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

**FULL PUBLIC REPORT**

**E-18**

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**Director  
Chemicals Notification and Assessment**

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**FULL PUBLIC REPORT****E-18****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT(S)

Johnson Diversey Australia Pty Ltd (ABN 90000 065 725)

29 Chifley Street

Smithfield NSW 2164

## NOTIFICATION CATEGORY

Synthetic Polymer of Low Concern

## EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication:

Chemical name

Other names

CAS number

Molecular formula

Structural formula

Polymer constituents

## VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

No variation to the schedule of data requirements is claimed.

## PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

None

## NOTIFICATION IN OTHER COUNTRIES

USA (TSCA); Canada (DSL); Korea (ECL)

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

E-18

**3. COMPOSITION**

## PLC CRITERIA JUSTIFICATION

<i>Criterion</i>	<i>Criterion met (yes/no/not applicable)</i>
Meets Molecular Weight Requirements	Yes
Meets Functional Group Equivalent Weight (FGEW) Requirements	Yes
Low Charge Density	Yes
Approved Elements Only	Yes
No Substantial Degradability	Yes
Not Water Absorbing	Yes
Low Concentrations of Residual Monomers	Yes
Not Hazardous Substance or Dangerous Good	Yes

The notified polymer meets the PLC criteria.

#### 4. INTRODUCTION AND USE INFORMATION

The notified polymer will be imported as a component of a finished paint product at 3% concentration. Alternatively, the notified polymer may also be imported neat (100%) for subsequent reformulation into base coat products.

##### 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>
<i>Tonnes</i>	50	50	50	50	50

##### USE

The notified polymer is intended for use as a basecoat in automotive refinish coating systems (repair and repainting motor vehicles).

#### 5. PROCESS AND RELEASE INFORMATION

##### 5.1. Operation Description

The notified polymer will initially be imported into Australia as a finished paint product (basecoat) containing 3 wt % notified polymer. The paint will be applied as a part of a two-stage or multi stage basecoat paint system, which reproduces the original solid, metallic or mica paint finish of a vehicle. There is a possibility that the notified polymer will also be imported alone, and subsequently reformulated into basecoat for automotive refinish coatings. The finish paint will be imported in 500 mL and 1.0 L plastic containers, while the emulsion will be imported in 200 kg drums or 1000 kg totes.

During paint manufacture, the polymer and various additives are transferred by pumps into a high-speed mixer to form a homogeneous coating mixture. Samples are taken from the mixer for quality control testing, and the viscosity of the coating is adjusted prior to packing. When the desired viscosity is achieved, the coating mixture is fed through a filter and into 500 mL and 1 L plastic containers. The closed containers are put on pallets and then taken by forklift to the transport vehicles for distribution to collision repair shops. The notified polymer will be present in paint formulations at up to 3% by weight.

The finished paint is activated and thinned prior to application. The paint mix is loaded into a spray equipment and applied to the vehicle or components of car bodies in a spray booth using spray guns and heat cured. The application will take place at about 2000 sites in Australia. Once spraying is completed, the spray equipment is cleaned.

#### 6. EXPOSURE INFORMATION

##### 6.1. Summary of Environmental Exposure

Environmental release of the notified polymer is unlikely during importation, storage and transportation. Spillage during a transport accident is most likely the reason for environmental release. Individual container capacity and container specifications (ie. 0.5 and 1.0 L plastic containers) would limit the extent of release. The imported product will be distributed to approximately 200 tinter and paint distribution facilities throughout Australia. From these facilities, the tinters may be used at about 2000 vehicle collision repair workshops.

The use pattern may potentially be altered in the future to include the importation of the notified polymer in Australia for formulation into tinter. Wastes generated at such a formulation facility have been estimated at 2% of the total import quantity. The waste would be collected by licensed waste contractor and incinerated.

At the vehicle collision repair workshops, wastes may be generated from overspray from the application process, cleaning of spraygun and mixing equipment, and empty paint containers. An estimated 70% of the total import volume of the notified polymer will end up as waste during its use in application to motor vehicles, and the remaining 30% will eventually become waste at the end of the useful life of the vehicles to which the notified polymer is applied. Overspray and equipment cleaning

wastes are contained and collected by licensed waste disposal contractors, with wastes sent to trade waste landfill. Up to 2% of the total annual import volume of the notified polymer may potentially remain in empty containers, with the containers allowed to dry before sending to landfill for disposal.

## 6.2. Summary of Occupational Exposure

Dermal, ocular and inhalation exposure can occur during certain formulation processes and paint application. However, the largely enclosed and automated polymer and paint manufacturing facility; the engineering controls in place; and personal protective equipment worn by workers would ensure the occupation health risk posed by the notified polymer is low when used as specified in the notification.

After application and once dried, the paint containing the notified polymer is cured into an inert matrix and is hence unavailable to exposure.

During transport and storage, workers are unlikely to be exposed to the notified polymer except during transport accident where drums are punctured and the contents are accidentally spilled.

