

File No PLC/862

September 2009

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

**FULL PUBLIC REPORT**

**Polymer in Macrynal SM 2708/2810**

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 the Environment, Water, Heritage and the Arts.

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****Polymer in Macrynal SM 2708/2810****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT(S)

Cytec Australia Holdings Pty Ltd (ABN 45 081 148 629)  
Suite 1, Level 1, 21 Solent Circuit, BAULKHAM HILLS NSW 2153

## NOTIFICATION CATEGORY

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 and Use Details

## 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

None

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

Macrynal SM 2708/75BAC (product containing the notified polymer)  
Macrynal SM 2810 (product containing the notified polymer)

## MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) > 1000 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  
Not a Hazard Substance or Dangerous Good

*Criterion met*

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes

The notified polymer meets the PLC criteria.

#### 4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa:	Colourless to light yellow liquid
Melting Point/Glass Transition Temp	100-200°C
Density	1040 kg/m <sup>3</sup> at 20°C
Water Solubility	< 0.04 g/L (measured by gravimetric method)
Dissociation Constant	pKa = 4.86 (based on parent acid)
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

##### Comments

The polymer is never isolated. The physical and chemical properties are for the products containing the notified polymer at approximately 80%.

#### 5. INTRODUCTION AND USE INFORMATION

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

Year	1	2	3	4	5
Tonnes	< 50	50-80	50-80	50-80	50-80

##### Use

Component of industrial coatings.

##### Mode of Introduction and Disposal

The notified polymer will be imported into Australia at approximately 80% solution in solvent in 200 kg drums.

The imported notified polymer solution will be formulated into finished coating products before being distributed to spray-painting and smash repair companies who will apply the paints by spray painting.

#### 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

As the polymer meets the low concern criteria and exposure is expected to be controlled by use of engineering controls and/or personal protective equipment, the risk to workers is not considered significant. If respirable or inhalable aerosol particles are generated by spray application, a higher level of controls, including respiratory protection, would be required to avoid inhalation exposure.

##### Public Health Risk Assessment

The notified polymer is intended only for use in industrial coating and as such public exposure to the notified polymer is not expected. Following coating application, the notified polymer will become trapped within a film and will not be bioavailable. Exposure of the public to the notified polymer is negligible and therefore risk is considered low.

#### 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 may be released in small amounts (< 3%) during formulation as spills, container residues and waste material. These releases will be collected for disposal to landfill or by thermal decomposition, with waste material reduced to an insoluble polymeric mass before landfill disposal. Similarly, small amounts (< 2%) will be released as container residues and equipment washings during use, for disposal to landfill. The main release (up to 50% as overspray during use) will mainly entail landfill disposal, after interception by spray booth scrubbers, with minor amounts discharged to sewer and subsequently adsorbed to sludge at the sewage treatment plant. Discarded articles containing the notified polymer within the cured paint film will be disposed of to landfill, or recycled for metals reclamation which will entail thermal decomposition of the paint. In landfill, the notified polymer is expected to degrade slowly *in situ*. Therefore, the notified polymer is not expected to pose a risk to the environment when it is used as proposed.

## 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 considered to pose a risk to the environment.

### Recommendations

#### CONTROL MEASURES

##### Occupational Health and Safety

- Specific engineering controls, work practices or 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.

- Spray application should be carried out in accordance with the National Guidance Material for Spray Painting.
- 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 and/or accidental release of the notified polymer should be handled by 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 component of industrial coatings, 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 product containing the notified polymer provided by the notifier was reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.