

File No PLC/953

November 2010

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

**FULL PUBLIC REPORT**

**RCP20280**

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (the Act) and Regulations. This legislation is an Act of the Commonwealth of Australia. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the 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 Department of Sustainability, Environment, Water, Population and Communities.

For the purposes of subsection 78(1) of the Act, this Full Public Report may be inspected at our NICNAS office by appointment only at Level 7, 260 Elizabeth Street, Surry Hills NSW 2010.

This Full 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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**FULL PUBLIC REPORT****RCP20280****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT(S)

Dupont (Australia) Ltd (ABN 59 000 716 469)  
7 Eden Park Drive  
Macquarie Park NSW 2113

## NOTIFICATION CATEGORY

Polymer of Low Concern

## EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication: Chemical Name, Molecular and Structural Formulae, Molecular Weight, Polymer Constituents, Residual Monomers/Impurities, Use Details and Import Volume.

## 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 (1994)

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

RCP20280

## OTHER NAME(S)

13030E ACN249 Rheology Binder Imron (Imported product containing  $\leq 35\%$  notified polymer).  
13040 ACN249 Rheology Binder Imron (Imported product containing  $\leq 35\%$  notified polymer).

## CAS NUMBER

Not assigned

## MOLECULAR WEIGHT (MW)

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

## REACTIVE FUNCTIONAL GROUPS

The notified polymer contains only low concern functional groups.

**3. PLC CRITERIA JUSTIFICATION***Criterion*

Molecular Weight Requirements  
Functional Group Equivalent Weight (FGEW) Requirements  
Low Charge Density  
Approved Elements Only  
Stable Under Normal Conditions of Use  
Not Water Absorbing

*Criterion met*

Yes  
Yes  
Yes  
Yes  
Yes  
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 transparent-liquid
Melting Point/Glass Transition Temp	< 0°C
Density	1,093 kg/m <sup>3</sup> at 20°C
Water Solubility	63.8 mg/L at pH 2 (Modified OECD TG 120). The water solubility at pH 2 was determined by a shake flask method for an acceptable analogue polymer with similar molecular weight and monomer composition to the notified polymer. Emulsions were formed at pH 7 and 9.
Dissociation Constant	Not determined. The notified polymer contains no dissociable functionality.
Reactivity	Stable under normal environmental conditions. Stability tests indicate the analogue polymer is stable under acidic and basic conditions (pH 1.2–9). Therefore, hydrolysis is not expected to occur in the environmental pH range despite the presence of hydrolysable functionalities in the notified polymer.
Degradation Products	None under normal conditions of use

#### 5. INTRODUCTION AND USE INFORMATION

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

Year	1	2	3	4	5
Tonnes	< 10	< 10	< 10	< 10	< 10

##### Use

The notified polymer will be used as a component ( $\leq 35\%$ ) of a surface coating designed for areas where increased durability is required in the aviation industry.

The notified polymer will not be manufactured or reformulated within Australia.

##### Mode of Introduction and Disposal

The notified polymer will be imported in 4 L cans at concentrations of  $\leq 35\%$ .

#### 6. HUMAN HEALTH IMPLICATIONS

##### Hazard Characterisation

No toxicological data were submitted. The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard.

##### Occupational Health and Safety Risk Assessment

Spray painters may come into contact with the notified polymer through dermal, inhalation and ocular routes. However, exposure will be limited as the spray paint will be applied in a spray booth with a down draft by workers using protective equipment including vapour masks and full protective clothing. After application the paint containing the notified polymer will be cured into an inert matrix and the notified polymer will not be bioavailable.

Although exposure to the notified polymer could occur, the risk to workers is considered to be low due to the intrinsic low hazard of the notified polymer.

##### Public Health Risk Assessment

The notified polymer will not be sold to the public. There is potential for dermal exposure by the public to

surface coatings on aircraft that contain the notified polymer. However, the notified polymer in the surface coatings will be cured into an inert matrix and will not be bioavailable. Therefore, the risk to public health is expected to be negligible.

## **7. ENVIRONMENTAL IMPLICATIONS**

### **Hazard Characterisation**

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

### **Environmental Risk Assessment**

The notified polymer will be imported into Australia in a formulated paint which will be blended on-site before use as finish paint for aviation surface coating. Light commercial aircraft will be refinished by spray painting undertaken in spray booths. Up to 65% of the notified polymer (including 5% residues in imported paint containers, up to 50% from overspray and 10% waste resulting from mixing and spraying equipment cleaning) is expected to be released during the blending and application of surface coatings. Overspray is likely to be captured by engineering controls, and mixing/application equipment will be cleaned with solvent. The collected residues will be either recycled or disposed of to landfill.

Once cured, the paint containing the notified polymer will form an inert polymer matrix, and the irreversibly incorporated notified polymer will not be bioavailable. Coated metal articles will be either sent to landfill or thermally decomposed during the recycling of the metal substrates at the end of their useful lives. In landfill, the notified polymer contained in waste or on coated surfaces is expected to be immobile due to its irreversible incorporation into an inert matrix of cured paint. The notified polymer is not expected to bioaccumulate due to its high molecular weight, although no significant release of the polymer to the aquatic environment is expected when used as proposed.

The notified polymer is not expected to pose an unacceptable risk to the environment based on its assumed low toxicity to aquatic organisms and the low potential for aquatic exposure resulting from its use for spray painting applications in the aviation industry.

## **8. CONCLUSIONS AND RECOMMENDATIONS**

### **Human health risk assessment**

Under the conditions of the occupational settings described, the notified polymer is not considered to pose an unacceptable risk to the health of workers.

When used in the proposed manner, the notified polymer is not considered to pose an unacceptable risk to public health.

### **Environmental risk assessment**

Based on the reported use pattern, the notified polymer is not expected to pose a risk to the environment.

### **Recommendations**

#### **CONTROL MEASURES**

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

- 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.

- Spray application should be carried out in accordance with the Safe Work Australia National Guidance Material for Spray Painting [NOHSC (1999)].
- 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 *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)], workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.

#### Disposal

- The notified polymer should be disposed of to landfill.

#### Emergency procedures

- Spills or accidental release of the notified polymer should be handled by physical containment, collection and subsequent safe disposal.

### Regulatory Obligations

#### *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 surface coating in the aviation industry, 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 chemical 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 MSDS of products containing the notified polymer provided by the notifier were reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.