

File No PLC/650

10 July 2006

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

**FULL PUBLIC REPORT**

**Polymer in 6682C**

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 and Heritage.

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Street Address:	334 - 336 Illawarra Road MARRICKVILLE NSW 2204, AUSTRALIA.
Postal Address:	GPO Box 58, SYDNEY NSW 2001, AUSTRALIA.
TEL:	+ 61 2 8577 8800
FAX	+ 61 2 8577 8888.
Website:	<a href="http://www.nicnas.gov.au">www.nicnas.gov.au</a>

**Director  
NICNAS**

## TABLE OF CONTENTS

FULL PUBLIC REPORT.....	3
1. APPLICANT AND NOTIFICATION DETAILS .....	3
2. IDENTITY OF CHEMICAL .....	3
3. PLC CRITERIA JUSTIFICATION .....	3
4. PHYSICAL AND CHEMICAL PROPERTIES .....	4
5. INTRODUCTION AND USE INFORMATION.....	4
6. HUMAN HEALTH IMPLICATIONS.....	5
6.1. Exposure Assessment .....	5
6.2. Toxicological Hazard Characterisation .....	5
6.3. Human Health Risk Assessment.....	5
7. ENVIRONMENTAL IMPLICATIONS .....	5
7.1. Exposure Assessment .....	5
7.2. Environmental Hazard Characterisation .....	5
7.3. Environmental Risk Assessment .....	5
8. CONCLUSIONS.....	6
8.1. Level of Concern for Occupational Health and Safety.....	6
8.2. Level of Concern for Public Health .....	6
8.3. Level of Concern for the Environment.....	6
9. MATERIAL SAFETY DATA SHEET.....	6
9.1. Material Safety Data Sheet .....	6
10. RECOMMENDATIONS .....	6
10.1. Secondary Notification .....	6

**FULL PUBLIC REPORT****Z-71****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT(S)

Lubrizol International, Inc (ABN 52 073 495 603)  
28 River Street  
Silverwater NSW 2128

Champion Technologies Pty Ltd (ABN 22 008 079 614)  
Suite 1, 5 Brodie Hall Drive, Technology Park  
Bentley WA 6102

## NOTIFICATION CATEGORY

Polymer of Low Concern

## EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication:

Chemical Name, Other Names, Structural Formula, Molecular Weight, Polymer Constituents,  
Residual Monomers/Impurities, Purity, Import Volume

## VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

Variation to the schedule of data requirements is claimed as follows:

Particle size distribution

Melting point

Flammability limits

## PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

None

## NOTIFICATION IN OTHER COUNTRIES

None

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

Z-71

6682C (product containing notified polymer)

## CAS NUMBER

None assigned

## MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) &gt;1000

## REACTIVE FUNCTIONAL GROUPS

The notified polymer contains only low concern functional groups.

**3. PLC CRITERIA JUSTIFICATION***Criterion**Criterion met*

	<i>(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>	Amber coloured liquid (solution)
<b>Melting Point/Glass Transition Temp</b>	4 ± 3 °C (pour point)
<b>Density</b>	911 kg/m <sup>3</sup> at 20 ± 0.5 °C
<b>Water Solubility</b>	< 6.46 × 10 <sup>-4</sup> g/L at 20°C using flask method, Method 105 of OECD guidelines
<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>	30-100	30-100	30-100	100-300	100-300

USE AND MODE OF INTRODUCTION AND DISPOSAL

##### **Mode of Introduction**

The notified polymer will be manufactured outside Australia and then imported to customers in Australia as a 40% solution of the polymer in diluent such as petroleum naphtha. The most likely site of import will be Adelaide. It will be shipped in 208 L drums or 1250 L totes.

##### **Reformulation/manufacture processes**

No reformulation will be carried out in Australia. The product containing the notified polymer is transported from the dock to customer via truck.

At the end use sites, the customer will inject the product containing the notified polymer into the oil-field pipeline. The notified polymer is present in crude oil typically at less than 1.0 weight percent. These operations are expected to be carried out either manually or semi-automatically in a closed system.

##### **Use**

The notified polymer is used as a pour point depressant in oil-field pipe lines.

## **6. HUMAN HEALTH IMPLICATIONS**

### **6.1. Exposure Assessment**

#### OCCUPATIONAL EXPOSURE

Dermal and ocular exposure may potentially occur during certain processes involving the notified polymer. However, exposure to significant amounts of the notified polymer is limited because of the processes being carried out in a closed system. The presence of engineering controls and personal protective equipment worn by workers would further reduce exposure.

#### PUBLIC EXPOSURE

The notified polymer is intended only for use in industry and as such public exposure to the notified chemical is not expected.

### **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 OHS risk presented by the notified polymer is expected to be low, based on the expected low exposure to workers and the low intrinsic hazard of the polymer.

#### PUBLIC HEALTH

As there will be no exposure of the public to the notified polymer the risk to the public from exposure to the notified polymer is considered to be negligible. If accidental exposure of the public occurred, the risk to the public would be low because of the low hazard of the notified polymer

## **7. ENVIRONMENTAL IMPLICATIONS**

### **7.1. Exposure Assessment**

#### ENVIRONMENTAL RELEASE

The notified polymer will be manufactured overseas and is imported into Australia in 1250 L totes or 208 L drums as 40% of the imported formulation. In Australia, the imported formulation is reformulated with other ingredients to produce the final end-use product, containing 1% notified polymer. This is transported in isotainers to the end-use site where it is injected into oil-field pipelines. Residual notified polymer within import and transport containers is expected to account for less than 1% of the total imported volume of notified polymer. This residual notified polymer is expected to be removed from the containers during drum reconditioning, and be disposed of by incineration.

#### ENVIRONMENTAL FATE

Approximately 99% of the total imported volume of notified polymer will be injected into oil-field pipelines, and will be thermally decomposed during oil-refinery processes. 1% of the total imported volume of notified polymer will be thermally decomposed by incineration during drum reconditioning. Thermally decomposed notified polymer is expected to result in various oxides of carbon and hydrogen. Release to the aquatic environment is not anticipated, except in the unlikely event of an accidental spill.

### **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**

With the exception of quantities released as a result of an accidental spill, the entire imported volume

of notified polymer is expected to be thermally decomposed. As release to the aquatic environment is not expected, the risk to the aquatic environment is acceptable.

## 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

- 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.
- 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 should be disposed of by incineration.

#### Emergency procedures

- Spills and/or accidental release of the notified polymer should be handled by physical containment, collection and subsequent safe 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.