

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN FULL PUBLIC REPORT

Polymer in Terblend N Products

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 Full Public Report may be inspected at our NICNAS office by appointment only at Level 7, 260 Elizabeth Street, Surry Hills NSW 2010.

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:	Level 7, 260 Elizabeth Street, SURRY HILLS NSW 2010, 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**

May 2011

Table of Contents

1.	APPLICANT AND NOTIFICATION DETAILS.....	2
2.	IDENTITY OF POLYMER.....	2
3.	PLC CRITERIA JUSTIFICATION	2
4.	PHYSICAL AND CHEMICAL PROPERTIES	2
5.	INTRODUCTION AND USE INFORMATION	3
6.	HUMAN HEALTH RISK ASSESSMENT	3
7.	ENVIRONMENTAL RISK ASSESSMENT.....	3
8.	RECOMMENDATIONS	3

1. APPLICANT AND NOTIFICATION DETAILS

Applicants

BASF Australia Ltd (ABN: 62 008 437 867)
Level 12, 28 Freshwater Place
Southbank, VIC 3006

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, use details and import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)

Terblend N NG-04 Black 17600 (<5% notified polymer)
Terblend N NG-04 BK 17601
Terblend N NM-19 Natural 07400
Terblend N NM-21 EF Natural

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

Reactive Functional Groups

Functional Group	Category	Equivalent Weight (FGEW)
Acid anhydride	High concern	>4,000*

*There is no limit on the number of reactive functional groups in a polymer with Mn>10,000 Da

3. PLC CRITERIA JUSTIFICATION

<i>Criterion</i>	<i>Criterion met</i>
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:	Colourless-yellow granules
Softening Temperature	>105 °C
Density	1070-1090 kg/m ³
Water Solubility	Insoluble. The notified polymer is a high molecular weight polymer with a predominantly hydrophobic structure and is expected to have low water solubility.
Dissociation Constant	Not determined. The notified polymer contains hydrolysable functionality.
Reactivity	Stable under normal environmental conditions, as confirmed by a study conducted on the notified polymer to the Polymer Test Guideline of the Korean National Institute of Environmental Research. The notified polymer contains

	dissociable functionality. However, it is expected to be hydrolytically stable under environmental conditions due to water insolubility.
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	<10	<10	<10	<10

Use

The notified polymer will not be manufactured in Australia.

The notified polymer will be imported into Australia as a component of plastic granules at <5% concentration. The imported products will be compounded with other ingredients and extruded to form plastic granules for use in injection moulding equipment for the production of automotive and electronic equipment components. The notified polymer is intended to be used in industrial settings and will only be available to the general public in the form of finished articles.

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. Most of the notified polymer will be physically incorporated within the inert polymer matrix of moulded components and will share the fate of the article. At the end of their useful life, articles containing the notified polymer are expected to be recycled for automotive metals reclamation or disposed of to landfill. The estimated environmental release from accidental spillage and residue remaining in import containers is 0.3% of the total import volume. Scrap from extrusion and injection moulding is estimated to be up to 2% of the total import volume. All wastes and import container residues will be disposed of to landfill. In landfill, 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. The notified polymer is expected to eventually degrade by biotic and abiotic processes in landfill, or by thermal decomposition during metals reclamation, to form water and oxides of carbon and nitrogen. Therefore, based on its assumed low hazard and assessed use pattern, the notified polymer is not considered to pose an unacceptable risk to the environment.

8. RECOMMENDATIONS

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.
- 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.

Guidance in selection of personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

Disposal

- The notified polymer should be disposed 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 automotive and electronic equipment components 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 products containing the notified polymer were provided by the applicant. The accuracy of the information on the MSDS remains the responsibility of the applicant.