File No PLC/1034

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in BYK-1730

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

January 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/1034	i) Wattyl Australia Pty Ltd ii) Nuplex Industries (Aust) Pty Ltd	Polymer in BYK-1730	No	≤10 tonnes per annum	Component of coatings

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.

- 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 of 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 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 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 a products 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
Wattyl Australia Pty Ltd (ABN: 40 000 035 914)
Level 4, 2 Burbank Place
Baulkham Hills, NSW 2153

Nuplex Industries (Aust) Pty Ltd (ABN: 25 000 045 572)
49-61 Stephen Road
Botany, NSW 2019

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 use details.

2. IDENTITY OF POLYMER

Marketing Name(s)
BYK-1730 (<10% notified polymer)

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

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	Light brown liquid
Melting Point/Glass Transition Temp	<20 °C
Density	978 kg/m^3 at 20 °C
Water Solubility	Not determined. The notified polymer is expected to have low water solubility based on its high molecular weight, hydrophobic structure and experience in use.
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

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	<10	<10	<10	<10	<10

Use
The notified polymer will not be manufactured in Australia. The notified polymer will be imported into Australia at a concentration of <10% and will be reformulated into coatings. The notified polymer will be used as a defoamer in aqueous coatings at a concentration of <2%. The coatings containing the notified polymer will be used by both DIY and professional painters and may be applied by brush or roller. In addition, spray application techniques will be used in industrial settings and application is expected to occur in spray booths.

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.

During reformulation and the industrial use of coatings, the notified polymer may be released to the environment as spills and container residues (up to 2.5% of the annual import volume of notified polymer). These releases are expected to be collected and either sent to landfill or a licensed waste contractor for disposal in accordance with State/Territory regulations. Equipment used to reformulate the notified polymer may be washed with water or solvent. The aqueous washings are expected to be treated so that notified polymer is removed and disposed to landfill, while the solvent washings will be collected and disposed to landfill. The aqueous and solvent washings may contain up to 1% of the imported notified polymer.

During industrial use, product containing the notified polymer will be applied by roller (~5%), brush (~20%) and spray (~75%). The main release of notified polymer will be in the form of overspray (< 30% of sprayed product) during spraying operations and will typically entail landfill disposal, after interception by spray booth filters, kraft paper or newspaper. Residues containing the notified polymer on brushes and rollers (up to 2% of imported notified polymer) are expected to be rinsed into containers and then allowed to cure before disposal, as solid wastes, to landfill. The residues may also be washed and disposed of as described for reformulation equipment above.

Up to 5% of the annual import volume of the notified polymer will be incorporated into products available to the DIY market. DIY users are expected to apply products by brushes and rollers, using similar practices to professional users. However, up to 5% of the notified polymer used by DIY users (i.e. 0.25% of the total imported polymer) may be incorrectly disposed of to the sewer during washing of application equipment. Assuming the releases occur nationwide and equally over the entire year, this is unlikely to lead to ecotoxicologically relevant concentrations of the notified polymer in the aquatic environment. Furthermore, the notified polymer is not expected to bioaccumulate due to its high molecular weight and is expected to eventually degrade in the environment to form oxides of carbon and silicon, and water vapour.

Discarded end use articles containing the notified polymer within the cured coating will be disposed to landfill, or recycled for metals reclamation. In both scenarios the notified polymer will breakdown to form oxides of carbon and silicon, and water vapour. In landfill, the notified polymer will be present in high molecular weight cured solids which will be neither bioavailable nor mobile. 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.