

**NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME
(NICNAS)**

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in Dodiflow 4777

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (the Act) and Regulations. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the Australian Government Department of Health, 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 the Environment and Energy.

This Public Report is 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**

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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
PLC/1474	Clariant (Australia) Pty Ltd	Polymer in Dodiflow 4777	No	≤ 2,000 tonnes per annum	Diesel fuel additive

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 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 of 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

- Where reuse or recycling are not appropriate, dispose of the notified polymer in an environmentally sound manner in accordance with relevant Commonwealth, state, territory and local government legislation.

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 diesel fuel additive, or is likely to change significantly;
 - the amount of notified polymer being introduced has increased, or is likely to increase, significantly;
 - the method of manufacture of the notified polymer in Australia has changed, or is likely to change, in a way that may result in an increased risk of an adverse effect of the notified polymer on occupational health and safety, public health, or the environment;
 - 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.

Safety Data Sheet

The SDS of the product containing the notified polymer was provided by the applicant. The accuracy of the information on the SDS remains the responsibility of the applicant.

ASSESSMENT DETAILS

1. APPLICANT AND NOTIFICATION DETAILS

Applicants

Clariant (Australia) Pty Ltd (ABN: 30 069 435 552)
 Level 3, 3 Acacia Place
 296-324 Ferntree Gully Rd
 NOTTING HILL VIC 3168

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, use details, polymer constituents, residual monomers/impurities and manufacture/import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)

Dodiflow 4777

(Imported and manufactured product containing the notified polymer at < 55% concentration)

Molecular Weight

Number Average Molecular Weight (Mn) is > 1,000 g/mol

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	Clear, light yellow liquid*
Melting Point/Glass Transition Temperature	Not determined. The notified polymer will not be isolated from the manufactured organic dispersions.
Density	877 kg/m ³ at 20 °C
Water Solubility	Insoluble based on the predominantly hydrophobic structure of the notified polymer.
Reactivity	Expected to be stable under normal environmental conditions.
Degradation Products	None expected under normal conditions of use

* Properties of the product Dodiflow 4777 containing the notified polymer at < 55% concentration in hydrocarbon solvent.

5. INTRODUCTION AND USE INFORMATION

Maximum Introduction Volume of Notified Chemical (100%) Over Next 5 Years

Year	1	2	3	4	5
Tonnes	≤ 1,000	≤ 2,000	≤ 2,000	≤ 2,000	≤ 2,000

Use

The notified polymer will be manufactured in the product Dodiflow 4777 at < 55% concentration in hydrocarbon solvent in Australia. The notified polymer will also be imported into Australia in the product Dodiflow 4777. Dodiflow 4777 will be used as a component of diesel fuel additive also named Dodiflow (without number).

Reformulated fuel additive products, containing the notified polymer at < 30% concentration, will be exported to refineries outside of Australia for fuel blending to produce final diesel products containing the notified polymer at < 0.0006% (< 60 ppm) concentration.

Diesel products containing the notified polymer will be re-imported into Australia.

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.

Although not considered in this risk assessment, NICNAS notes that the notified polymer contains residual monomers that may be classified as hazardous according to the *Globally Harmonised System of Classification and Labelling of Chemicals (GHS)*, as adopted for industrial chemicals in Australia.

7. ENVIRONMENTAL RISK ASSESSMENT

The notified polymer is not readily biodegradable (35% in 28 days) based on measured data. 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 product Dodiflow 4777 containing the notified polymer at < 55% concentration:

Endpoint	Result	Assessment Conclusion
Fish Toxicity	EC50 > 100 mg/L	Not toxic to fish
Inhibition of Bacterial Respiration	EC50 > 10,000 mg/L	Not inhibitory to microbial respiration

The notified polymer will be manufactured as well as imported into Australia in the product Dodiflow 4777 for use as a fuel additive to improve the cold flow properties of crude and residual oils. The manufacturing process will take place in an enclosed and controlled system at industrial sites by trained operators; hence release to the environment is not expected to occur. The reformulation process of the notified polymer as a cold flow additive will take place in enclosed and controlled mixing systems at refineries or industrial sites. The industrial sites where the notified polymer will be manufactured comply with Trade Waste licence and discharge regulations. Therefore, significant releases to the aquatic environment from manufacturing sites are not expected to occur. The notified polymer is insoluble in water which further minimises the risk to the aquatic environment.

Environmental release of the notified polymer may occur during handling (e.g. refilling tanks or leaks from transport) and is estimated to be a maximum of < 1% of the total import volume. Majority of product containers will be reused without rinsing; hence no waste is expected to be generated. Otherwise, the product containers will be disposed of to landfill. Spills or accidental release of the notified polymer are expected to be absorbed in an inert absorbent material and disposed of to landfill at a licensed waste facility. Empty containers and residues are expected to be recycled or disposed of through licensed waste management services in accordance with local regulations.

Majority of the notified polymer will be consumed during engine operation to form water and oxides of carbon. Based on its high molecular weight and water insolubility, the notified polymer is not expected to cross biological membranes, and is unlikely to bioaccumulate. Therefore, based on the low hazard to aquatic organisms and low potential for aquatic exposure as per the proposed use, the notified polymer is not expected to pose an unreasonable risk to the environment.