File No PLC/813

February 2009

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

FULL PUBLIC REPORT

Polymer in VISCOPLEX ® 6-950 (0001)

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

Polymer in VISCOPLEX 6-950 (0001)

1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)
Evonik Degussa Australia Pty Ltd (ABN 16 079 823 313)
30 Commercial Drive
DANDENONG VIC 3175

NOTIFICATION CATEGORY
Polymer of Low Concern

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.

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)
No variation to the schedule of data requirements is claimed.

NOTIFICATION IN OTHER COUNTRIES
USA (1998)
Korea (2000)
Canada (2001)

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
VISCOPLEX ® 6-950 (0001)

OTHER NAME(S)
Alkyl alkenoate
Polymer with isoalkyl alkenoate

MOLECULAR WEIGHT (MW)
Number Average Molecular Weight (Mn) > 10,000 Da

The notified polymer contains only low concern functional groups.

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:	Soft, pliable solid
Glass Transition Temp	-11.1°C to -4.2°C
Density	950 kg/m^3
Water Solubility	< 5 mg/L at 20°C by DOC analysis of the filtrate from a 10 g/L dispersion that had been shaken at 20°C for 24 hours.
Hydrolysis	The notified polymer contains functionalities which have the potential to hydrolyse. However, given the low water solubility of the polymer this would be unlikely in the environmental pH range of 4-9.
Particle Size	Not applicable
Reactivity	Stable under normal environmental conditions
Degradation Products	CO_2, water, methacrylate monomers

5. INTRODUCTION AND USE INFORMATION

MAXIMUM INTRODUCTION VOLUME OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	< 50	< 50	< 50	< 50	< 50

Use
The notified polymer will be used as a lubricants additive for engine oils (≤ 8%).

Mode of Introduction and Disposal
The notified polymer will not be manufactured in Australia. The notified polymer will be imported by sea in 175 kg drums as an oil additive (≤ 30%) in VISCOPLEX 6-950(0001). The imported product will be transported by road from the dockside to the notifier's warehouse and then to engine oil reformulation sites across Australia. The notified polymer is expected to be discarded of with engine oil products by incineration, recycling or disposal to landfill.

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation

The notified polymer meets the PLC criteria and is therefore assumed to be of low hazard. This is supported by toxicological endpoints observed in testing conducted on two chemicals considered by the notifier to be analogous to the notified polymer.

Endpoint	*Result*
Rat, acute oral	LD50 > 5000 mg/kg bw
Rabbit, acute dermal	LD50 > 5000 mg/kg bw
Genotoxicity - bacterial reverse mutation	non mutagenic

All results were indicative of low hazard.

Occupational Health and Safety Risk Assessment
Dermal and ocular exposure to the notified polymer (≤ 30%) may potentially occur at reformulation sites during processes such as connection and disconnection of hoses to blending vessels, filling product containers and cleaning and maintenance following reformulation. Dermal and ocular exposure may also occur in automobile manufacturing plants during connection and disconnection of hoses, cleaning and maintenance of equipment used to fill engines with engine oil containing the notified polymer (≤ 8%). However, engineering controls and personal protective equipment (PPE), such as splash-proof goggles, chemical resistant gloves, rubber shoes and protective clothing, worn by workers at reformulation and automobile manufacturing sites are expected to minimise exposure during these processes.

The potential for dermal and ocular exposure also exists during the draining and filling of engine oil products containing the notified polymer (≤ 8%) in mechanical workshops. Exposure of the hands is the most likely, and may be minimised by wearing gloves.

Overall, the OHS risk presented by the notified polymer is not expected to be unacceptable, based on the lack of effects seen in toxicological studies conducted on chemicals considered by the notifier to be analogous, the assumed low hazard of the notified polymer and the anticipated minimal exposure.

Public Health Risk Assessment
Approximately 6% of the import volume of the notified polymer is expected to be used by do-it-yourself (DIY) users. The exposure to the notified polymer (at ≤ 8%) by DIY users is expected to be identical, or of a lesser extent, to that described for workers in mechanical workshops given DIY users will use the engine oil products less frequently. The overall risk to public health is not expected to be unacceptable given the lack of effects seen in toxicological studies conducted on chemicals considered by the notifier to be analogous to the polymer and the infrequent use of products containing the notified polymer by DIY users.

7. ENVIRONMENTAL IMPLICATIONS

Hazard Characterisation
No ecotoxicological data were submitted. The notified polymer is non-ionic and stable under normal environmental conditions and therefore is not expected to be a concern to aquatic life.

Environmental Risk Assessment
It is estimated that the percentage use of the notified polymer in the domestic market is 6%. If used oil is disposed of improperly by DIY enthusiasts, the notified polymer is expected to associate with soils and sediments, and to slowly degrade. Any notified polymer released into the aquatic environment would be expected to become associated with the sediments due to its low water solubility.
The risk presented by the proposed use is expected to be acceptable.

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.

- 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

- Incinerate liquid and contaminated solids or dispose to landfill.

Storage

- Keep container tightly closed and store in a well-ventilated area.

Emergency procedures

- Prevent the notified polymer from entering drains/surface water/ground water.
- Prevent notified polymer from entering subsoil/soil.
- Spilled notified polymer should be absorbed with dry sand and disposed to landfill.

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 component of engine 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 chemical on occupational health and safety, public health, or the environment.

The Director will then decide whether a secondary notification 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.