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

**FULL PUBLIC REPORT**

**Polymer in Morester 49x174**

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**Director  
NICNAS**

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**FULL PUBLIC REPORT****Polymer in Morester 49x174****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT(S)

Rohm and Haas Australia Pty. Ltd. (ABN 29 004 513 188)

4<sup>th</sup> Floor, 969 Burke Road

Camberwell VIC 3124

## 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, CAS Number, Molecular and Structural Formulae, Molecular Weight, Polymer Constituents, Residual Monomers/Impurities, Use Details, Import Volume

## PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

None

## NOTIFICATION IN OTHER COUNTRIES

The polymer has been notified in Canada and Japan.

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

Polymer in Morester 49x174

## MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) &gt;10000

The notified polymer contains only low concern functional groups.

**3. PLC CRITERIA JUSTIFICATION**

<i>Criterion</i>	<i>Criterion met (yes/no/not applicable)</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

<b>Appearance at 20°C and 101.3 kPa</b>	Off-white to yellow pellets
<b>Melting Point/Glass Transition Temp</b>	150°C
<b>Density</b>	1260 kg/m <sup>3</sup> (temperature unspecified)
<b>Water Solubility</b>	Expected to be low due to the predominance of hydrophobic groups.
<b>Particle Size</b>	Approximately 5mm pellets
<b>Reactivity</b>	Stable under normal environmental conditions.
<b>Degradation Products</b>	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>	1-3	1-3	3-10	3-10	3-10

##### USE AND MODE OF INTRODUCTION AND DISPOSAL

###### Mode of Introduction

The notified polymer will be imported as a component of a granulated plastic laminating resin. The moulding resin will be imported by sea in 20 kg paper bags.

Upon arrival at ports in Sydney and/or Melbourne the notified polymer will be transported by road to the notifier's warehouse where it will be stored under cover until it is transported to the end users site.

###### Reformulation/manufacture processes

The notified polymer will neither be manufactured nor reformulated in Australia.

At the textile manufacturer, no reformulation of the notified polymer will take place. The laminating resin will be transferred manually from the paper bags to a hot melt and applicator machine where it will be heated to 180°C and applied to textile components. The entire melting machine and applicator unit will be housed in a totally enclosed unit. Following application to textile components, the components are then laminated together to form the finished textile.

###### Use

The notified polymer will not be manufactured in Australia. It will be imported as a component of a plastic laminating resin. The laminating resin will be used in the manufacture of laminated textile products.

#### 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 bags.

During the laminating process, workers will manually transfer the polymer to the hot melt machine. Workers will wear dust respirators, eye protection and coveralls. Local exhaust ventilation is also installed adjacent to the hot melt machine. 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, engineering controls and personal protective equipment used.

Workers will also handle textile components containing the notified polymer. After laminating, the notified polymer is sandwiched between textile outer skins and is hence unavailable for exposure.

#### PUBLIC EXPOSURE

The notified polymer will not be sold directly to the public. However, the notified polymer will be a component of textiles that the public will come into contact with. Exposure will be negligible due to its low water solubility and low volatility and because it will be bound within the textile.

### 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.

The notified polymer is, however, a high molecular weight, insoluble polymer and the inhalation of respirable particles of this class of polymer has been linked with lung overloading. However, the notified polymer is imported in a form which contains no particles of this size.

### 6.3. Human Health Risk Assessment

#### 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.

#### PUBLIC HEALTH

The notified polymer will not be sold directly to the public. However, the notified polymer will be a component of textiles that the public will come into contact with. The notified polymer is considered to present a low human health hazard and exposure to it will be negligible. Therefore the risk to public health is considered 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 from bags. 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 up to 0.1% of the notified polymer will be lost to spills and up to 0.2% will remain as residue in paper bags. Up to 2% waste notified polymer will be generated from trimming of textile components. Total waste is expected to be less than 230 kg per annum. All waste and "empty" bags 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 textile and will share the fate of the textile. Disposal will be to either landfill or incineration.

#### ENVIRONMENTAL FATE

The notified polymer is expected to be hydrolytically stable and to not be readily biodegradable. Due to its hydrophobic nature, it is expected that the notified polymer in landfill will associate with sediments and organic phases of soil and sediments, and slowly degrade to simple carbon compounds and water. The polymer that is incinerated will decompose to form oxides of carbon and water vapour.

### 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

Aquatic exposure is anticipated during the end use of the notified polymer. However, release to the aquatic environment will be negligible because the polymer has low water solubility and is bound within the textile matrix.

It is envisaged that <2.3% waste notified polymer would be generated from the textile making 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.

## 8. CONCLUSIONS

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

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

### 8.2. Level of Concern for Public Health

There is Negligible Concern to public health when used in the proposed manner.

### 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

- If dust is generated during the laminating process, it is recommended that local exhaust ventilation, dust respirators and safety glasses are used to minimise exposure to the notified polymer dust, however, these and other engineering controls and personal protective equipment 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.

- 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.

#### 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.

### 10.1. 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.