

File No PLC/799

September 2008

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

FULL PUBLIC REPORT

Polymer in 99Z60206 Putty Resin and 3379001 Tack Free Promoted Putty Resin

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, Water, Heritage and the Arts.

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 334-336 Illawarra Road, Marrickville NSW 2204.

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:

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:	www.nicnas.gov.au

**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	3
5. INTRODUCTION AND USE INFORMATION	4
6. HUMAN HEALTH IMPLICATIONS	4
Hazard Characterisation	4
7. ENVIRONMENTAL IMPLICATIONS	4
Hazard Characterisation	4
8. CONCLUSIONS AND RECOMMENDATIONS	5
Human health risk assessment	5
Environmental risk assessment	5
Recommendations	5
Regulatory Obligations	6

FULL PUBLIC REPORT**Polymer in 99Z60206 Putty Resin and 3379001 Tack Free Promoted Putty Resin****1. APPLICANT AND NOTIFICATION DETAILS**

APPLICANT(S)

The Valspar (Australia) Corporation Pty Limited (ABN 82 000 039 396)
203 Power Street
GLENDENNING NSW 2761

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

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

No variation to the schedule of data requirements is claimed.

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

99Z60206 Putty Resin
3379001 Tack Free Promoted Putty Resin

MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) >1000 Da.

REACTIVE FUNCTIONAL GROUPS

The notified polymer contains only low concern functional groups.

3. PLC CRITERIA JUSTIFICATION*Criterion*

Molecular Weight Requirements
Functional Group Equivalent Weight (FGEW) Requirements
Low Charge Density
Approved Elements Only
Stable Under Normal Conditions of Use
Not Water Absorbing
Not a Hazard Substance or Dangerous Good

Criterion met

Yes
Yes
Yes
Yes
Yes
Yes
Yes

The notified polymer meets the PLC criteria.

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa:	Colourless solid
Melting Point/Glass Transition Temp	~50°C
Density	1300 kg/m ³ at 25°C
Water Solubility	Approx. 0.01 g/L at 20°C. Derived from a simple gravimetric method

Reactivity	for determining the extractability into water, reported as 0.1%. Stable under normal environmental conditions. The notified polymer contains potentially hydrolysable functionality, but is not expected to hydrolyse in the environmental pH range of 4–9 because of its low water solubility.
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	<200	<200	<200	<200	<200

Use

The notified polymer will be used as an ingredient in putty resins (>60%).

Mode of Introduction and Disposal

The notified polymer will be manufactured at Valspar (Australia) Pty Ltd, 203 Power St, GLENDENNING NSW 2761. The polymer will be manufactured in a styrene solvent to produce a resin formulation.

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation

No toxicological data were submitted. The hazard of the notified polymer is unknown but is assumed to be low given it meets the PLC criteria and is a polyester. However, it contains a high percentage of low molecular weight species just below the cut-off for the PLC criteria (ie. 24.9% <1000 Da and 9.5% <500 Da). It is unknown whether these species present any hazard to human health at these concentrations.

The notified polymer is a functionalised polyester with an FGEW <1000 Da. The hazard of this functionality and its likely reactivity are not expected to be high.

Occupational Health and Safety Risk Assessment

The notified polymer is manufactured in a resin solution containing styrene and this solution is classified as an eye and skin irritant (R36/38) and harmful by inhalation (R20) according to the *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)]. Handling of the notified polymer at the manufacturing site and spraying of the resin solution containing the notified polymer may lead to inhalation, dermal and ocular exposure. The MSDS for the resin solution containing the notified polymer (>60%) recommends the use of engineering controls (local exhaust ventilation, keep containers closed to prevent vapour generation) and personal protective equipment (PPE) such as an organic vapour respirator, overalls, chemical goggles, impervious gloves and protective footwear. These measures would minimise exposure and further reduce any risk posed by the low molecular weight species of the notified polymer. Overall, the risk to occupational health and safety would not be considered unacceptable.

Public Health Risk Assessment

The manufactured resin containing the notified polymer (>60%) will not be sold to the general public, and will only be used for industrial purposes. The public may come into contact with the notified polymer only after it has been applied to metallic surfaces where it will be cured within an inert matrix and not bioavailable. Given that exposure is not anticipated, the risk to public health is expected to be negligible.

7. ENVIRONMENTAL IMPLICATIONS

Hazard Characterisation

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

Environmental Risk Assessment

The risk of the notified polymer to the environment is expected to be very low as the notified polymer is expected to be of low hazard based on its structure. Standard engineering controls are expected to minimise any environmental exposure from manufacture and formulation. The main release, up to 30% from overspray, will be to landfill where the notified polymer is expected to be immobile and to slowly degrade. No aquatic

exposure is expected when metallic surfaces that have been treated with the notified polymer are disposed of, as the notified polymer will be cross-linked within an inert matrix and not bioavailable.

8. CONCLUSIONS AND RECOMMENDATIONS

Human health risk assessment

Under the conditions of the occupational settings described, the notified polymer is not considered to pose an unacceptable risk to the health of workers.

When used in the proposed manner, the notified polymer is not considered to pose an unacceptable risk to public health.

Environmental risk assessment

Based on the reported use pattern, the notified polymer is not considered to pose a risk to the environment.

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.

- Atmospheric monitoring should be conducted by employers to measure workplace concentrations of monomers and decomposition products during manufacture of the notified polymer to ensure atmospheric concentrations are maintained below the ASCC National Exposure Standards declared under the *Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment* [NOHSC:1003(1995)].
- 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 of by landfill.

Storage

- The following precautions should be taken by the manufacturer and customers regarding storage of resin solutions containing the notified polymer:
 - *Store in a cool, well-ventilated place away from incompatible materials.*
 - *Store in original container away from sources of heat or ignition.*
 - *Use proper grounding procedures to avoid formation of electric spark due to static charge accumulation.*

Emergency procedures for resin solutions containing the notified polymer:

- Extinguish or remove all sources of ignition.

- Wear protective equipment to prevent skin and eye contamination and inhalation of vapours.
- Avoid spraying water directly into storage containers due to danger of boil over.

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 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 ingredient of putty resin, or is likely to change significantly;
 - the amount of notified polymer being introduced has increased from 200 tonnes, or is likely to increase, significantly;
 - the method of manufacture of the notified polymer in Australia has changed, or is likely to change, in a way that may result in an increased risk of an adverse effect of the notified polymer on occupational health and safety, public health, or the environment;
 - additional information has become available to the person as to an adverse effect of the chemical 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 products containing the notified polymer provided by the notifier were reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.