File No PLC/1148/1149

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

**POLYMER OF LOW CONCERN PUBLIC REPORT**

**RC-73004A and RC-73004B**

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 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 Environment.

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**


October 2013

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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/1148 | Axalta Coating Systems Australia Pty Ltd | RC-73004A | No | ≤ 25 tonnes per annum | Component of industrial and automotive coatings |
| PLC/1149 | Axalta Coating Systems Australia Pty Ltd | RC-73004B | No | ≤ 25 tonnes per annum | 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 polymers are 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 polymers are 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 polymers themselves. 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 polymers 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**

- The notified polymers should be disposed to landfill.

**Emergency Procedures**

- Spills and/or accidental release of the notified polymers 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 polymers 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 polymers, have post-assessment regulatory obligations to notify NICNAS when any of these circumstances change. These obligations apply even when the notified polymers are 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 polymers are 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 polymers has changed from component of industrial and automotive coatings, or is likely to change significantly;
- the amount of notified polymers being introduced has increased, or is likely to increase, significantly;
- the notified polymers have begun to be manufactured in Australia;
- additional information has become available to the person as to an adverse effect of the notified polymers 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 polymers 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**
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, polymer constituent, residual monomers/impurities and import volume.

### 2. IDENTITY OF POLYMER

**Marketing Name(s)**
*PLC/1148*
RC-73004A (contains the notified polymer at < 40%)

*PLC/1149*
RC-73004B (contains the notified polymer at < 40%)

**Molecular Weight**
Number Average Molecular Weight (Mn) is > 10,000 Da

## 3. PLC CRITERIA JUSTIFICATION

| *Criterion* | *Criterion met* |
|---|---|
| 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 polymers meet the PLC criteria.

## 4. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance | Opaque white solids (when freeze-dried) |
| Glass Transition Temp | Approximately -30 °C |
| Density | 1046 kg/m$^3$ (temperature unknown) for the products |
| Water Solubility | 4.185 g/L at pH 9, 3.752 g/L at pH 7 and 0.1454 g/L at pH 1.2 (based on OECD TG 120). |
| Dissociation Constant | Not determined. The notified polymers are salts and are expected to be ionised under environmental conditions. |
| Reactivity | Stable under normal environmental conditions. Stability tests confirm that although the notified polymers contain hydrolysable functionality they are expected to be hydrolytically stable under 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**
*PLC/1148*

| *Year* | *1* | *2* | *3* | *4* | *5* |
|---|---|---|---|---|---|
| Tonnes | 1-5 | 5-10 | 10-15 | 10-15 | 15-25 |

*PLC/1149*

| *Year* | *1* | *2* | *3* | *4* | *5* |
|---|---|---|---|---|---|
| Tonnes | 1-5 | 5-10 | 10-15 | 10-15 | 15-25 |

**Use**
The notified polymers will not be manufactured or reformulated in Australia.
The notified polymers will be imported into Australia as a component of paints at < 40% that will be used for automotive refinishing and industrial coatings.

## 6. HUMAN HEALTH RISK ASSESSMENT

No toxicological data were submitted. The notified polymers meet the PLC criteria and are therefore assumed to be of low hazard. The risk of the notified polymers 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 polymers. 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 is unlikely apply to the notified polymers and it is therefore not considered to be an over-chelation hazard to algae. The notified polymers also contain potentially cationic functionality, however the cationic charge density is low and the notified polymers are therefore not expected to be of concern to the aquatic environment.

The notified polymers are not expected to have significant release to the aquatic environment as a result of mixing or reformulation as the equipment is cleaned with solvent and the waste collected as sludge in settling tanks prior to disposal in landfill. A maximum of 4% of the notified polymers are expected to be released to landfill as a result of the disposal of containers with residual polymers and wastes from cleaning of equipment used in mixing and reformulation.

The paint products containing the notified polymers are expected to be used as automotive refinishing and industrial coatings with application carried out mainly by spray. The main release (up to 50% as overspray during use) will typically entail landfill disposal, after interception by spray booth filters. Wastes from containers residues and mixing are expected to be collected and reduced to an insoluble polymer mass for disposal to landfill. Discarded end use articles containing the notified polymers within the inert polymer matrix of the cured paint film will be disposed of to landfill, or recycled for metal reclamation which will entail thermal decomposition of the notified polymers to form water vapour and oxides of carbon and nitrogen. The notified polymers are expected to be immobile in landfill and degrade slowly by abiotic and biotic processes. Bioaccumulation is not likely based on the high molecular weight of the notified polymers.

Therefore based on the low assumed hazard to aquatic organisms and low potential for aquatic exposure, the notified polymers are not expected to pose an unreasonable risk to the environment when used as proposed.