

File No PLC/807

February 2009

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

FULL PUBLIC REPORT

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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

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1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)

Chemetall (Australasia) Pty Ltd (ABN 25 074 869 015)
17 Turbo Drive Bayswater VIC 3153

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, and 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)

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MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) >10,000 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: Yellow powder

Melting Point/Glass Transition Temp	180-210°C
Density	1200-1300 kg/m ³
Water Solubility	177 g/L at 20°C A sample of the notified polymer (15 g) was observed to dissolve in 85 g water after stirring for 1 hour at 90°C.
Particle Size	≤ 1700 µm. Approximately 65% of particles between 250-850 µm. Below 250 µm ≤ 5%.
Reactivity	Stable under normal environmental conditions. Not compatible with strong oxidising materials.
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	0.5	0.5	1.0	1.0	2.0

Use

Component of metal coatings at concentrations up to 10% for coolers, air conditioners and heat inverters.

Mode of Introduction and Disposal

The notified polymer will be imported into Melbourne and Sydney ports as a neat powder in 20 kg polypropylene-lined laminated bags. It will be sent to the reformulation site of Chemetall (Australasia) Pty Ltd in Bayswater, Victoria.

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation

The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. This is supported by toxicological endpoints observed in testing conducted on the notified polymer or analogue chemical.

<i>Endpoint</i>	<i>Result</i>	<i>Effects Observed?</i>	<i>Test Guideline</i>
1. Rat, acute oral	LD ₅₀ > 5000 mg/kg bw	no	OECD TG 401 OECD TG 423
2. Rabbit, skin irritation	non-irritating	no	OECD TG 404
3. Skin sensitisation - adjuvant test	no evidence of sensitisation	no	OECD TG 406 (Buehler and Maximisation tests)
4. Genotoxicity - bacterial reverse mutation	non mutagenic	no	OECD TG 471

All results were indicative of low hazard.

Occupational Health and Safety Risk Assessment

Workers may inhale dust or aerosols when the notified chemical is manually charged into water under agitation in a dissolution tank, but inhalation exposure is expected to be minimised by engineering controls, including general and local ventilation. Ventilation systems are also considered important as the polymer is imported in a mixture that includes a small concentration of methanol and methyl acetate that could generate harmful vapours. Dermal contact could occur when workers clean the equipment with water, but PPE is expected to be worn to avoid dermal contact. If exposure did occur, the notified chemical is not likely to cause skin irritation or sensitisation. The formulation and mixing process is entirely sealed and the spray coating operation is automated. Once sprayed, the boards are dried, which causes the coating to cure and in this form the polymer will no longer be available for exposure to workers.

Overall, the OHS risk presented by the notified polymer is expected to be low, based on the low exposure due to the proposed engineering controls and PPE, and the low intrinsic hazard of the polymer. The level of atmospheric nuisance dust should be maintained as low as possible. The ASCC exposure standard for atmospheric dust is 10 mg/m³.

Public Health Risk Assessment

The notified polymer is intended only for use in industry and as such public exposure to the notified chemical is not expected. Members of the public may make dermal contact with products containing the notified polymer. However, the risk to public health will be negligible because the notified polymer is of low hazard, and is bound within a matrix and not available for exposure.

7. ENVIRONMENTAL IMPLICATIONS**Hazard Characterisation**

The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard. This is supported by environmental endpoints observed in testing conducted on the notified polymer.

<i>Endpoint</i>	<i>Result</i>	<i>Effects Observed?</i>	<i>Test Guideline</i>
Fish Toxicity	EC50 > 10000 mg/L	no	OECD TG 203

The result was indicative of low hazard.

Environmental Risk Assessment

The notified polymer will be crosslinked into the coating formulation once cured, and as such will be immobile and of little risk to the environment. Drum residues and spillages will be sent to landfill in cured form. Therefore, the notified polymer is not considered to pose a risk to the environment when it is used as intended.

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.

- Atmospheric monitoring should be conducted to ensure workplace concentrations of nuisance dust levels are below the ASCC exposure standard during use of the notified polymer.
- 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 by landfill.

Emergency procedures

- Spills and/or accidental release of the notified polymer should be handled by 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 in metal coatings, 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.