## 6.3. Summary of Public Exposure

The notified polymer will not be sold to the public. Members of the public may come in contact with automobiles coated with the notified polymer in cured and crosslinked form. Public exposure can also occur during a transport accident.

# 7. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance at 20°C and 101.3 kPa</b>	Clear rice-shaped solid
<b>Glass Transition Temp</b>	80°C
<b>Density</b>	1030 kg/m <sup>3</sup>
<b>Water Solubility</b>	0.004 g/L
<b>Reactivity</b>	Stable under normal environmental conditions
<b>Degradation Products</b>	None known

## 7.1. Comments

Water solubility was measured at three pHs (pH 2, 7 and 9) and two initial loadings (1 and 10 g/L). There is little dependence of the amount of polymer in solution on the starting concentration of the polymer or on pH.

# 8. HUMAN HEALTH IMPLICATIONS

## 8.1. Toxicology

No toxicological data were submitted.

## 8.2. Human Health Hazard Assessment

The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard.

The solid material may cause mechanical irritation to the eyes, and to the respiratory tract if inhaled. Repeated or prolonged skin contact may result in mild irritation.

# 9. ENVIRONMENTAL HAZARDS

## 9.1. Ecotoxicology

No toxicological data were submitted.

## 9.2. Environmental Hazard Assessment

The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard.

## **10. RISK ASSESSMENT**

### **10.1. Environment**

The majority of the imported polymer will be lost as waste, with landfill disposal as the predominant disposal route. The paint containing the notified polymer will dry forming a non-leachable solid. Within a landfill environment, the notified polymer is not expected to be mobile, and is expected to slowly degrade to oxides of carbon. The notified polymer is not likely to present a hazard to the environment when it is stored, transported, used and disposed of in the proposed manner.

### **10.2. Occupational health and safety**

The OHS risk presented by the notified polymer is expected to be low. The notified polymer may be present in formulations containing hazardous ingredients. If these formulations are classified as hazardous to health in accordance with the NOHSC Approved Criteria for Classifying Hazardous Substances, workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.

The level of atmospheric nuisance dust should be maintained as low as possible. The NOHSC exposure standard for atmospheric dust is 10 mg/m<sup>3</sup>.

### **10.3. Public health**

The notified polymer is intended for use by professional spray painters in automotive repair shops only, and will not be sold to the public. Following application, the notified will become trapped within a film and will not be bioavailable. Therefore, the risk to public from exposure to the notified polymer is considered low.

## **11. CONCLUSIONS – ASSESSMENT LEVEL OF CONCERN FOR THE ENVIRONMENT AND HUMANS**

### **11.1. Environmental risk assessment**

The polymer is not considered to pose a risk to the environment based on its reported use pattern.

### **11.2. Human health risk assessment**

#### **11.2.1. Occupational health and safety**

There is Low Concern to occupational health and safety under the conditions of the occupational settings described.

#### **11.2.2. Public health**

There is Negligible Concern to public health when used as a component in automotive refinish coating systems.

## **12. MATERIAL SAFETY DATA SHEET**

### **12.1. Material Safety Data Sheet**

The notifier has provided MSDS as part of the notification statement. The accuracy of the information on the MSDS remains the responsibility of the applicant.

## **13. RECOMMENDATIONS**

### **CONTROL MEASURES**

#### **Occupational Health and Safety**

- Employers should implement the following engineering controls to minimise occupational exposure to the notified polymer:
  - Exhaust ventilation during mixing and spray application
  - Enclosed and automated spray paint application

- Employers should implement the following safe work practices to minimise occupational exposure during handling of the notified polymer:
  - During transfer operations and cleaning of equipment, avoid spills and splashing
  - Spray application should be conducted in a down draft spray booth.
- Employers should ensure that the following personal protective equipment is used by workers to minimise occupational exposure to the notified polymer during paint manufacture and spray application:
  - Chemical resistant gloves
  - Protective clothing which protects the body, arms and legs
  - Goggles or face shield
  - Half mask combination filter or air fed respirator, during spray application

Guidance in selection of personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

- Atmospheric monitoring should be conducted to measure workplace concentrations of nuisance dust during formulation of paint products.
- A copy of the MSDS should be easily accessible to employees.
- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the NOHSC *Approved Criteria for Classifying Hazardous Substances*, workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.

Environment

Disposal

- The notified polymer should be disposed of by incineration or landfill in accordance with State/Territory waste management regulations. Avoid contaminating waterways, drains or sewers.

Emergency procedures

- Spills/release of product containing the notified polymer should be handled by absorbing the spillage in suitable inert material and placing in sealed container for reuse or disposal. Do not allow entry to stormwater drains or waterways.

### 13.1. Secondary notification

The Director of Chemicals Notification and Assessment must be notified in writing within 28 days by the notifier, other importer or manufacturer:

- (1) Under subsection 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 subsection 64(2) of the Act:
  - if any of the circumstances listed in the subsection arise.

The Director will then decide whether secondary notification is required.

No additional secondary notification conditions are stipulated.