

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

### POLYMER OF LOW CONCERN PUBLIC REPORT

#### Polymer in 3.5 VOC Epoxy Primer

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.

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/1205	Global Autocoat Pty Ltd  Sherwin – Williams Diversified Brands (Australia) Pty Ltd  Sherwin – Williams (Australia) Pty Ltd	Polymer in 3.5 VOC Epoxy Primer	No	≤ 10 tonnes per annum	Component of industrial 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, limited expected aquatic release 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, 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 a component of industrial 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)SDSs of products containing the notified polymer were provided by the applicant. The accuracy of the information on the (M)SDSs remains the responsibility of the applicant.

## ASSESSMENT DETAILS

### 1. APPLICANT AND NOTIFICATION DETAILS

#### Applicants

Global Autocoat Pty Ltd (ABN: 35 067 632 946)  
54-56 John Street  
BENTLEY WA 6102

Sherwin-Williams Diversified Brands (Australia) Pty Ltd (ABN: 31 604 851 658)  
Level 10, 1 City View Road  
PENNANT HILLS NSW 2120

Sherwin-Williams (Australia) Pty Ltd (ABN: 162 771 351)  
Factory 3, 28 Commercial Drive  
DANDENONG VIC 3175

#### 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, additives/adjuvants, use details and import volume.

### 2. IDENTITY OF POLYMER

#### Marketing Name(s)

3.5 VOC Epoxy Primer (product containing notified polymer)

#### Molecular Weight

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	Clear viscous liquid*
Glass Transition Temperature	4.1 °C*
Density	990 kg/m <sup>3</sup> *
Water Solubility	Expected to have low water solubility based on the high molecular weight and hydrophobic chemical structure
Dissociation Constant	Expected to be ionised under environmental conditions (pH 4-9)
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use
* Properties for a solution containing > 60% 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	≤ 10	≤ 10	≤ 10	≤ 10	≤ 10

#### Use

The notified polymer will not be manufactured in Australia. It will be imported as a component of formulations for reformulation into coatings for metals. The finished coatings containing the notified polymer at < 30% concentration will be used by professionals in industrial settings only and will be applied primarily by spray and possibly by brush and roller.

## 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.

Although not considered in this risk assessment, NICNAS notes that the notified polymer contains residual monomers that are classified as hazardous according to the Globally Harmonised System for the Classification and Labelling of Chemicals (GHS), as adopted for industrial chemicals in Australia. 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 with a potential cationic density may have adverse effects on aquatic life. However, the notified polymer is expected to be insoluble in water which limits expected release to the aquatic environment from the proposed use pattern. Therefore, the notified polymer is not expected to reach ecotoxicologically significant concentrations in the aquatic environment.

The notified polymer will be imported into Australia as a component of solutions for reformulation into finished industrial coatings for metal substrates. Coatings containing the notified polymer will be used by professional users only in industrial settings. During reformulation, the solution containing the notified polymer will be blended with other ingredients at industrial sites. Release of the notified polymer to the environment during import, reformulation, storage, and transport is expected to be limited to accidental spills or leaks and residue in import packaging. Spills or accidental release of the products containing the notified polymer are expected to be collected with adsorbents, and disposed of to landfill in accordance with local government regulations.

Coatings containing the notified polymer will be used by professionals in industrial settings only. During use, coatings containing the notified polymer will be applied to metal substrates by spray techniques. Therefore, the main release of the notified polymer during use is expected to be in the form of overspray. These will typically entail collection on drop sheets for disposal as solid wastes to landfill in accordance with local government regulations. Residues containing the notified polymer in application equipment are expected to be rinsed into containers, and then allowed to cure before disposal as solid wastes to landfill.

Based on its use in industrial coatings, it is expected that the majority of the notified polymer will be cured during use. The notified polymer cured onto substrates will share the fate of the coated articles, and is not expected to be mobile or bioavailable in this form. At the end of their useful life, coated articles containing the notified polymer are expected to be disposed of to landfill, or undergo thermal decomposition during metal recycling processes. Based on its high molecular weight and expected low water solubility, the notified polymer is not expected to cross biological membranes. Therefore, the

notified polymer is unlikely to be bioaccumulative. In landfill and during metal recycling processes, the notified polymer is expected to eventually degrade to form water and oxides of carbon and nitrogen.

Therefore, based on its assumed low hazard, limited expected aquatic release and assessed use pattern in industrial coatings, the notified polymer is not considered to pose an unreasonable risk to the environment.