport, and warehousing. Empty plastic bag liners from import of pigmented powder coating formulation will be sent to licensed waste disposal contractors who will collect the plastic bag liners from the powder coating application process for disposal by incineration. An estimated 0.5% of the pigmented powder coating formulation will remain as residues in plastic bag liners.

There is potential for release of the notified polymer during spray-gun loading, powder coating application and equipment cleaning. Professional spray painters will apply the pigmented powder coating formulation by electrostatic spraying on an industrial line on metallic substrates in combination spray/oven booths that comply with Australian Standards. Spray booths are fitted with environmental control measures. Water curtains or a dry filter medium will collect excess spray. Up to 5% of the notified polymer could be released through overspray within spray booths. This will be captured by standard engineering controls, and if appropriate it will be reused. If unable to be reused, the solid overspray waste will be sent to licensed waste disposal contractors who will carry out disposal by incineration.

Less than 0.5% of pigmented powder coating formulation containing the notified polymer waste product will be generated from cleaning the application equipment. Therefore, the total waste for disposal of pigmented powder coating formulation could amount to up to 6% of the import volume of the pigmented powder coating formulation, equivalent to 0.6 kg notified polymer/annum. It is expected that no waste notified polymer would enter the sewerage system or natural waterways.

Once the coating is cured the notified polymer will be bound in the cured powder coating formulation paint matrix and will not be available for direct release to the environment. The coated metallic substrates will be exported overseas therefore there will be no environmental release within Australia from disposal of the metallic substrates.

ENVIRONMENTAL FATE

The notified polymer is expected to be hydrolytically stable and to not be readily biodegradable. Due to its hydrophobic nature, it is expected that the notified polymer in landfill will associate with sediments and organic phases of soil and sediments, and slowly degrade to simple carbon compounds. 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 but due to its high molecular weight, it is not expected to bioaccumulate.

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

The notified polymer will be used in powder coating applications for metallic substrates which will be subsequently exported outside of Australia. No significant release to the water environment is expected based on the proposed use pattern.