

File No PLC/795

03 September 2008

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

FULL PUBLIC REPORT

Polymer in Sancure 1828

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 Sancure 1828****1. APPLICANT AND NOTIFICATION DETAILS**

APPLICANT(S)

Lubrizol International Inc. (ABN 52 073 495 603)
28 River street
Silverwater, NSW 2128

NOTIFICATION CATEGORY

Polymer of Low Concern

EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication: Chemical Name, CAS Number, Molecular and Structural Formulae, 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

Not known.

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

Sancure 1828
Z-88

OTHER NAME(S)

None

MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) > 10000 Da

REACTIVE FUNCTIONAL GROUPS

The notified polymer contains potentially cationic functional groups. However, the FGEW is > 5,000 and therefore the polymer is considered to be of low concern.

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:	Hazy translucent liquid (dispersion in water)
Melting Point/Glass Transition Temp	Not Determined, polymer is manufactured as a dispersion in water and is never isolated.
Density	Not Determined, polymer is manufactured as a dispersion in water and is never isolated.
Water Solubility	Not Determined. The notified polymer is considered to be water insoluble based on its mainly hydrophobic composition.
Dissociation Constant	Not determined. The notified polymer is expected to have a pKa value of 3 – 5 since it contains anionic functionalities, and is predicted to be ionised in the environmental pH range of 4 – 9.
Reactivity	The notified polymer contains some hydrolysable functionalities. However, hydrolysis is unlikely to occur in the environmental pH range of 4 – 9.
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	1-5	1-5	1-5	1-5	1-5

Use

The notified polymer is a component (1-2% w/w) of floor polish.

Products containing the notified polymer will only be sold to professional contractors and not the public.

Mode of Introduction and Disposal

The notified polymer will not be manufactured within Australia.

The notified polymer will be imported by ship and possibly by air. The imported product will arrive in Australia in sealed 205 L drums, containing 38% w/w of the notified polymer, which will be transported to the customers reformulation site by road. Once at the customer site the notified polymer will be blended into finished products at concentrations of 1-2% w/w. The blended products containing the notified polymer would likely be transported by road.

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.

Occupational Health and Safety Risk Assessment

Dermal and ocular exposure can occur during reformulation and repackaging processes, however exposure to significant amounts of the notified polymer is limited because personal protective equipment, including a faceshield and respirator, overalls, gloves and protective footwear, is worn while weighing is performed.

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

Public Health Risk Assessment

The notified polymer will not be sold to the public. The notified polymer will be a component (1-2% w/w) of floor polish used in locations frequented by the public and therefore the potential for dermal exposure exists. The public will only be exposed to the notified polymer after it has dried and hence the exposure is expected to be low. Therefore based on the expected low exposure and the assumed low hazard the risk to the public is considered to be low.

7. ENVIRONMENTAL IMPLICATIONS

Hazard Characterisation

No ecotoxicological data were submitted. Based on the monomer constituents, the notified polymer contains some anionic groups that are considered 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, but could not be applicable to this polymer. It may also contain potential cationic functionalities that are of high concern to aquatic species. However, the notified polymer has a molecular weight of over 10,000 and FGEW of > 5000.

Environmental Risk Assessment

The majority of the notified polymer will be bound to the floor substrates. At the end of the floor's use life, it will be disposed of to landfill, together with the notified polymer. In landfill, the polymer is not expected to leach based on its structure, and with time, it will be subject to slow degradation into water and oxides of carbon and nitrogen through biotic and abiotic pathways.

No actual release of the notified polymer to the aquatic environment is expected based on its reported use pattern. Therefore, the notified polymer is not expected to pose an unacceptable risk to the aquatic ecosystem.

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 floor polish, or is likely to change significantly;
 - the amount of notified polymer being introduced has increased from 5 tonnes, 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.

Material Safety Data Sheet

The MSDS of a 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.