File No PLC/1022

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in STON W-206G

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

For the purposes of subsection 78(1) of the Act, this Public Report may be inspected at our NICNAS office by appointment only at Level 7, 260 Elizabeth Street, Surry Hills NSW 2010.

This 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

February 2012

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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/1022	C.I. Ceramics (Aust) Pty Ltd	Polymer in STON W-206G	No	≤ 15 tonnes per annum	Component of rubber coating mixtures

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 MSDS should be easily accessible to employees.

- Spray application should be carried out in accordance with the Safe Work Australia *National Guidance Material for Spray Painting* [NOHSC (1999)].

- 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

- Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
- 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
- the notified polymer is introduced in powder form.

or

(2) Under Section 64(2) of the Act; if
- the function or use of the notified polymer has changed from a component in surface coatings, or is likely to change significantly;
- the amount of notified polymer being introduced has increased per annum, 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 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.

Material Safety Data Sheet
The MSDS of a product containing the notified polymer was provided by the applicant. The accuracy of the information on the MSDS remains the responsibility of the applicant.

ASSESSMENT DETAILS

1. APPLICANT AND NOTIFICATION DETAILS

Applicants
C.I. Ceramics (Aust.) Pty Ltd (ABN: 51 003 988 056)
22 Rivulet Crescent
ALBION PARK RAIL, NSW 2527

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, and import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)
Polymer in STON W206-G

Molecular Weight
Number Average Molecular Weight (Mn) is > 10,000 Da

Reactive Functional Groups
The notified polymer potentially contains low levels of a high concern functional group which can contribute to systemic toxicity (lungs) and skin irritation. However, the notified polymer meets the PLC criteria and the high molecular weight is expected to mitigate the hazard.

3. PLC CRITERIA JUSTIFICATION

Criterion	*Criterion met*
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	White powder
Melting Point/Glass Transition Temp	> 200°C
Density	990 kg/m^3 at 25°C
Water Solubility	Stated as insoluble by the notifier, which is consistent with a high molecular weight cross-linked polymer with a largely hydrophobic structure.
Particle Size	Imported in emulsion form
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

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	< 15	< 15	< 15	< 15	< 15

Use
The notified polymer will not be reformulated or manufactured in Australia. The notified polymer will be imported into Australia, in 205 L steel drums, at a concentration of up to 5% in emulsion form. The imported product containing the notified polymer will be pumped from the drums to robotic sprayers within a spray booth where manufactured rubber articles will be coated with the product. The rubber articles will be heated to dry the coating containing the notified polymer prior to leaving the spray booth.

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. However as the notified polymer is of high molecular weight and low water solubility, it has the potential to cause lung overloading if inhaled.

Occupational Health and Safety Risk Assessment
Inhalation of the notified polymer through vapours and/or mists by workers is not expected because the coating application will be performed by robotic sprayers, within a spray booth fitted with the appropriate exhaust ventilation and filters. The coated articles are then heat dried prior to leaving the spray booth. Workers are expected to wear PPE to minimise possible dermal and/or ocular exposure to the notified polymer. Given these controls, the risk to workers is not considered unreasonable.

Public Health and Safety Risk Assessment
The public may be exposed to the notified polymer through contact with rubber articles that are coated with the product containing the notified polymer. Heat drying would ensure that the coating would be in dried form and therefore minimal exposure is expected. Given the assumed low hazard and the low exposure, the risk to the public posed by the notified polymer is not considered unreasonable.

7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. Polymers without significant ionic functionality are generally of low concern to the environment. The notified polymer is not expected to cross biological membranes due to its high molecular weight and thus will not bioaccumulate. The majority of introduced notified polymer will be adsorbed to the rubber substrate to which it is applied by robotic spray application equipment, and in this form it is not expected to be mobile or bioavailable. The notified polymer will share the fate of the coated rubber substrate. Release of the notified polymer to the aquatic environment is not expected during use, as overspray and residues in equipment washings and import containers are expected to be collected for reuse in the next batch, or disposed of to landfill. When disposed of to landfill, the notified polymer is expected to eventually degrade to form water and oxides of carbon and silicon. The notified polymer may potentially be thermally decomposed during metal reclamation at the end of the useful life of associated metal articles to form water vapour and oxides of carbon and silicon. Based on its assumed low hazard and assessed use pattern, the notified polymer is not considered to pose an unreasonable risk to the environment.