

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

POLYMER OF LOW CONCERN FULL PUBLIC REPORT

Polymer in FU-062 Resin

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (the Act) and Regulations. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Australian Government Department of Health and Ageing, 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 Sustainability, Environment, Water, Population and Communities.

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

This Full 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**

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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, 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)

FU-062 Resin (product containing the notified polymer)

Molecular Weight

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

Reactive Functional Groups

The notified polymer contains only low concern functional groups.

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	Light yellow liquid
Glass Transition Temp	-6°C
Density	1020 kg/m ³ at 20 °C
Water Solubility*	0.923 g/L. Determined gravimetrically with an in-house method. Test substance (~10 g) was added to water (~50 g) and shaken vigorously. The solution was allowed to stand for 48 h at 20°C. An aliquot of solution was weighed (~2 g), dried for 1 h at 130°C and reweighed.
Dissociation Constant	Not determined. The notified polymer contains functionality that is expected to ionise in the environmental pH range (4-9).
Particle Size	Dispersion in solvent.
Reactivity	Stable under normal environmental conditions. Not expected to hydrolyse under environmental pH and ambient temperatures.

Degradation Products

None under normal conditions of use

*Performed on product containing 70% notified polymer

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	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3	0.1-0.3

Use

The notified polymer will be imported into Australia at a concentration of < 20% in paint.

Products containing the notified polymer will not be reformulated or repacked in Australia.

The notified polymer will be used in a paint to be applied by spray to car parts in a production line process at car manufacturing plants.

6. HUMAN HEALTH RISK ASSESSMENT

No toxicological data were submitted. 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

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 alternating carbons of the polymer backbone. This does not apply to the notified polymer and it is therefore unlikely to be an over-chelation hazard to algae.

Minor amounts of the notified polymer will be released due to mixing of chemicals, cleaning of equipment and residues in empty containers. Wastes are expected to be collected, hardened and disposed of to landfill. Empty containers are expected to be collected and sent to a licensed waste facility for disposal in accordance with State/Territory regulations. The main release of the notified polymer (up to 40% as overspray during use in car paint) will typically entail landfill disposal, after interception by spray booth filters. At the end of their useful life, end use articles containing the notified polymer within the cured paint film will be disposed of to landfill, or recycled for metals reclamation. The latter will entail thermal decomposition of the paint to form oxides of carbon and water vapour. In landfill, the notified polymer will be present as a cured solid film and will be neither bioavailable nor mobile. The notified polymer is expected to slowly degrade in landfill by biotic and abiotic processes. Therefore based on the low assumed hazard to aquatic organisms and low potential for aquatic exposure, the notified polymer is not considered to pose an unreasonable risk to the environment when it is used as proposed.

8. RECOMMENDATIONS

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 MSDS should be easily accessible to employees.
- Spray application should be carried out in accordance with the Safe Work Australia *National Guidance Material for Spray Painting* [NOHSC (1999)].
- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)], workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.

Disposal

- The notified polymer should be disposed of to landfill.

Emergency Procedures

- Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
- 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.
 - list other circumstances
- or
- (2) Under Section 64(2) of the Act; if
 - the function or use of the notified polymer has changed from component of coatings for automobile parts, 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 chemical 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 MSDS of the product containing the notified polymer was provided by the applicant. The accuracy of the information on the MSDS remains the responsibility of the applicant.