

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

**POLYMER OF LOW CONCERN FULL PUBLIC REPORT**

**Polymer in Texaphor P63**

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (the Act) and Regulations. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Australian Government 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 Australian Government 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**

February 2011

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## 1. APPLICANT AND NOTIFICATION DETAILS

### Applicants

Cognis Australia Pty Ltd (ABN 87 006 374 456)  
4 Saligna Drive  
Tullamarine, VIC 3043

### 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 and import volume.

## 2. IDENTITY OF POLYMER

### Marketing Name(s)

Texaphor P63 (contains 45% notified polymer)

### Molecular Weight

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

### Reactive Functional Groups

Functional Group	Category	Equivalent Weight (FGEW)
Imidazole	High Concern	> 5000

## 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:	Off-white, amorphous, ductile, solid
Melting Point/Glass Transition Temp	30-70°C
Density	1138 kg/m <sup>3</sup>
Water Solubility	Extractability ≤ 0.28% (w/w). The product containing the notified polymer was dried for 36 h at 60°C, 8 mbar and for 36 h at room temperature, 1.8 mbar. Five samples of the notified polymer (0.1 g – 10.1 g) were each dissolved in 50 mL water and shaken for 24 h at room temperature and allowed to stand for at least 1 h. After filtration with a 0.45 µm filter, the filtrates were dried to constant mass and the mass of solid was determined. The DOC was determined in each of the filtrates and was used to determined the

Dissociation Constant	percentage of notified polymer that dissolved. The pKa is expected to be approximately 7 due to the imadazole functional group.
Reactivity	Stable under normal environmental conditions
Degradation Products	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>
Tonnes	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5

#### Use

The notified polymer will not be manufactured in Australia. The notified polymer will be imported into Australia at a concentration of 45%. Products containing the notified polymer will be reformulated in Australia. The notified polymer will be used to improve the performance of pigments in solvent based surface coatings. The final coatings will contain up to 2.5% of the notified polymer.

## 6. HUMAN HEALTH RISK ASSESSMENT

No toxicological data were submitted. The notified polymer meets the PLC criteria and is therefore assumed to be of low hazard. The risk of the notified polymer to occupational and public health is not considered to be unacceptable given the assumed low hazard.

## 7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. The notified polymer is expected to have cationic functionality, however the high FGEW (9800) indicates the polymer not of concern to aquatic organisms. The imported product containing the notified polymer will be reformulated into coatings for use in car refinishing with application carried out mainly by spray. Up to 2% of the notified polymer may be released during reformulation as spills, container residues and waste material. These releases will be collected for disposal to landfill. A maximum of 3% will be released as container and equipment washings during use, which will be sent to a licensed hazardous waste facility for disposal in accordance with State/Territory regulations. The main release (up to 50% as overspray during use) will typically entail landfill disposal, after interception by spray booth filters. Discarded end use articles containing the notified polymer within the inert polymer matrix of the cured paint film will be disposed to landfill, or recycled for metals reclamation, which will entail thermal decomposition of the notified polymer to form water vapour and oxides of carbon and nitrogen. In landfill, the notified polymer is not expected to be mobile nor bioavailable and is expected to slowly degrade by abiotic and biotic processes. Based on the assumed low hazard to aquatic organisms, low potential for aquatic exposure and the reported use pattern, the notified polymer is not expected to pose a risk to the environment.

## 8. RECOMMENDATIONS

### Human Health Risk Assessment

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

**Environmental Risk Assessment**

Based on the assumed low hazard and the reported use pattern, the notified polymer is not considered to pose an unacceptable risk to the environment.

**Health and Safety Recommendations**

- 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.

- A copy of the MSDS should be easily accessible to employees.
- Spray application should be carried out in accordance with the Safe Work Australia *National Guidance Material for Spray Painting* [NOHSC (1999)].
- 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.

**Environmental Recommendations**

- No specific control measures are required to minimise release of the notified polymer to the environment.

**Disposal**

- The notified polymer should be disposed to landfill.

**Emergency Procedures**

- Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
- Spills and/or accidental release of the notified polymer should be handled by physical containment, collection and subsequent safe disposal.

**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 component of surface 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 a product containing the notified polymer was provided by the applicant. The accuracy of the information on the MSDS remains the responsibility of the applicant.