

File No SAPLC/099

01 September 2009

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

**FULL PUBLIC REPORT**

**RC-30815**

This Self Assessment has been compiled by the applicant and adopted by NICNAS 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), administered by the Department of Health and Ageing and the Department of Environment, Water, Heritage and the Arts has screened this assessment report. The data supporting this assessment will be subject to audit by NICNAS.

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 334-336 Illawarra Road, Marrickville NSW 2204.

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****RC-30815****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT

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

## NOTIFICATION CATEGORY

Self Assessment: 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 and Structural Formulae, Molecular Weight, Polymer Constituents, Residual Monomers/Impurities, Use Details and Manufacture/Import Volume,

## PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

None

## NOTIFICATION IN OTHER COUNTRIES

US EPA 2002 PMN  
 Canada (2002)

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

RC-30815

## REACTIVE FUNCTIONAL GROUPS

The notified polymer contains only low concern functional groups.

**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**  
**Melting Point/Glass Transition Temp**  
**Density**  
**Water Solubility**

Clear, hard resin  
 17°C (estimated using the Fox equation)  
 1000 kg/m<sup>3</sup> ( estimated)  
 17.8 mg/L at 20°C pH 7

**Reactivity**  
**Degradation Products**

Based on an analogue of similar MW and functional groups previously assessed (SAPLC/005)

Stable under normal conditions of use

None under normal conditions of use

## 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>
<i>Tonnes</i>	< 1	< 1	< 1	< 1	< 1

### USE AND MODE OF INTRODUCTION AND DISPOSAL

#### Mode of Introduction

The product will be imported as a finished paint, packaged and labelled ready for use in 1 L and 4 L cans as part of a full container load (FCL) shipment whereby the container is transported from the wharf as a locked container load to the DuPont warehouse.

#### Reformulation/manufacture processes

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

#### Use

The notified polymer will be imported as a component of the finished automotive product Imron Elite 8840S Basecoat. The 8840S basecoat (part A) will be mixed with an isocyanate curing component (part B) before application to effect a cured durable surface.

The product is expected to be primarily used by firms refinishing commercial vehicles used in harsh environments.

## 6. HUMAN HEALTH IMPLICATIONS

### 6.1. Exposure Assessment

#### OCCUPATIONAL EXPOSURE

Transport and warehousing workers may come into dermal and ocular contact with the notified polymer through accidental leaks and spillages of the drums and containers.

During end use, workers will manually weigh and transfer the polymer solution to the mixing jar that doubles as a spray gun reservoir. Spray painters will wear impermeable gloves, eye protection and coats. Exposure from the notified polymer to these workers can occur by either dermal or ocular routes, however significant exposure will be limited due to the workplace practices and personal protective equipment used.

Throughout end use, spray painters will have contact with the notified polymer through dermal, inhalation and ocular routes mitigated by use of PPE or gloves, clothing (spray suit), boots, spray mask and spray booth. The risk of exposure, however, will be minimal as the spray paint is applied in a ventilated spray booth by workers using protective equipment.

The precautions used to protect against the isocyanate of part B result in a high level of protection from the notified polymer or any of the associated substances used in the finished product.

After application and once dried, the paint containing the notified polymer is cured into an inert matrix and hence the polymer will not be bioavailable.

#### PUBLIC EXPOSURE

The notified polymer will not be sold to the public except in the form of finished articles. There is potential for extensive public exposure to articles comprised wholly or partly of the notified polymer. However, the notified polymer is cured into an inert matrix and is hence the polymer will not be bioavailable.

## 6.2. Toxicological Hazard Characterisation

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

## 6.3. Human Health Risk Assessment

### OCCUPATIONAL HEALTH AND SAFETY

The risk presented by the notified polymer is expected to be low, based on the assumed low hazard, the low exposure and the engineering controls and personal protective equipment used by workers to mitigate risk from the isocyanate used in conjunction with this polymer.

