

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in Aldecryl 6005

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 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**

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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/1118	Axalta Coating Systems Australia Pty Ltd	Polymer in Aldecryl 6005	No	≤ 30 tonnes per annum	A component of industrial and 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

- No specific control measures are required to minimise release of the notified polymer to the environment.

Disposal

- The notified polymer should be disposed of to landfill.

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 and 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 products 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

Axalta Coating Systems Australia Pty Ltd (ABN: 53 158 497 655)
15-23 Melbourne Road
RIVERSTONE NSW 2765

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, spectral data, polymer constituents, residual monomers/impurities, use details and manufacture/import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)

Aldecryl 6005 (contains the notified polymer at < 70%)

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

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	Colourless liquid*
Glass Transition Temp	41 °C
Density	1010 kg/m ³ *
Water Solubility	3.98 × 10 ⁻³ g/L at 20 °C, pH 2, 2.71 × 10 ⁻³ g/L at 37 °C, pH 7, 4.04 × 10 ⁻³ g/L at 37 °C, pH 9. Tested for an acceptable analogue according to OECD TG 120, KIST (2004).
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

* For Aldecryl 6005 containing the notified polymer in solvent solution at < 70% 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	< 5	< 10	< 15	< 30	< 30

Use

The notified polymer will not be manufactured in Australia. The notified polymer will be imported into Australia as a resin component in finished paint products at a concentration of < 70%. The notified polymer will also be imported as a resin solution at a concentration of < 70% and will be reformulated in Australia to a concentration of < 70%.

The notified polymer will be used as a component of industrial and automotive refinish paint resins.

6. HUMAN HEALTH RISK ASSESSMENT

Transport and Storage

The notified polymer will be imported in 200 L steel drums as a component of a resin solution at a concentration of < 70%. Transport and Warehouse workers will only incur dermal and ocular contact with the notified polymer at a concentration of < 70% through accidental leakage and spillage of containers.

Coating Formulation

The resin solution containing the notified polymer at a concentration of < 70% is expected to be transferred by an automated process into a blending vessel. The finished product will be filled into containers for distribution to end users. Workers may incur dermal and ocular exposure to the notified polymer at < 70% concentration whilst removing samples during the blending stage.

End-Users

Coating formulations containing the notified polymer at concentrations < 70% may be mixed with other additives prior to application. The formulation will be loaded into spray equipment for applications by spray or into trays for application by brush. Where application is by spray, it is expected that spray booths will be used or otherwise the application will be conducted in an adequately ventilated area. Spray guns and brushes will be cleaned manually.

End-users may incur dermal and ocular exposure to the notified polymer at < 70% concentration. End-users applying the notified polymer by spray may also incur inhalation exposure.

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.

Although not considered in this risk assessment, NICNAS notes that the notified polymer contains residual monomers that are classified as hazardous according to the *Approved Criteria for Classifying Hazardous Substances* [NOHSC: 1008 (2004)]. These are not present in the notified polymer as introduced above the cut off concentrations for classification.

7. ENVIRONMENTAL RISK ASSESSMENT

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

The notified polymer will be imported into Australia as a resin component in finished paint products or as a resin solution which will be reformulated locally to manufacture paint products. The release of the notified polymer to the environment during reformulation processes is expected to be limited as the manufacturing of the notified polymer into paint products occurs in an automated and enclosed system. Products containing the notified polymer will be used for industrial and automotive refinish paints. It is estimated by the notifier that up to 60% of the total import quantity of notified polymer may be released to the environment during its use as a result of overspray, residues in empty containers and washings for equipment cleaning. These wastes are expected to be disposed of to landfill. Discarded end use articles containing the notified polymer within the cured paint film will be disposed to landfill, or recycled for metals reclamation. In landfill, the notified polymer will be present as a cured solid film and is not expected to be neither bioavailable nor mobile. The notified polymer is expected to degrade by thermal decomposition during metals reclamation, or by biotic and abiotic processes in landfill to form water and oxides of carbon. Therefore, based on the assumed low hazard to aquatic organisms and assessed use pattern, the notified polymer is not expected to pose an unreasonable risk to the environment.

Bibliography

KIST (2004) Molecular weights, water solubility and stability test under acidic and basic condition of [analogue] (Study No. KIST0431-5, June 2004), Seoul, Korea, Korea Institute of Science and Technology (Unpublished report submitted by the notifier)