

File No PLC/619

February 2006

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

FULL PUBLIC REPORT

Polymer in Setalux 1903 BA-75

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 and Heritage.

For the purposes of subsection 78(1) of the Act, this Full Public Report may be inspected at:

Library
Australian Safety and Compensation Council
25 Constitution Avenue
CANBERRA ACT 2600
AUSTRALIA

To arrange an appointment contact the Librarian on TEL + 61 2 6279 1162 or email ascc.library@dewr.gov.au

This Full 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:

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.....	3
1. APPLICANT AND NOTIFICATION DETAILS	3
2. IDENTITY OF CHEMICAL	3
3. PLC CRITERIA JUSTIFICATION	4
4. PHYSICAL AND CHEMICAL PROPERTIES	4
5. INTRODUCTION AND USE INFORMATION.....	4
6. HUMAN HEALTH IMPLICATIONS.....	5
6.1. Exposure Assessment	5
6.2. Toxicological Hazard Characterisation	5
6.3. Human Health Risk Assessment.....	5
7. ENVIRONMENTAL IMPLICATIONS	6
7.1. Exposure Assessment	6
7.2. Environmental Hazard Characterisation	6
7.3. Environmental Risk Assessment	6
8. CONCLUSIONS.....	6
8.1. Level of Concern for Occupational Health and Safety.....	6
8.2. Level of Concern for Public Health	6
8.3. Level of Concern for the Environment.....	6
9. MATERIAL SAFETY DATA SHEET.....	7
9.1. Material Safety Data Sheet	7
10. RECOMMENDATIONS	7
10.1. Secondary Notification	7

FULL PUBLIC REPORT**Polymer in Setalux 1903 BA-75****1. APPLICANT AND NOTIFICATION DETAILS**

APPLICANT(S)

Nuplex Industries (AUST) Pty Ltd (ABN: 25 000 045 572)
49-61 Stephen Road, Botany, NSW, 2019

and

BASF Coatings Pty Ltd (ABN: 93 080 438 464)
231-233 Newton Road, Wetherill Park, NSW, 2164

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)

None.

NOTIFICATION IN OTHER COUNTRIES

None.

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

Polymer in Setalux 1903 BA-75

MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) > 1000

REACTIVE FUNCTIONAL GROUPS

The notified polymer contains only low concern functional groups.

3. PLC CRITERIA JUSTIFICATION

<i>Criterion</i>	<i>Criterion met (yes/no/not applicable)</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 viscous liquid (Product containing the notified polymer)
Glass Transition Temp	52°C (theoretical calculation)
Density	1090 kg/m ³ at 20°C (theoretical calculation)
Water Solubility	Not soluble in water due to predominantly hydrophobic structure. The polymer cannot be isolated from solution.
Dissociation Constant	The notified polymer contains a very small proportion of acid functionality, which may dissociate in the environmental pH range of 4-9.
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

<i>Year</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Tonnes</i>	10	10	10	10	10

USE AND MODE OF INTRODUCTION AND DISPOSAL

Mode of Introduction

The notified polymer will not be manufactured or reformulated in Australia. The notified polymer will be imported by sea (Sydney port) in finished paint products in 30 L, 15 L, 3.5 L, 1 L and 500 mL steel cans. The notified polymer will be present in the finished paints at a concentration of up to 55%. It is transported by road to a warehouse before being onsold to customers without repackaging.

The notified polymer is not classified as a dangerous good. However, the imported product Setalux 1903 BA-75 is classified as a dangerous good (Class 3, Flammable liquid).

Reformulation/manufacture processes

The notified polymer will not be manufactured or reformulated in Australia.

Use

The notified polymer is to be used as a component of solvent based paint in the automotive industry, such as car manufacturing plants and car repair shops. The paint will be applied by spray using either hand spraying equipment or robotic spraying system.

6. HUMAN HEALTH IMPLICATIONS

6.1. Exposure Assessment

OCCUPATIONAL EXPOSURE

Transport and warehousing workers may come into dermal and ocular contact with the notified polymer through accidental leaks and spillages of the drums.

Spray painters may come into contact with the notified polymer at a concentration of up to 55% through dermal and ocular routes from direct contact with drips, spills and splashes during transfer of the paint formulation to both hand spraying equipment and the circulation tank of the robotic spraying system, manual paint application, and equipment cleaning and maintenance. Workers may also be exposed to the notified polymer (concentration up to 55%) by inhalation of paint aerosols containing the notified polymer during manual spray application. In automotive manufacturing plants exposure is expected to be minimal as the spray paint is applied in a ventilated spray booth by workers using protective equipment. The level of exposure per application is expected to be greater in car repair shops where application may not occur in a spray booth, however, exposure will be minimised by spray application in a well ventilated area and the use of PPE in accordance with the MSDS. The notifier has estimated that exposure to the notified polymer would be approximately 5 h/week in a medium size repair shop to 0.72 h/week in a small repair shop.

