

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in NeoPac E-125

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

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
PLC/1494	Reschem Technologies Pty Ltd	Polymer in NeoPac E-125	No	≤ 200 tonnes per annum	Component of coatings and paints

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.
- 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, 2015) 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 of 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 component of coatings and paints, 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

Applicants

Reschem Technologies Pty Ltd (ABN No. 90 315 656 219)
Suite 1103
4 Daydream Street
WARRIEWOOD NSW 2102

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)

Polymer in NeoPac E-125

Molecular Weight

Number Average Molecular Weight (Mn) is > 10,000 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	Yellow liquid
Melting Point/Glass Transition Temperature	Not available
Density	1,040 kg/m ³ at 20 °C
Water Solubility	Not available. Partially soluble in hot and cold water
Dissociation Constant	Not known
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

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	< 30	< 50	< 100	< 100	< 200

Use

The notified polymer will not be manufactured in Australia, but will be imported in aqueous solution (at < 20% concentration) for reformulation into coatings and paints. Coatings and paints containing the notified polymer will be applied to metal, wood or concrete surfaces by spray, roller or brush, and will be available for industrial and DIY use.

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 for the notified polymer. Polymers with a low cationic charge density (FGEW > 5000) are generally of low concern to the environment.

The notified polymer will be imported into Australia as a component of aqueous solutions for reformulation into coatings and paints. Any waste generated from the reformulation process is expected to be disposed of in accordance with local government regulations. Coatings and paints containing the notified polymer will be applied to metal, wood or concrete surfaces by spray, roller or brush, and will be available for industrial and DIY use.

When the coatings containing the notified polymer are applied via spraying, the overspray is expected to be collected and trapped onto filters and cured before disposal of to landfill in accordance with local government regulations. Reformulation wastes from cleaning of equipment and containers following industrial use is expected to be collected by an approved waste management contractor for disposal of in accordance with local government regulations.

In a worst case scenario, it is assumed that up to 5% of the annual import volume of notified polymer may be incorrectly disposed of to the sewer, drains, or ground from waste and washing of application equipment by DIY users. Assuming the releases occur nationwide over the entire year and there is no removal of the notified polymer during wastewater treatment, the predicted environmental concentration (PEC) is estimated to be 5.62 µg/L $[(200 \text{ tonnes per annum} \times 0.05) \div (24.386 \text{ million person} \times 200 \text{ L/day} \times 365 \text{ days per annum})]$. Therefore, the notified polymer is not expected to be released to surface waters at ecotoxicologically significant concentrations. Accidental spills of the notified polymer during import, reformulation, transport, storage or use are expected to be adsorbed onto a suitable material, and collected for disposal of in accordance with local government regulations.

As estimated by the notifier, up to 0.5% of the total annual import volume of the notified polymer may remain as residues in empty containers. These residues are expected to be cured in the containers prior to disposal of to landfill along with the containers in accordance with local government regulations.

Following its application, the notified polymer is expected to share the fate of the articles to which it has been applied, either subjected to metal reclamation or being disposed of to landfill at the end of their useful lives. During metal reclamation, the notified polymer will thermally decompose to form water vapour and oxides of carbon and nitrogen. In landfill, the notified polymer will be present as cured solids and will be neither bioavailable nor mobile. The notified polymer is not expected to bioaccumulate due to its high molecular weight. The notified polymer in landfill is expected to eventually degrade via biotic and abiotic processes to form water and oxides of carbon and nitrogen.

Therefore, based on its assumed low hazard and the assessed use pattern as a component of coatings and paints, the notified polymer is not considered to pose an unreasonable risk to the environment.

BIBLIOGRAPHY

Safe Work Australia (2015) Code of Practice: Spray Painting and Powder Coating, Safe Work Australia, <https://www.safeworkaustralia.gov.au/doc/model-code-practice-spray-painting-and-powder-coating>.