File No PLC/569

June 2005

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

# FULL PUBLIC REPORT

## Component A in YT Powder

This Self 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 the Environment and Heritage. The data supporting this assessment will be subject to audit by NICNAS.

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| | |
|---|---|
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**Director**
**NICNAS**

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# FULL PUBLIC REPORT

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### 1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)
Toyota Tsusho (Australasia) Pty. Ltd., ABN: 24 056 847 315
231-233 Boundary Road,
Laverton North, VIC. 3026

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
- Molecular Formula
- Structural Formula
- CAS Number
- Polymer Constituents
- Use Details
- Import Volume
- Molecular weight

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)
None

NOTIFICATION IN OTHER COUNTRIES
The polymer has been subject of a PMN in the USA.
The polymer was notified in Canada (Schedule VI) during 2003

### 2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
Component A in YT Powder

MOLECULAR WEIGHT (MW)
Number Average Molecular Weight (Mn) >10 000

### 3. COMPOSITION

PLC CRITERIA JUSTIFICATION

| Functional Group | Category | Equivalent Weight (FGEW) |
|---|---|---|
| None | Moderate/High Concern | Not Applicable |

| *Criterion* | *Criterion met (yes/no/not applicable)* |
|---|---|
| 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. INTRODUCTION AND USE INFORMATION

MODE OF INTRODUCTION OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS
The notified polymer will be imported as a component of a resin that will be used in manufacture of interior automotive components.

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

| *Year* | *1* | *2* | *3* | *4* | *5* |
|---|---|---|---|---|---|
| *Tonnes* | 100-300 | 100-300 | 100-300 | 100-300 | 100-300 |

USE
The notified polymer is a component of a moulding resin that will be used in the manufacture of interior automotive parts.

## 5. PROCESS AND RELEASE INFORMATION

### 5.1. Operation Description

The notified polymer will not be manufactured in Australia. It will be imported as a component of a moulding resin used to manufacture interior automotive parts. The moulding resin will be imported by sea in 150 kg fibre board drums. The drums will be transported by road from the wharf to the notifiers warehouse at Laverton Victoria where it will be stored until such time as it is ordered by the moulding company.
At the moulding company, no reformulation of the notified polymer will take place. The moulding resin will be transferred from the fibre drums to a hopper prior to being used in the moulding process. The transfer process will involve lifting the fibre drums via a forklift to a mezzanine platform adjacent to the top of the hopper. The drums will then be manually poured into the top of the hopper. During the moulding process, the moulding resin is transferred from the hopper by gravity feed to a preheated mould. The mould is then closed and allowed to cool. After cooling, the automotive part is manually removed from the mould, trimmed and stored until such time as it is shipped to the automotive manufacturer where it will be used in the vehicle assembly line.

## 6. EXPOSURE INFORMATION

### 6.1. Summary of 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.
During the moulding process, workers will manually transfer the polymer to the hopper. Workers will wear dust respirators, eye protection and coveralls. Local exhaust ventilation is also installed adjacent to the hopper filling area and the moulding equipment. Exposure from the notified polymer to these workers can occur by either dermal, inhalation or ocular routes, however significant exposure will be limited due to the workplace practices, engineering controls and personal protective equipment used.
Workers will also handle moulded automotive components containing the notified polymer. After notified polymer is contained in the moulded component it is contained in an inert polymer matrix and

the notified polymer is hence unavailable to exposure.

### 6.2. Summary of Public Exposure

The notified polymer will not be sold directly to the public. However, the notified polymer will be a component of interior automotive components that the public will come into contact with. In its end use form, the notified polymer forms a further cross-linked polymer matrix of the automotive components. Exposure will be negligible due to its low water and oil solubility and low volatility.

### 6.3. Summary of Environmental Exposure

#### 6.3.1. Environmental Release

Release to the environment during shipping, transport and warehousing will only occur through accidental spills or leaks of the fibre drums. Spills will be taken up mechanically and re-used where possible. Other waste will be sent to a licensed waste landfill site.

