File No PLC/1057

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in Keltan Series

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 Public Report may be inspected at our NICNAS office by appointment only at Level 7, 260 Elizabeth Street, Surry Hills NSW 2010.

This 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

May 2012

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SUMMARY

The following details will be published in the NICNAS *Chemical Gazette:*

ASSESSMENT REFERENCE	APPLICANT(S)	CHEMICAL OR TRADE NAME	HAZARDOUS SUBSTANCE	INTRODUCTION VOLUME	USE
PLC/1057	Lanxess Pty Ltd	Polymer in Keltan Series	No	≤ 50 tonnes per annum	Polymer for the production of rubber articles

CONCLUSIONS AND REGULATORY OBLIGATIONS

Human Health Risk Assessment
Based on the assumed low hazard and the assessed use pattern, the notified polymer is not considered to pose an unreasonable risk to the health of workers and the public.

Environmental Risk Assessment
Based on the assumed low hazard and the assessed use pattern, the notified polymer is not considered to pose an unreasonable risk to the environment.

Health and Safety Recommendations

- Relevant engineering controls, work practices and/or personal protective equipment should be used to minimise the risk of inhalation exposure if dust is generated during shredding of the polymer.

  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 *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 polymer for the production of rubber articles, or is likely to change significantly;
- the amount of notified polymer being introduced has increased per annum, 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 notified polymer 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 was provided by the applicant. The accuracy of the information on the MSDS remains the responsibility of the applicant.

ASSESSMENT DETAILS

1. APPLICANT AND NOTIFICATION DETAILS

Applicants
Lanxess Pty Ltd (ABN 58 071 919 116)
Unit 1, 31 Hill Road
Homebush Bay NSW 2127

Exempt Information (Section 75 of the Act)
Data items and details claimed exempt from publication: chemical name, other names, CAS number, molecular and structural formulae, molecular weight, polymer constituents, residual monomers/impurities, and import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)
Polymer in Keltan Series

3. PLC CRITERIA JUSTIFICATION

Molecular Weight
Number Average Molecular Weight (Mn) is > 10,000 Da

Reactive Functional Groups
The notified polymer contains only low concern functional groups.

Criterion	*Criterion met*
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	Solid white block
Melting Point/Glass Transition Temp	Approx. 85 °C. Decomposition occurs at > 300 °C
Density	860 kg/m^3 at 20 °C
Water Solubility	Not determined. The notified polymer is expected to have low water solubility based on its hydrophobic structure and high molecular weight.
Particle Size	Not applicable
Reactivity	Stable under normal conditions of use
Degradation Products	Not known. Combustion products may consist of CO and CO_2.

5. INTRODUCTION AND USE INFORMATION

Maximum Introduction Volume of Notified Chemical (100%) Over Next 5 Years

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	20-50	20-50	20-50	20-50	20-50

Use
The notified polymer will not be manufactured in Australia and will be imported into Australia at a concentration of 100%. There will be no local reformulation/compounding of the imported polymer.

The notified polymer is a terpolymer/elastomer which can be sulphur or peroxide cured and moulded to produce rubber or plastic-modified rubber (mixture of thermoplastic olefins and rubber) articles for a wide number of applications, but mostly used in the automotive industry. The notified polymer is shredded and then moulded using typical injection, compression or calendering processes. The final moulded rubber articles will contain 40-95% 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. As the notified polymer is of high molecular weight and low water solubility, it has the potential to cause lung overloading if inhaled in respirable form.

Shredding could generate dust of unknown particle size. However, worker inhalation exposure and risk would be reduced by use of appropriate engineering controls, safe work practices and PPE. Therefore the risk to workers is not considered unreasonable when these controls are in place.

7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. Polymers without significant ionic functionality are generally of low concern to the environment. The majority of the notified polymer will be physically incorporated within the inert polymer matrix of moulded components and will share the fate of the article. At the end of their useful life, articles containing the notified polymer are expected to be disposed of to landfill. The estimated environmental release from accidental spillage is up to 0.1% of the total import volume. Up to 2% of the total import volume is estimated as waste from trimming of moulded articles. Notified polymer wastes are expected to be recycled back into the manufacturing process or disposed of to landfill. In landfill, the notified polymer is bound within a polymer matrix and is not expected to be bioavailable or mobile due to its high molecular weight and its anticipated low solubility in water. The notified polymer is not expected to be readily biodegradable and, due to its high molecular weight, it is not expected to bioaccumulate. It is expected to eventually degrade by biotic and abiotic processes in landfill to form water and oxides of carbon. Therefore, based on its assumed low hazard and assessed use pattern, the notified polymer is not considered to pose an unreasonable risk to the environment.