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NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

FULL PUBLIC REPORT

Joncryl 587

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Director
Chemicals Notification and Assessment

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1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)
Johnsondiversey Australia Pty Ltd, of 29 Chifley St, 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)
No

NOTIFICATION IN OTHER COUNTRIES
Canada DSL (1994), Korea ECL (2003), USA TSCA Public Inventory

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
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PLC CRITERIA JUSTIFICATION

Criterion	*Criterion met (yes/no/not applicable)*
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
No Hazard Substance or Dangerous Good	Yes

4. INTRODUCTION AND USE INFORMATION

MAXIMUM INTRODUCTION VOLUME OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	<50	<50	<50	<50	<50

USE

The notified polymer is a component of an industrial paint (a powdercoat finished product) used on metal parts. Parts will include car components, alloy wheels, and fabricated metal parts.

5. PROCESS AND RELEASE INFORMATION

5.1. Operation Description

The notified polymer is not manufactured or reformulated in Australia. It is imported in a finished powdercoat product at a concentration of <25%.

Transport and storage:
The powder coat product that contains the notified polymer is imported in sealed plastic bag inside 20 kg boxes. These are stored at PPG Industries warehouse (Clayton, Victoria) before being distributed to customers. Approximately 1-3 workers will be involved in the distribution.

Enduser:
The powder coat product containing the notified polymer is electrostatically applied to metal parts using robotics in a self contained, ventilated spraybooth. The booth is operated by 1-2 workers. Occasionally these workers will manually apply finishing touches to the metal parts.

6. EXPOSURE INFORMATION

6.1. Summary of Environmental Exposure

The powdercoat product containing <25% notified polymer is imported into Australia packaged in 20 kg boxes within which the product is antiseptically sealed in a plastic bag. The final customers include a mix of applicators in varying geographical locations, mostly in industrial parks that are near the capital or regional cities. These companies supply painted parts to industry sectors such as the car industry. The parts will include fabricated steel, aluminium (extruded and cast) and galvanised steels used in car components, alloy wheels and fabricated metal parts.

Most powder applicators have cyclone recovery system and general cleaning procedures. Losses from over-spray are contained within the applicator's confines. Powder and its by-products are not released to the environment by emission stacks. The product is electrostatically applied to metal parts using robotics in a self-contained, ventilated spraybooth. Small losses from spray equipment are contained on the premises. Furthermore, it is used as part of a permanent crosslinked metal coating and will not be disposed or released into the air or water.

The notifier indicates that negligible residues remain in the plastic bag and boxes which will be recycled. A small amount may be landfilled.

Given the low solubility of the notified polymer, the esters in the polymer are unlikely to hydrolyse in the environmental pH range of 4-9. The notified polymer is expected to be adsorbed to or associate with soil and sediments.

6.2. Summary of Occupational Exposure

Transport and storage:
During transport and storage, workers are unlikely to be exposed to the notified polymer except when packaging is accidentally breached.

Enduser:

- The notified polymer is present at a concentration <25% in the powdercoat product.
- The majority of the operation is non-manual and takes place in a self contained booth.
- During manual application the workers will wear a respirator and tyvek suit to protect them from small particles. Cycloic collectors are used to deal with over-spray particles.
- All operations should comply with Australian Powdercoat Standard AS3754 "Safe application by electrostatic spray".

Therefore, under normal conditions, end user exposure to the notified polymer is expected to be

minimal due to the use of appropriate engineering controls and personal protective equipment.

6.3. Summary of Public Exposure

The notified polymer is intended only for use in industry and will not be available to the public. Members of the public may come into contact with products containing the notified polymer.

7. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20ºC and 101.3 kPa	Colourless Solid
Glass Transition Temp	Estimated 60ºC
Density	1030 kg/m^3
Water Solubility	Solutions of the notified polymer in water at pH 2, 7 and 9 were prepared in accordance with the OECD guideline 120 and the concentrations of the solution were determined by Total Organic Carbon. The mixtures were stirred using magnetic stirrer for 24 h at 21ºC. A 50 mL aliquot from each mixture was filtered through a Nylon syringe filter. The filtrates were then sent for Total Organic analysis. The concentrations of the notified polymer found to range from 2.1 to 6.1 mg/L from pH 2-9 at 21ºC indicating that the notified polymer is slightly soluble in water .
Particle Size	Rice shaped, 1mm x 4mm
Reactivity	Stable under normal environmental conditions
Degradation Products	Oxides of carbon

8. HUMAN HEALTH IMPLICATIONS

8.1. Toxicology

No toxicological data were submitted.

The notifier's MSDS for the notified polymer provides the following information:
Acute toxicity
Oral LD50 (rat): >5000mg/kg

Irritation and Sensitisation
May cause mild irritation/mechanical irritation to the eyes. May cause mild irritation to the skin on repeated or prolonged contact. May cause mild irritation to the nose, throat and respiratory system

8.2. Human Health Hazard Assessment

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

No test reports were included for biodegradability or ecotoxicity studies of the notified polymer. Polynonionic polymers which have MW > 1000 are generally of low concern.

Due to its high molecular weight and the low water solubility, the notified polymer has little potential for bioaccumulation.

10. RISK ASSESSMENT

10.1. Environment

On the basis of the nationwide use of the notified polymer confined to industrial premises, where the over-spray losses will be contained within the applicators' confines, there is unlikely to be an environmental risk. The product is not released into the environment as the industrial processes have a cyclone recovery system and general cleaning procedure to recover and minimise release of powder to the external environment. Any waste collected should be disposed of by licensed waste contractors. It is used as part of a permanent crosslinked coating and thus will not release into air or water. Therefore, there is unlikely to be a significant risk to the aquatic environment.

The final fate of the notified polymer will presumably be the same as the final fate of the metal parts. That is either to landfill or to recycling where the polymer will be incinerated to water vapour and oxides of carbon.

10.2. Occupational health and safety

Exposure to the notified polymer is expected to be minimal due to the use of appropriate engineering controls and personal protective equipment. Therefore, due to the expected low toxicity of the polymer, the OHS risk presented by the notified polymer is expected to be low. However, as irritant effects may occur under certain circumstances when handling the polymer, skin and eye protection are recommended.

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

10.3. Public health

The notified polymer will not be available to the public. Members of the public may make dermal contact with products containing the notified polymer. However, the risk to public health will be negligible because the notified polymer is trapped within a film and unlikely to be bioavailable.

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 based on the reported use pattern.

12. MATERIAL SAFETY DATA SHEET

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

REGULATORY CONTROLS

Hazard Classification and Labelling

- Use the following safety phrase for the notified polymer as introduced:
  - S24/25: Avoid skin and eye contact.

CONTROL MEASURES

Occupational Health and Safety

- The use of the product containing the polymer should be in accordance with the Australian Powdercoat Standard AS3754 "Safe application by electrostatic spray", where appropriate

- Employers should implement the following safe work practices to minimise occupational exposure during handling of the notified polymer as introduced:
  - Avoid skin and eye contact
  - Use in adequate ventilation

- Employers should ensure that the following personal protective equipment is used by workers to minimise occupational exposure to the notified polymer as introduced:
  - Protective eyewear, chemical resistant industrial clothing and footwear and impermeable gloves; where engineering controls and work practices do not reduce vapour and particulate exposure to safe levels, a respirator should also be used.

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

- 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 licensed waste contractors

Emergency procedures

- Isolate leaking containers to prevent escape into the environment and transfer contents to suitably labelled containers for re-use or disposal. Flush spill area with water and collect any washings for disposal.

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.