After application and once dried, the paint containing the notified polymer is cured into an inert matrix and the polymer is hence unavailable to exposure.

PUBLIC EXPOSURE

The notified polymer will not be available to the public. Although the public will make contact with car surfaces containing the notified polymer, there is little potential for exposure since the polymer is trapped within the paint matrix.

6.2. Toxicological Hazard Characterisation

No toxicological data were submitted. The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard.

6.3. Human Health Risk Assessment

OCCUPATIONAL HEALTH AND SAFETY

Exposure and any subsequent risk to workers is considered to be greatest for workers in car repair shops due to expected lower levels of engineering controls and PPE.

Although exposure to the notified polymer could occur during manual spray painting, the risk to workers is considered to be low due to the intrinsic low hazard of the notified polymer.

PUBLIC HEALTH

The notified polymer is intended for use by professional spray painters in auto repair workshops/automotive manufacturing plants only, and will not be sold to the public. Following application, the notified polymer will become trapped within a film and will not be bioavailable. Therefore, the risk to public from exposure to the notified polymer is considered low.

7. ENVIRONMENTAL IMPLICATIONS

7.1. Exposure Assessment

ENVIRONMENTAL RELEASE

During the life cycle of the notified polymer within Australia, the following potential releases to the environment are expected.

<i>Source of release</i>	<i>Percent of total annual import volume</i>	<i>Released to</i>
Accidental spills	1%	Landfill
Residual with containers	1%	Landfill / Incinerator
Application Equipment Cleaning	1%	Landfill
Overspray	30%	Landfill
TOTAL	33%	

ENVIRONMENTAL FATE

It is expected that release to the aquatic environment will not occur according to the proposed use pattern of the notified polymer. Rather, it is expected that the total quantity of release notified polymer (33% of total annual import volume) will be disposed of to landfill. The main portion of this is from overspray, where traditional methods will be used to trap and remove the polymer. In landfill, the cured notified polymer is expected to be immobile and remain associated with soil and sediment. Eventually, the notified polymer should degrade by biotic and abiotic processes to form simple carbon based compounds.

Any notified polymer that is disposed of by incineration is expected to be thermally decomposed to form various oxides of carbon and water.

The majority of the notified polymer used in automotive finishes will eventually be incorporated in metal recycling programs or sent to landfill for disposal following its lifecycle. During reclamation, the notified polymer would be destroyed in furnaces and converted to water vapour and oxides of carbon.

7.2. Environmental Hazard Characterisation

No ecotoxicological data were submitted. PLCs without significant ionic functionality are of low concern to the aquatic environment.

7.3. Environmental Risk Assessment

A low potential for release of the notified polymer to the aquatic environment is expected, with most wastes generated being landfilled or incinerated. Within the landfill environment, the notified polymer is likely to degrade over time to simpler compounds of carbon. Given the lack of release to the aquatic environment, a PEC/PNEC ratio cannot be determined.

In conclusion the risk to the environment is expected to be low if the chemical is used in the manner and levels indicated by the notifier.

8. CONCLUSIONS

8.1. Level of Concern for Occupational Health and Safety

There is Low Concern to occupational health and safety under the conditions of the occupational settings described.

8.2. Level of Concern for Public Health

There is Negligible Concern to public health when used in the proposed manner.

8.3. Level of Concern for the Environment

The polymer is not considered to pose a risk to the environment based on its reported use pattern.

9. MATERIAL SAFETY DATA SHEET

9.1. Material Safety Data Sheet

The notifier has provided MSDS as part of the notification statement. The accuracy of the information on the MSDS remains the responsibility of the applicant.

10. 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.
- Spray application of paint containing the notified polymer should be in accordance with the NOHSC *National Guidance Material for Spray Painting*.
- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the NOHSC *Approved Criteria for Classifying Hazardous Substances*, 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 after curing.

Emergency procedures

- Spills or accidental release of the notified polymer should be handled by physical containment, collection and subsequent safe disposal.

10.1. Secondary Notification

The Director of Chemicals Notification and Assessment must be notified in writing within 28 days by the notifier, other importer or manufacturer:

- (1) Under subsection 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 subsection 64(2) of the Act:
 - if any of the circumstances listed in the subsection arise.

The Director will then decide whether secondary notification is required.