File No PLC/1051

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Desmoseal S XP 2636

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

June 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/1051	Bayer MaterialScience Pty Ltd	Desmoseal S XP 2636	No	≤50 tonnes per annum	Component of sealants used in construction and DIY applications

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

- 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 *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 to landfill.

Emergency Procedures

- 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 component of sealants, 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.

Material Safety Data Sheet
The MSDS of 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
Bayer MaterialScience Pty Ltd (ABN 18 086 237 765)
17-19 Wangara Road
CHELTENHAM VIC 3192

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.

2. IDENTITY OF POLYMER

Marketing Name
Desmoseal S XP 2636 (Notified polymer neat)

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

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

Criterion	*Criterion met*
Low MW Polyester Manufactured from Allowable Reactants	Not applicable

The notified polymer meets the PLC criteria.

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20 °C and 101.3 kPa	Yellowish viscous liquid
Pour Point Temp	~21°C
Density	1010 kg/m^3 at 20°C
Water Solubility	Not determined. The solubility of the notified polymer cannot be measured as it reacts on contact with water to form insoluble cross-linked polymers.
Reactivity	Reacts with ambient humidity through readily hydrolysable functional group.
Degradation Products	Oxides of carbon

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	≤50	≤50	≤50

Use
The notified polymer will not be manufactured in Australia.The notified polymer will be imported into Australia neat and reformulated into sealant products at 20-60% concentration for use in construction and DIY applications.

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 unreasonable given the assumed low hazard and the assessed use pattern.

7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. Polymers without significant ionic functionality are generally of low concern to the environment.

The notified polymer will be imported into Australia as a raw material or as a component of finished sealant products. During reformulation, potential release of the notified polymer may occur due to spills and leaks during transfer from import containers to the blending vessel and during filling operations. The spills will be collected using a suitable adsorbent material and disposed of to landfill. The losses during blending are expected to be up to 2% of the import volume. Release from the sealed cartridges during transport and storage is expected to be negligible.

After reformulation, direct release of the notified polymer is unlikely due to its reaction on exposure to atmospheric moisture. During application of sealant using a caulking gun, release of the notified polymer is not expected to be significant. Excess sealant (up to 2% of the import volume) is removed

with a spatula or cloth and it is expected that solid waste scrapings and soiled rags are disposed of to landfill. Residual sealant (up to 3% of the import volume) in the empty cartridges is also expected to be disposed of to landfill. The majority of the notified polymer is expected to be cured into an inert polymer matrix adhering to substrates following its use as a gap sealant in the construction industry. The notified polymer is expected to share the fate of the substrate to which it has been applied and be disposed of to landfill at the end of their useful life. In landfill, the notified polymer is not expected to be mobile or bioavailable and is expected to eventually degrade by abiotic and biotic processes to form water and oxides of carbon, nitrogen and silicon. The notified polymer is not expected to bioaccumulate due to its high molecular weight and furthermore, no significant release to the aquatic environment is expected when used as proposed. Therefore, based on its assumed low hazard and reported use pattern, the notified polymer is not considered to pose an unreasonable risk to the environment.