

File No PLC/904

February 2010

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

**FULL PUBLIC REPORT**

**CIN 10076707 in Kodak Inks**

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.....	3
1. APPLICANT AND NOTIFICATION DETAILS .....	3
2. IDENTITY OF CHEMICAL .....	3
3. PLC CRITERIA JUSTIFICATION .....	3
4. PHYSICAL AND CHEMICAL PROPERTIES .....	4
5. INTRODUCTION AND USE INFORMATION.....	4
6. HUMAN HEALTH IMPLICATIONS.....	4
7. ENVIRONMENTAL IMPLICATIONS .....	5
8. CONCLUSIONS AND RECOMMENDATIONS.....	5

**FULL PUBLIC REPORT****CIN 10076707 in Kodak Inks****1. APPLICANT AND NOTIFICATION DETAILS**

## APPLICANT(S)

Kodak Australasia Pty Ltd  
181 Victoria Parade  
Collingwood Victoria 3066

## NOTIFICATION CATEGORY

Polymer of Low Concern

## EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication:

Chemical Name, Molecular and Structural Formula, Means of Identification, Number Average Molecular Weight, Weight Average Molecular Weight, Polymer Constituents, Residual Monomers/Impurities and Import Volume.

## 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

Japan SVE (2009), China Polymer Exemption (2009), USA – Polymer Exemption (2009)

**2. IDENTITY OF CHEMICAL**

## MARKETING NAME(S)

CIN 10076707 in Kodak Inks

## REACTIVE FUNCTIONAL GROUPS

The notified polymer contains only low concern functional groups.

## MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) > 1,000 Da

**3. PLC CRITERIA JUSTIFICATION***Criterion*

Molecular Weight Requirements  
Functional Group Equivalent Weight (FGEW) Requirements  
Low Charge Density  
Approved Elements Only  
Stable Under Normal Conditions of Use  
Not Water Absorbing  
Not a Hazard Substance or Dangerous Good

*Criterion met*

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes

The notified polymer meets the PLC criteria

#### 4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa:	Imported in coloured solutions
Water Solubility	Not determined. The notified polymer is expected to be dispersible in water due to its polyanionic nature and hydrophobic chains.
Dissociation Constant	The notified polymer contains functionalities expected to be ionised over the pH range (4–9).
Reactivity	The notified polymer contains functional groups that are expected to hydrolyse slowly in the environment.
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>
Tonnes	<1	<1	<2	<2	<2

##### Use

The notified polymer is a component of an industrial inkjet printing ink. The ink will not be reformulated or repacked in Australia. The product will not be supplied to the public.

##### Mode of Introduction and Disposal

The notified polymer will be manufactured in the USA, and imported into Australia through Port of Botany (Sydney) or via Sydney airport. The notified polymer will be imported as a component of an inkjet printing ink at up to 20% in either 20 L cubitainers (plastic cubes surrounded by fibreboard box) or 208 L plastic drums.

After completing the printing job, the residual ink in the ink reservoir will be transferred back to the original container via an automated pumping system.

Any residual ink in the emptied containers either will be rinsed out then disposed of in accordance to the local regulations or cleaned out when the containers were recycled by the customer.

#### 6. HUMAN HEALTH IMPLICATIONS

##### Hazard Characterisation

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

##### Occupational Health and Safety Risk Assessment

Transport and storage workers will not be exposed to the notified polymer or to the ink containing the notified polymer, unless in the event of an accident.

During printing processes, printing workers could be exposed to the ink containing the notified polymer by dermal and/or ocular routes. Oral and inhalation exposure to the ink is unlikely to occur. However, exposure to significant amounts of the notified polymer in the ink is limited given the use of engineering controls and personal protective equipment by workers. Once the ink dries, the polymer would be trapped and bound to the print matrices, and therefore dermal exposure to the notified polymer from contact with the dried ink is not expected.

Overall, the OHS risk presented by the notified polymer is expected to be low, based on the minimal exposure to workers and the low intrinsic hazard of the polymer.

**Public Health Risk Assessment**

The notified polymer is intended only for use in industry and as such public exposure to the notified polymer is not expected.

As there will be no exposure of the public to the notified polymer or ink containing the notified polymer the risk to the public from exposure to the notified polymer is considered negligible.

**7. ENVIRONMENTAL IMPLICATIONS****Hazard Characterisation**

No ecotoxicological data were submitted. Anionic polymers are known to be moderately toxic to algae. The mode of toxic action is over-chelation of nutrient elements needed by algae for growth. The highest toxicity is when the acid is on alternating carbons of the polymer backbone, which does not apply to the notified polymer.

**Environmental Risk Assessment**

The imported notified polymer will not be reformulated or repackaged in Australia. Accidental spills are expected to be contained and disposed to landfill. Wastes from cleaning equipment and containers are required to be disposed in accordance with local council regulations. Notified polymer bound within the dried ink matrix will share the fate of the article. It is anticipated that approximately half of these articles will be disposed to landfill and the remainder will be recycled at the end of their useful lifetime. During the recycling process, waste paper will be 'repulped' using a variety of alkaline dispersing and wetting agents, water emulsifiable organic solvents and bleaches. Aqueous wastes containing these agents are expected to be sent to the municipal waste treatment plants (STPs) for processing. Due to the notified polymer's water dispersability, some release of it to the water column is expected. Calculations indicate that the predicted environmental concentration, at worst, will be <2 µg/L, based on 100% of the notified polymer being released to the sewer and the water consumption of the Australian population. Due to its high molecular weight, the notified polymer will not readily cross biological membranes, and a low potential for bioaccumulation is predicted. Any of the notified polymer associated with the STP sludge will be disposed to landfill where it is expected to slowly degrade to form water and oxides of carbon, nitrogen and sulfur.

**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 to landfill.

#### Emergency procedures

- Spills or accidental release of the notified polymer should be handled by physical 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 an industrial printing ink 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 reassessment (i.e. a secondary notification and assessment) is required.

#### *Material Safety Data Sheet*

The MSDS of the notified polymer and 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.