File No PLC/1070

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in Viscoplex 12/6886

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:

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

June 2012

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SUMMARY

The following details will be published in the NICNAS *Chemical Gazette:*

ASSESSMENT REFERENCE	APPLICANT	CHEMICAL OR TRADE NAME	HAZARDOUS SUBSTANCE	INTRODUCTION VOLUME	USE
PLC/1070	Evonik Australia Pty Ltd	Polymer in Viscoplex 12/6886	No	<10 tonnes per annum	Additive in driveline oils

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.

- 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 in accordance with local regulations for recycling, re-use or recovery of calorific content.

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 additive in driveline oils, 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 product 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
Evonik Australia Pty Ltd (ABN 31 145 739 608)
30 Commercial Drive
DANDENONG VIC 3175

Exempt Information (Section 75 of the Act)
Data items and details claimed exempt from publication: chemical name, other 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
Viscoplex 12/6886 (contains the notified polymer at <60%)

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

Criterion	*Criterion met*
Low MW Polyester Manufactured from Allowable Reactants	Not applicable

The notified polymer meets the PLC criteria.

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20 °C and 101.3 kPa	Waxy solid
Melting Point/Glass Transition Temp	Not determined
Density	900 kg/m^3
Water Solubility	< 5.5 mg/L at 37°C (pH 7) and 20°C (pH 2 and 9) (OECD TG 120, loading rate 10 g polymer/L)
Dissociation Constant	Not determined. The notified polymer contains potentially cationic functionality but is not expected to be ionised in the environment due to its low solubility in water.
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	<5	<5	<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 < 60% and reformulated into driveline oils containing the notified polymer at concentrations < 30% for use in automobile manufacturing plants and commercial garages.

6. HUMAN HEALTH RISK ASSESSMENT

The notified polymer meets the PLC criteria and is therefore assumed to be of low hazard. The notifier provided a toxicology summary of toxicological effects for polymers claimed to be similar to the notified polymer (identity of polymers not provided). Based on the results of toxicological tests on these polymers, the notified polymer is expected to be of low acute oral (LD50> 5000 mg/kg bw) and dermal (LD50> 2000 mg/kg bw) toxicity, non- or slightly irritating to the skin and eyes and not a skin sensitiser. The notified polymer is also predicted to be negative in a bacterial reverse mutation test based on the results of these polymers.

Occupational Health and Safety Risk Assessment
Dermal and ocular exposure to the notified polymer from drips, spills and splashes is possible during the reformulation and end use of finished oil products containing the notified polymer at

concentrations < 30%. Reformulation is expected to be mostly automated and therefore exposure is expected to be minimal. Workers in automobile manufacturing operations and commercial garages are expected to be exposed to formulated oil products containing the notified polymer (< 30%). However, due to the assumed low hazard of the notified polymer, the risk to workers is not considered to be unreasonable.

Public Health and Safety Risk Assessment

The public may be exposed to the notified polymer when draining oil products from engines that have been filled at automobile manufacturing sites or commercial garages. However, the oil products containing the notified polymer (< 30%) are not intended for sale to the public and therefore, exposure is expected to be infrequent. Based on the assumed low hazard of the notified polymer and the expected infrequent exposure, the risk to public health is not considered to be unreasonable.

7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. PLCs with a low cationic charge density are of low concern to the aquatic environment.

The notified polymer will be imported into Australia for further blending into driveline oil to be used in closed gear boxes. The majority of driveline oil (98%) will be used for the manufacture of original equipment, with the remainder used in commercial garages. Delivery of the driveline oil into automobiles is expected to have limited environmental release, due to automated sealed-dispensing systems. Accidental spills of the notified polymer during transport, blending and end-use operations are estimated to be < 0.1% of total import volume. Accidental spills are expected to be physically contained and recycled, or disposed of to landfill. In landfill the notified polymer is likely to adsorb to soil, and degrade slowly by biotic and abiotic processes to form water and oxides of carbon and nitrogen. During use, driveline oils are in a closed system, and are often effective for the life of the automobile. At the end of its useful life most of the used driveline oil (and notified polymer) is expected to be disposed of to landfill or recycled as burner oil (e.g. in kilns and industrial burners) and will be thermally decomposed into water and oxides of carbon and nitrogen. The notified polymer is not expected to bioaccumulate due to its high molecular weight and limited potential for exposure to the aquatic environment.