### PUBLIC HEALTH

The notified polymer will not be sold to the public. There is potential for dermal exposure by the public to surface coatings on automobiles that contain the notified polymer. 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

### 7.1. Exposure Assessment

#### ENVIRONMENTAL RELEASE

Release to the environment during shipping, transport and warehousing will only occur through accidental spills or leaks of the drums or steel packaged containers.

During end use spills are expected to be minimal. When spills occur, they will be contained by bunding, collected with absorbent material and sent to a licensed off site waste disposal centre. Empty drums from import will be sent to drum reconditioner.

Total waste from all sources is expected to be approximately 2% of the import volume.

Under normal use procedures, losses of the notified polymer through overspray, mixing of chemicals and cleaning of plant equipment as well as losses from residues in containers have been estimated to be a maximum of 40%, which equates to a maximum of 0.4 tonnes per annum. Wastes from application will be hardened and disposed of to landfill. The remaining 10% will be in the form of solvent washings which are polymerized into a hard insoluble mass used in road base, sent to landfill or used as fuel in kilns.

The remainder of the notified polymer will be bound in the paint matrix and not be available for direct release to the environment. Disposal of the automobile may be through landfill but the majority is disposed to recycling in a steel furnace, and the fate of the paint will be related to that of the automobile.

#### ENVIRONMENTAL FATE

The notified polymer is expected to be hydrolytically stable and to not be readily biodegradable but slowly degrade over time. Due to its hydrophobic nature, it is expected that the notified polymer in landfill will associate with soil, and slowly degrade to simple carbon compounds. During automobile recycling, the polymer will be destroyed.

### 7.2. Environmental Hazard Characterisation

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

### 7.3. Environmental Risk Assessment

No aquatic exposure is anticipated during end use of the notified polymer. Wastes would be collected by licensed waste contractors and be thermally decomposed or converted to a non leaching polymer mass. It is expected that practically all of the waste generated from end users (40% as overspray 10% as solvent washings) will be disposed of in approved landfills or road base as inert solid waste. Alternatively, wastes may be used as boiler or kiln fuel. In landfill, the solid wastes will not be mobile

and will degrade slowly and not pose a risk to the environment.

## 8. CONCLUSIONS

### 8.1. Level of Concern for Occupational Health and Safety

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

### 8.2. Level of Concern for Public Health

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

### 8.3. Level of Concern for the Environment

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

## 9. MATERIAL SAFETY DATA SHEET

### 9.1. 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.

## 10. 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 the use by the spray painter is in conjunction with isocyanate recommended an air supplied half face mask is used , with full coveralls ,gloves and boots.

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 *ASCC 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

- The following control measures should be implemented by spray painters and refinish business staff to minimise environmental exposure during use of the notified polymer:
  - All spray painting to be carried out using the spray booth to collect over spray
  - All spray gun cleaning process to use specialised gun washing facilities that capture used solvent for cleaning and recycling.
  - Residual catalysed paint to be poured into dirty solvent drums for recycling
  - Used original containers of supply should be dried and sent to metal recycling

#### Disposal

- The notified polymer should be disposed of by being catalysed and sent to landfill or burnt in a steel recycling furnace, boiler or kiln. Priority should be given to recovering any fuel value.

#### Storage

- The following precautions should be taken regarding storage of the notified polymer:
  - The polymer is not flammable but is used in conjunction with flammable solvents and should be stored in a registered dangerous goods storage facility compliant with AS1940.

#### Emergency procedures

- Spills/release of the notified polymer are limited by a maximum pack size of 4 L and should be collected by use of an adsorbent such as sand, vermiculite or other and placed in a closed head disposal bin using a non sparking shovel.

#### Transport and Packaging

- Transport by ADG approved couriers

## 11. 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 chemical 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 chemical, have post-assessment regulatory obligations to notify NICNAS when any of these circumstances change. These obligations apply even when the notified chemical 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 chemical has changed from a component in automotive surface coatings, or is likely to change significantly;
  - the amount of notified polymer being introduced has increased, or is likely to increase, significantly;
  - if the chemical 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.