

File No PLC/856

August 2009

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

FULL PUBLIC REPORT

Polyester Polymer in 3M Putty/Filler

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:

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**Director
NICNAS**

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FULL PUBLIC REPORT**Polyester Polymer in 3M Putty/Filler****1. APPLICANT AND NOTIFICATION DETAILS**

APPLICANT(S)

3M Australia Pty Ltd (ABN 90 000 100 096)
25-27 Bridge St, Pymble NSW 2073

NOTIFICATION CATEGORY

Polymer of Low Concern

EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication:

Chemical identity information, percentage of polymer in imported formulations, use details, import volume

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

No variation to the schedule of data requirements is claimed.

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

None

NOTIFICATION IN OTHER COUNTRIES

USA (1995)

Canada (1995)

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

3M Putty/Filler (product containing notified polymer at up to 70% in styrene)

This formulation will be used to formulate putty/filler products containing up to 30% notified polymer overseas. It will not be introduced into Australia.

3M Flowable Finishing Putty (imported products containing up to 30% notified polymer)

MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) > 1000 Da

REACTIVE FUNCTIONAL GROUPS

Functional Group	Category	Equivalent Weight (FGEW)
	High Concern	> 5000

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:	Red-brown liquid (for 3M Putty/Filler)
Melting Point/Glass Transition Temp	60-75°C (estimated by notifier)
Density	1100-1140 kg/m ³ at 20°C (for 3M Putty/Filler)
Water Solubility	< 0.02 g/L at 20°C
Dissociation Constant	pKa = 3-4 (based on aliphatic carboxylate)
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

<i>Year</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Tonnes	10-30	30-100	30-100	30-100	30-100

Use

The notified polymer will be used as a component of putties/fillers (at up to 30%) for repair applications to the exterior of automotive vehicles and/or marine boats.

Mode of Introduction and Disposal

Putty/filler products containing the notified polymer (at up to 30%) will be imported in 710 mL plastic tubes, plastic bottles (500 mL), metal cans (3.0, 8.5L and 4.2 L), and in rare cases metal drums (208 L).

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation

No toxicological data were submitted. The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard.

Occupational Health and Safety Risk Assessment

Putty/filler applicators may come into contact with the product containing the notified polymer at up to 30% through dermal, inhalation and ocular routes. The risk of exposure, however, will be minimal if personal protective equipment is used by workers. After the putty/filler is applied and dried, the putty/filler containing the notified polymer is cured into an inert matrix and the polymer is hence unavailable to exposure.

Although exposure to the notified polymer could occur during application of putty/filler, the risk to workers is considered to be low due to the intrinsic low hazard of the notified polymer.

Public Health Risk Assessment

As the notified polymer will be in putty/filler products at up to 30% sold to the general public, there is the potential for dermal, and to a lesser extent oral and ocular exposure. After the putty/filler is applied, it will be bound with an inert matrix and not be bioavailable.

Although the public will be exposed to the notified polymer during use of putty/filler, the risk to public health is considered to be low due to the predicted low hazard of the notified polymer.

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

There is very little potential for aquatic exposure as the notified polymer will be immobilised within the cured putty matrix after use. Cured putty in the form of dust from sanding, excess solid material and discarded articles will be disposed of to landfill, where it will slowly degrade *in situ*. The notified polymer may also be thermally decomposed during metals reclamation from discarded articles that have been patched with the putty. Container residues may be disposed of to landfill, where they will share the fate of the cured putty, or be thermally decomposed during metals reclamation. Therefore, the notified polymer is not expected to pose a risk to the environment when it is used as proposed.

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**

- Specific engineering controls, work practices or personal protective equipment 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 of to landfill.

Emergency procedures

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

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 as a component of putties/fillers for repair applications, 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 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 the products containing the notified polymer provided by the notifier was reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.