File No: SAPLC/117

February 2011

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

FULL PUBLIC REPORT

Polymer in ELASTOSIL LR 3071 B Series

This Self Assessment has been compiled by the applicant and adopted by NICNAS 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), administered by the Department of Health and Ageing and the Department of Sustainability, Environment, Water, Population and Communities have screened this assessment report. The data supporting this assessment will be subject to audit by NICNAS.

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

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1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT
Wacker Chemie AG (ABN: 11 607 113 062)
1/35 Dunlop Road
Mulgrave, VIC 3170

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, Other Names, CAS Number, Molecular and Structural Formulae, Molecular Weight, Polymer Constituents and Residual Monomers/Impurities

NOTIFICATION IN OTHER COUNTRIES
None

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
ELASTOSIL LR 3071 B Series (<10% notified polymer)

MOLECULAR WEIGHT (MW)
Number Average Molecular Weight (NAMW) >1000

REACTIVE FUNCTIONAL GROUPS
The notified polymer contains only low concern functional groups.

3. PLC CRITERIA JUSTIFICATION

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	clear liquid
Melting Point	not determined
Density	1010 kg/m^3 at 25°C
Water Solubility	Expected to be virtually insoluble due to its predominantly hydrophobic structure
Reactivity	Will react with ambient humidity, polymer is 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

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	5	5	5	5	5

USE AND MODE OF INTRODUCTION AND DISPOSAL

Mode of Introduction

The notified polymer will be imported into Australia as a component of products (ELASTOSIL LR 3071 B series) at <10% concentration. The products will be imported by sea in 200 kg steel drums and in 20 kg steel pails and transported from the wharf by truck to customer sites.

Reformulation/manufacture processes

Customers in Australia will receive ready-to-use products that will contain the notified polymer at less than 10%. The product containing the notified polymer (at <10%) will be delivered to customers in ready to use components that can be pumped directly into injection moulding machines from the original containers. The components can be mixed inline using a static mixer.

Use

Products containing the notified polymer at <10% concentration will be used to manufacture over-moulded parts (thermoplastic/elastic) and for co-moulding processes. The notified polymer will be used in the production of elastic and self-adhesive rubber parts, especially those bonded onto metal or plastic substrates.

6. HUMAN HEALTH IMPLICATIONS

6.1. Exposure Assessment

OCCUPATIONAL EXPOSURE

The process for the production articles containing the notified polymer will occur mainly in closed and automated systems. For cleaning of equipment or during handling of product containing the notified polymer, exposure is expected to be limited by the use of personal protective equipment (including protective gloves).

PUBLIC EXPOSURE

The notified polymer will not be available to the public. Members of the public may come into contact with the manufactured articles. However, the formulations containing the notified polymer will cure to a solid crosslinked elastomer and therefore it will not be bioavailable.

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

Although exposure to the notified polymer could occur during handling of the products containing it, the risk to workers is considered to be low due to the assumed low hazard of the notified polymer.

PUBLIC HEALTH

The notified polymer will not be available to the public. Members of the public may make dermal contact with articles containing the notified polymer. However, the risk to public health will be negligible, because the notified polymer is assumed to be of low hazard, and will be bound within a matrix.

7. ENVIRONMENTAL IMPLICATIONS

7.1. Exposure Assessment

ENVIRONMENTAL RELEASE

The notified polymer will be imported into Australia and further blended with other components in production equipment mainly in closed and automated systems for the production of articles. The import containers

(Packages) will be cleaned with solvents and recycled, thermally decomposed or disposed of to landfill. The production equipment will also be cleaned with solvents. The cleaning solvents will be recycled or thermally decomposed.

During production processes, the product containing the notified polymer will be a viscous liquid up to paste-like consistency, which cures at room temperature within a few days and much quicker at elevated temperatures to form a cross-linked, high molecular weight elastomer. Any limited spills from the production processes will be collected for disposal to landfill. Negligible amounts of the notified polymer will be released to the environment during these processes.

ENVIRONMENTAL FATE

The notified polymer will be completely reacted and cross-linked within articles as part of the manufacturing process. The notified polymer will share the fate of the articles, which will be most likely sent to landfill or thermally decomposed at the end of their useful lives.

The notified polymer is expected to be stable under normal environmental conditions. Due to its low water solubility, the notified polymer and especially its final products in solid wastes are expected to remain within the soils and sediments of landfills and eventually degrade through biotic and abiotic processes. If spilt on land, the notified polymer is expected to bind to soil and become immobilised in the soil layer.

No significant release to sewer is expected, however, if this occurs, the notified polymer is expected to settle to sediment and finally be disposed of to landfill. The notified polymer is not expected to be readily biodegradable but, due to its high molecular weight, it is not expected to bioaccumulate. Degradation of the notified polymer, in landfill or by thermal decomposition, will result in the formation of water and oxides of carbon and silicon.

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

The notified polymer is not expected to pose an unacceptable risk to the environment based on its assumed low toxicity to aquatic organisms and the low potential for aquatic exposure resulting from its use in manufacturing industry.

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 expected 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 an 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.

- 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.

  Guidance in selection of personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

Environment
- Prevent material from entering surface waters, drains or sewers and soil.
- Retain contaminated water/extinguishing water.

Disposal
- Dispose of in prescribed marked containers.
- The notified polymer should be disposed of to landfill.

Storage
- Ensure adequate ventilation. Keep away from incompatible substances (i.e. water or protic substances, will form hydrogen).
- Protect against moisture. Store in original container only. Keep container tightly closed and store in a cool, well ventilated place.

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

11. 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 chemical 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 chemical, have post-assessment regulatory obligations to notify NICNAS when any of these circumstances change. These obligations apply even when the notified chemical 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 in the production of elastic and self-adhesive rubber parts 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 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.