

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

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in VINNAPAS® 7150 E

This Self Assessment has been compiled by the applicant and adopted by NICNAS in accordance with the provisions of the Industrial Chemicals (Notification and Assessment) Act 1989 (the Act) and Regulations. This legislation is an Act of the Commonwealth of Australia. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS), administered by the Department of Health and the Department of the Environment and Energy, has screened this assessment report. The data supporting this assessment will be subject to audit by NICNAS.

This Public Report is 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 2019

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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 |
|----------------------|------------------|-----------------------------|---------------------|-----------------------|-------------------------------------|
| SAPLC/214 | Wacker Chemie AG | Polymer in VINNAPAS® 7150 E | No | ≤ 90 tonnes per annum | Component of waterproofing products |

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 as delivered in VINNAPAS® 7150 E, however, controls should be selected on the basis of all ingredients in the formulation.
- Consider the general recommendations on exposure control and personal protective equipment in the SDS of VINNAPAS® 7150 E.

Guidance in selection of personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.

- If aerosols or dusts are formed during the use of the notified polymer, engineering controls and respiratory protection should be used to prevent inhalation exposure.
- A copy of the SDS should be easily accessible to employees.
- If products and mixtures containing the notified polymer are classified as hazardous to health in accordance with the *Globally Harmonised System for the Classification and Labelling of Chemicals (GHS)*, as adopted for industrial chemicals in Australia, workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation should be in operation.

Environment

- Prevent material from entering surface waters and soil.

Disposal

- Where reuse or recycling are not appropriate, dispose of the notified polymer in an environmentally sound manner in accordance with relevant Commonwealth, state, territory and local government legislation.

Emergency Procedures

- 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.or
- (2) Under Section 64(2) of the Act; if
 - the function or use of the notified polymer has changed from component of waterproofing products, 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 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.

Safety Data Sheet

The SDS of the product containing the notified polymer was provided by the applicant. The accuracy of the information on the SDS remains the responsibility of the applicant.

ASSESSMENT DETAILS

1. APPLICANT AND NOTIFICATION DETAILS

Applicants

Wacker Chemie AG (ABN: 11 607 113 062)
Unit 1, 35 Dunlop Road
MULGRAVE VIC 3170

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, use details and import volume.

2. IDENTITY OF POLYMER

Marketing Name

VINNAPAS® 7150 E

Molecular Weight

Number Average Molecular Weight (Mn) is > 1,000 g/mol

3. PLC CRITERIA JUSTIFICATION

| <i>Criterion</i> | <i>Criterion met</i> |
|--|----------------------|
| 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 | Solid |
| Melting Point/Glass Transition Temp | Not determined |
| Density | 1,020 kg/m ³ at 20 °C |
| Water Solubility | Completely miscible at 20 °C |
| Dissociation Constant | Not determined. Polymer contains anionic functional groups. |
| Reactivity | None |
| 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 | ≤ 60 | ≤ 90 | ≤ 90 | ≤ 90 | ≤ 90 |

Use

Introduction

The notified polymer will not be manufactured in Australia. The notified polymer will be imported into Australia as the product VINNAPAS® 7150 E (containing the notified polymer at concentrations of $\leq 3\%$) in sealed 25 kg paper bags by sea.

Reformulation

The imported product VINNAPAS® 7150 E containing the notified polymer will be reformulated locally into ready to use waterproofing products (dry mixes containing the notified polymer at concentrations of $\leq 3\%$). Dust capture and removal equipment will be used. Reformulated products will be packaged into 20 kg paper bags or plastic buckets and transported by road to end use customers.

End Use

The notified polymer is a non-reactive binder, used in cementitious waterproofing membranes and other sealing products for applications in construction (including tile adhesives and cementitious renders) and mining.

Prior to application, end users will add water to the dry mixes containing the notified polymer. The resulting waterproofing mixtures will be applied by professional users in mainly construction and mining sites in a typical way with brush and roller. Spray applications are possible but are likely to be infrequent due to the requirement of specialised equipment. Spray applications are only suited to large infrastructure projects.

A small portion of waterproofing products containing the notified polymer may be used by do-it-yourself (DIY) users for use in home construction and renovation projects.

Once cured the waterproofing products containing the notified polymer will form insoluble polymer matrices bound to the substrates.

6. HUMAN HEALTH RISK ASSESSMENT

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

The risk of the notified polymer to occupational and public health is not considered to be unreasonable given the assumed low hazard and the assessed use pattern.

7. ENVIRONMENTAL RISK ASSESSMENT

7.1. Exposure Assessment

ENVIRONMENTAL RELEASE

The notified polymer will be imported into Australia and be reformulated to final products locally. The reformulation process is enclosed and automated hence significant release of the notified polymer from reformulation process is not expected.

The final products containing the notified polymer will be used in cementitious waterproofing membranes and other sealing compounds in construction and mining, including tile adhesives and cementitious renders. The application of products containing the notified polymer to the substrates at the industrial sites is expected to be well controlled to minimise the release of the notified polymer. A small amount of the notified polymer may enter water systems due to DIY use.

ENVIRONMENTAL FATE

The majority of the notified polymer is expected to be incorporated into the cured composition bound to the substrates. It will ultimately be disposed of in construction waste to landfill. The notified polymer in solid wastes is expected to remain bound within the soils, sediments and landfills. Small amount of the notified polymer may be released to sewage due to the inappropriately disposal of the waste from DIY users. Notified polymer entering to water system is not expected to be completely removed from water column at water treatment plant (separation by sedimentation) given it is water miscible. Therefore, a small amount of the notified polymer may enter into surface waters. In landfill, water and sediment the notified polymer is expected to be eventually degraded by abiotic or biotic process to form water, carbon dioxide and inorganic metal compounds.

The notified polymer is not expected to be readily biodegradable but due to its high molecular weight, it is not expected to cross cell membrane to bioaccumulate.

7.2. Environmental Hazard Characterisation

No ecotoxicological data were submitted. Anionic polymers are generally of low toxicity to fish and daphnia, however they 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. However, this does not apply to the notified polymer and it is therefore not considered to be an over-chelation hazard to algae. In addition, the toxicity to algae is likely to be reduced due to the presence of calcium ions in the aquatic environment, which will bind to the functional groups.

7.3. Environmental Risk Assessment

Based on its assumed low hazard and assessed use pattern, and its properties (non-hazardous, high molecular weight), the notified polymer is not considered to pose an unreasonable risk to the environment.