

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

**POLYMER OF LOW CONCERN PUBLIC REPORT**

**Polymer in Rohagit SD 9523**

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

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**

July 2014

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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/1201	IMCD Australia Ltd  BASF Australia Ltd	Polymer in Rohagit SD 9523	No	≤ 55 tonnes per annum	Component of waterproof membrane coatings

## 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.

- If aerosols 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 (M)SDS should be easily accessible to employees.
- Spray applications should be carried out in accordance with the Safe Work Australia Code of Practice for *Spray Painting and Powder Coating* (Safe Work Australia, 2012) or relevant State or Territory Code of Practice.
- 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.

### **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.

**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 additive in waterproofing membrane 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 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 (M)SDS of the product containing the notified polymer was provided by the applicant. The accuracy of the information on the (M)SDS remains the responsibility of the applicant.

## ASSESSMENT DETAILS

### 1. APPLICANT AND NOTIFICATION DETAILS

#### Applicants

IMCD Australia Ltd (ABN: 44 000 005 578)  
First floor, 372 Wellington Road  
MULGRAVE, VIC 3170

BASF Australia Ltd (ABN: 62 008 437 867)  
Level 12, 28 Freshwater Place  
SOUTHBANK, VIC 3006

#### 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 use details.

### 2. IDENTITY OF POLYMER

#### Marketing Name(s)

Polymer in Rohagit SD 9523

#### Molecular Weight

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

### 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	Not applicable
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 liquid
Melting Point/Glass Transition Temp	88 °C*
Density	1,050 kg/m <sup>3</sup> at 25 °C*
Water Solubility	0.183 g/L at 20 °C
Dissociation Constant	Not determined. The notified polymer contains acid functionality which are expected to show typical acidity (pK <sub>a</sub> ~ 4 – 6).
Particle Size	110–150 nm (as dispersion)
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use
* Measured value of the notified polymer as imported	

### 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	28	35	40	45	55

**Use**

The product containing the notified polymer (at 30–50% concentration) will be used as a thickening additive for waterproofing membrane coatings which will contain 0.3–0.5% notified polymer.

**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.

**Occupational Health and Safety Risk Assessment**

Transport and warehouse workers will only come in contact with the notified polymer (at concentrations of  $\leq 50\%$ ) in an event of accidental leakage or spill.

Workers may be dermally and ocularly exposed to the notified polymer when manually weighing and transferring products containing it at concentrations up to 50% to mixing vats. The notifier states that workers are expected to wear personal protective equipment such as impervious gloves, safety glasses and overalls during the weighing process to minimise exposure to the notified polymer.

The formulated product containing the notified polymer will be applied to surfaces by brush, roller or airless spray. The notified polymer has a high molecular weight in a range for which there may be a concern for lung overloading effects. The notified polymer is water soluble and therefore if inhaled at low levels is likely to be cleared from the upper respiratory tract readily through mucociliary action. Small proportions of the notified polymer may reach the lower respiratory tract, but it should still be readily cleared from the lungs unless high levels are inhaled. When large amounts of the notified polymer are inhaled, it is likely to be cleared from the lungs, but this may be slower and temporary respiratory impairment is possible. However, the risk to workers of temporary lung overloading is expected to be minimised as the notified polymer will be used at a low concentrations, and the notifier states that for spray applications respiratory protection will be worn if ventilation is inadequate.

The imported product contains the notified polymer in dispersion with its particle size near the nanometer range. Delivery in the nanoform through biological membranes is not expected as the notified polymer will lose its nanostructure upon contact and collapse into a film.

After application and once dried, waterproof membranes containing the notified polymer are cured into an inert matrix and the notified polymer is unavailable for exposure.

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

**Public Health and Safety Risk Assessment**

The notified polymer will not be available to the public except in the form of finished products, at this stage the notified polymer is cured in to an inert matrix and is not bioavailable. Given the low exposure and assumed low hazard, the risk to the public by the proposed use of the notified polymer is not considered unreasonable.

**7. ENVIRONMENTAL RISK ASSESSMENT**

No ecotoxicological data were submitted. Anionic polymers 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. This is unlikely to apply to the notified polymer and it is therefore not considered to be an over-chelation hazard to algae.

The notified polymer will be imported into Australia as an aqueous dispersion. It will be used as a thickening agent in water proofing membranes at a concentration of 0.5% w/w. The notified polymer may be released to the environment during reformulation as spills or leaks. These releases are expected to be collected with inert material and disposed of to landfill. The main release as overspray (typically up to 50%) during use will typically entail landfill disposal, following interception by spray booth filters or other engineering controls. In the case that coating residues are washed to sewer from cleaning of, mixing and application equipment, the notified polymer is likely to partition to sludge at sewage treatment plants (STP) and is expected to be disposed of to landfill.

Discarded water proofing membranes containing the notified polymer are expected to be eventually disposed of to landfill. In landfill, the notified polymer, when incorporated in an inert matrix of cured membrane, is not expected to be mobile or bioavailable. It will eventually degrade by abiotic and biotic processes to form water and oxides of carbon.

Therefore, based on its assumed low hazard and assessed use pattern the notified polymer is not considered to pose an unreasonable risk to the environment.