

File No PLC/815

March 2009

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

FULL PUBLIC REPORT

Polymer in Rosin Ester Emulsion

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**

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FULL PUBLIC REPORT**Polymer in Rosin Ester Emulsion****1. APPLICANT AND NOTIFICATION DETAILS**

APPLICANT(S)

Cintox Australia Pty Ltd (ABN 63 122 874 613)

Suite 1, Level 2, 38-40 George Street

Parramatta NSW 2150

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 and Residual Monomers/Impurities.

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

No

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

Polymer in Rosin Ester Emulsion

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*

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:	Milky emulsion (notified polymer in an aqueous solution at 40-60%)
Boiling point	Not determined
Density	1040 kg/m ³ at 20°C (for the notified polymer in an aqueous solution at 40-60%)
Water Solubility	< 0.01 g/L at 30°C Test sample (5 g) was stirred for 30 min in 500 mL of water at 40°C. The mixture was allowed to stand for 1, 2 and 3 days at 30°C. The water was removed, the residue dried and weighed.
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use and storage

5. INTRODUCTION AND USE INFORMATION

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

Year	1	2	3	4	5
Tonnes	< 2	< 3	< 5	< 7	< 10

Use

A component of tyre repair kits.

The notified polymer will not be manufactured or reformulated within Australia. The notified polymer is brought in as a ready to use product in a sealed container. It will be used by the general public to repair the punctured tyres of their motor vehicles and will be available as a component of car tyre repair kits pre-installed in motor vehicles or for sale through automotive product stores. It will not be used for trucks and larger commercial vehicles. The product containing the notified polymer, at concentrations < 10%, replaces the requirement for a spare tyre. The product containers will be < 1000 mL capacity plastic cartridges: for single use. The kit comes with a compressor, which is activated via the cigarette lighter. As air is pumped into the tyre, the product emulsion is pumped into the tyre, where it remains as an emulsion. The emulsion coats the internal surface of the tyre and plugs the puncture.

Mode of Introduction and Disposal

The notified polymer will be imported as part of a tyre repair kit. Each kit is contained in a small closed case consisting of < 1000 mL plastic bottle and tube. From the docks the kits will be transported by road transport to car manufacturers and retail outlets.

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation

No toxicological data were submitted. The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. However, it is noted that the notified polymer contains a sensitising impurity below the cut-off concentration for sensitisation.

Occupational Health and Safety Risk Assessment

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

Dermal and ocular exposure by workers to the notified polymer may occur during the replacement or repair of tyres that have been fixed using the product containing the notified polymer at a concentration of < 10%. Exposure may be minimised if personal protective equipment such as gloves are used.

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

Public Health Risk Assessment

Dermal and ocular exposure to the notified polymer (< 10%) by the public may occur during the repair of punctured tyres. Although there is potential for exposure risk to public health is considered to be low due to the predicted low hazard of the notified polymer and the infrequent exposure.

7. ENVIRONMENTAL IMPLICATIONS

Hazard Characterisation

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

Environmental Risk Assessment

Based on the proposed use pattern, the release of the notified polymer to the aquatic environment is expected to be low and dispersed. Adsorption to sludge, soil and sediment as well as dilution in receiving waters should reduce environmental concentrations to acceptable levels. Abiotic or slow biotic processes are expected to eventually degrade the notified polymer. Given the above, environmental exposure and the overall environmental risk are expected to be low.

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 to landfill.

Emergency procedures

- Spills and/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 a component of tyre repair kits, 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 provided by the notifier was reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.