File No: SAPLC/155

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

MPD-85T

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 the Department of the Environment, 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 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:

Street Address:	Level 7, 260 Elizabeth Street, SURRY HILLS NSW 2010, AUSTRALIA.
Postal Address:	GPO Box 58, SYDNEY NSW 2001, AUSTRALIA.
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Director
NICNAS

February 2014

Table of Contents

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
SAPLC/155	Arkema Pty Ltd	MPD-85T	No	≤ 500 tonnes per annum	Component of plastics

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 (M)SDS should be easily accessible to employees.

- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Globally Harmonised System for the Classification and Labelling of Chemicals (GHS),* as adopted for industrial chemicals in Australia, workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation should be in operation.

Disposal

- The notified polymer should be disposed of to landfill.

Storage

- The following precautions should be taken by workers regarding storage of the notified polymer:
  - Store in a segregated and approved area.

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 a component of plastics, 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 (M)SDS of a product containing the notified polymer was provided by the applicant. The accuracy of the information on the (M)SDS remains the responsibility of the applicant.

ASSESSMENT DETAILS

1. APPLICANT AND NOTIFICATION DETAILS

Applicants
Arkema Pty Ltd (ABN: 44 000 330 772)
313 Canterbury Rd
CANTERBURY VIC 3126

Exempt Information (Section 75 of the Act)
Data items and details claimed exempt from publication: chemical name, CAS number, molecular and structural formulae, molecular weight, polymer constituents, residual monomers/impurities, use details and import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)
MPD-85T

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

The notified polymer meets the PLC criteria.

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20 °C and 101.3 kPa	White powder
Melting Point/Glass Transition Temp	Tg 110 °C; MP 132 °C
Density	1180 kg/m^3 at 23 °C
Water Solubility	Insoluble
Particle Size	50-200 µm. D_{50} is 100 µm
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	50-150	100-250	150-300	200-400	300-500

Use

The notified polymer is incorporated in impact grades of acrylic resin which itself is imported as plastic granules in 25 kg or 750 kg packages. The notified polymer will not be imported or handled separately. No reformulation, repacking or manufacture occurs in Australia. The notified polymer acts as an impact modifier in acrylic resin. The end use of the polymer is in plastic articles.

6. HUMAN HEALTH RISK ASSESSMENT

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

Although not considered in this risk assessment, the notified polymer contains residual monomers that are classified as hazardous according to the *Globally Harmonised System for the Classification and Labelling of Chemicals (GHS)*, as adopted for industrial chemicals in Australia. These are not present in the notified polymer as introduced above the cut off concentrations for classification.

Occupational Health and Safety Risk Assessment

Dermal and ocular exposure may potentially occur during certain processes involving the notified polymer. However, exposure to significant amounts of the notified polymer is limited because the notified polymer is bound within acrylic resin, and the engineering controls and personal protective equipment worn by workers. Given the assumed low hazard of the notified polymer it is not considered to pose an unreasonable risk to the health of workers

Public Health and Safety Risk Assessment
The public is not expected to be exposed to the notified polymer as it is will be bound in finished articles. Blooming/leeching of the notified polymer from the articles is not expected and hence exposure will be extremely low. Therefore the notified polymer is not expected to pose an unreasonable risk to public health.

7. ENVIRONMENTAL RISK ASSESSMENT

Environmental Release
The majority of the notified polymer will be physically bound within the matrix of the extruded plastic articles which are expected to ultimately be disposed of to landfill. Any spills of granules during transport or industrial use would be collected and re-used or be disposed of to landfill. Release of the notified polymer to the aquatic environment is not expected

Environmental Fate
The notified polymer contains groups that could hydrolyse under severe conditions, but is expected to be stable under normal environmental conditions. Due to its low water solubility and being bound in other resins, the notified polymer in solid wastes is expected to remain bound within the inert polymer matrix. If spilt on land, the notified polymer is expected to remain inert. If spilt to water, it is not expected to dissolve but rather disperse or settle to sediment. In landfill or water, the notified polymer is not expected to be bioavailable or mobile due to its high molecular weight and low solubility in water. The notified polymer is not expected to be readily biodegradable but due to its high molecular weight it is not expected to bioaccumulate. It is expected to eventually degrade by biotic and abiotic processes in landfill to form water and oxides of carbon.

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

Based on its assumed low hazard and assess use pattern, the notified polymer is not considered to pose and unreasonable risk to the environment.