It is expected that 0.1% of the notified polymer will be lost to spills and a further 0.1% will remain as residue in fibre drums. A further 2% waste will be generated from trimming of automotive components. All waste and "empty" drums will be disposed of as inert solid waste to a licensed waste landfill site. The vast majority of the notified polymer (>95%) will be bound within the polymer matrix of interior automotive components and will share the fate of these components. Some will go to landfill but it is expected that the majority will be destroyed in furnaces when automobile bodies are recycled.

#### 6.3.2. Environmental Fate

The notified polymer that will go to landfill as waste or as a component of automotive parts will be immobile in the soil due to its low water solubility and because it is bound within the polymer matrix of the automotive components. It is expected that the notified polymer will slowly degrade by biotic and abiotic processes to form oxides of carbon and nitrogen. The polymer that is recycled with automobile bodies will decompose in furnaces to form oxides of carbon and nitrogen.

## 7. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **Appearance at 20°C and 101.3 kPa** | The notified polymer is a powder that is a component of a powdered moulding resin |
| **Melting Point/Glass Transition Temp** | 210 °C |
| **Density** | 720 kg/m$^3$ @ 20°C (bulk density) |
| **Water Solubility** | < 4 mg/L |
| **Dissociation Constant** | There are no dissociable groups |
| **Particle Size** | 160 microns approximately |
| **Reactivity** | Not reactive under normal conditions of use |
| **Degradation Products** | None under normal conditions of use. |

## 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.

## 9. ENVIRONMENTAL HAZARDS

### 9.1. Ecotoxicology

No toxicological data were submitted.

### 9.2. Environmental Hazard Assessment

The notified polymer has a NAMW of greater than 1000 and is not expected to cross biological membranes. It does not contain any medium or high concern reactive functional groups.
Nonionic polymers which have a MW > 1000 are generally of low concern.

## 10. RISK ASSESSMENT

### 10.1. Environment

No aquatic exposure is anticipated during manufacture of automotive components and end use of the notified polymer. It is envisaged that <3% waste would be generated from the moulding process. These wastes would be collected by licensed waste contractors and be disposed of in approved landfills as inert solid waste. In landfill, the solid wastes will not be mobile and will degrade slowly and not pose a significant risk to the environment.

### 10.2. Occupational Health and Safety

The OHS risk presented by the notified polymer is expected to be low, based on low hazard and low exposure as well as the engineering controls and personal protective equipment used by workers.

### 10.3. Public Health

The notified polymer will not be sold directly to the public and will not be isolated during its use cycle. However, the notified polymer will be a component of interior automotive components that the public will come into contact with.
Exposure will be negligible due to its low water and oil solubility, low volatility and because it will form an inert polymer matrix of the automotive components. Hence it will not be bioavailable.
The notified polymer is therefore expected to pose little or no risk to public health.

## 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 of automotive parts.

## 12. MATERIAL SAFETY DATA SHEET

### 12.1. Material Safety Data Sheet

The notifier has provided MSDS of the notified chemical and the imported resin 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

- During the moulding process where dust may be generated, it is recommended that local exhaust ventilation, dust respirators and safety glasses used to minimise exposure to the notified polymer dust, however, these should be selected on the basis of all ingredients in the formulation.
- In the interest of occupational health and safety, the following guidelines and precautions should be observed for use of the notified polymer as introduced in YT powder
  - The level of atmospheric nuisance dust should be maintained as low as possible. The NOHSC exposure standard for atmospheric dust is 10 $mg/m^3$.

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 waste should be disposed of to landfill or incinerated.

Empty containers should be sent to local recycling or waste disposal facilities.

Emergency procedures

- Spills/release of the notified polymer should be collected and placed in suitable containers for disposal.
- The notified polymer should not be allowed to enter 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.