File No PLC/780

July 2008

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

FULL PUBLIC REPORT

Polymer component 1 in Dodiflow 5735

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

TABLE OF CONTENTS

FULL PUBLIC REPORT

Polymer component 1 in Dodiflow 5735

1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)
BP Australia Pty Ltd (ABN 53 004 085 616)
360 Elizabeth Street
MELBOURNE VIC 3000

Clariant (Australia) Pty Ltd (ABN 30 069 435 552)
675 Warrigal Road
CHADSTONE VIC 3148

NOTIFICATION CATEGORY
Polymer of Low Concern

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

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)
No

NOTIFICATION IN OTHER COUNTRIES
Korea

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
Polymer component 1 in Dodiflow 5735

MOLECULAR WEIGHT (MW)
Number Average Molecular Weight (Mn) > 1000 Da

REACTIVE FUNCTIONAL GROUPS
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:	Yellowish-brown waxy solid
Melting Point	50°C
Density	950 kg/m^3 at 40°C
Water Solubility	< 1 g/L at 20°C
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use. The notified polymer contains hydrolysable functions. However, hydrolysis is unlikely to occur in the environmental pH range of 4 – 9, as shown in a qualitative test.

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	5	5	5

USE
The notified polymer will be used as a paraffin dispersing agent in diesel fuels.

Mode of Introduction and Disposal
The notified polymer will be imported as a component of diesel fuel (< 100 ppm) as part of the fuel additive Dodiflow 5735.

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation
The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. This is supported by toxicological endpoints observed in testing conducted on the notified polymer (50% in solvent naphtha).

Endpoint	*Result*	*Effects Observed?*	*Test Guideline*
1. Rat, acute oral	LD50 > 2000 mg/kg bw	no	OECD TG 423
2. Rabbit, skin irritation	non-irritating	no	OECD TG 404
3. Rabbit, eye irritation	slightly irritating	yes	OECD TG 405

An acute eye irritation was performed on 3 rabbits at a dose of 100 mg. One animal showed no signs of irritation at day 1 and only a slight irritation was observed in another. However, this irritation was not observed after 2 days. The third animal showed definite signs of irritation (i.e. swelling of lids, reddening of the iris up to 7 days; corneal opacity < 72 hrs) after administration but this was not observed after 14 days.

None of the tests showed effects sufficient to result in classification according to NOHSC *Approved Criteria for Classifying Hazardous Substances*.

Occupational Health and Safety Risk Assessment
Exposure to the notified polymer in diesel fuel at concentrations of < 100 ppm may potentially occur when taking samples from discharge lines for quality testing, and connecting and disconnecting transfer lines. However, exposure should be minimised through the proposed use of personal protective equipment including gloves, coveralls and safety goggles.

The risk to workers is not considered to be unacceptable due to the assumed low hazard of the notified polymer.

Public Health Risk Assessment
The public may potentially be exposed to the notified polymer when filling vehicles with diesel containing the notified polymer at concentrations of < 100 ppm.

The risk to the public by the introduction of the notified polymer is not considered to be unacceptable due to the low hazard of the notified polymer.

7. ENVIRONMENTAL IMPLICATIONS

Hazard Characterisation
The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. This is supported by environmental endpoints observed in testing conducted on the notified polymer.

Endpoint	*Result*	*Effects Observed?*	*Test Guideline*
Fish Toxicity	LC50 > 100 mg/L (WAF)	Not harmful to Zebrafish	OECD TG 203
Invertebrate Toxicity	EC50 163 mg/L (WAF)	Not harmful to *Acartia tonsa*	ISO 14669, 1999
Algal Toxicity	E_rC50 381 mg/L (WAF)	Not harmful to *Skeletonema costatum*	ISO 10253 (2006)

The notified polymer is not harmful to the aquatic compartment up to its level of water solubility.

Environmental Risk Assessment
The major fraction of the imported quantity of the notified polymer is expected to be combusted in engines to yield oxides of carbon and water. There are no pathways for significant release of the notified polymer into aquatic ecosystems based on the intended use as an additive in diesel fuels. As there are no pathways for significant environmental exposure, the risk of an adverse effect on the environment from the intended use of notified polymer is not considered to be unacceptable.

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

- The notified polymer should be disposed of by incineration or 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 a paraffin dispersing agent for diesel fuel, or is likely to change significantly;
  - the amount of notified polymer being introduced has increased from 5 tonnes per annum, or is likely to increase, significantly;
  - if 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.

No additional secondary notification conditions are stipulated.

Material Safety Data Sheet
The MSDS of the product 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.