

File No PLC/609

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

**FULL PUBLIC REPORT**

**Acronal S 318 S**

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**Director  
NICNAS**

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**FULL PUBLIC REPORT****Acronal S 318 S****1. APPLICANT AND NOTIFICATION DETAILS**

APPLICANT(S)  
BASF Australia Ltd. ABN: 62 008 437 867  
500 Princes Highway, Noble Park  
Victoria, 3174

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  
Functional Group Equivalent Weight  
Residual Monomers/Impurities

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)  
Variation to the schedule of data requirements is claimed as follows:  
Water Solubility  
Melting Point  
Flammability Limits  
Autoignition Temperature  
Explosivity

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)  
None

NOTIFICATION IN OTHER COUNTRIES  
None

**2. IDENTITY OF CHEMICAL**

MARKETING NAME(S)  
Acronal S 318 S

MOLECULAR WEIGHT (MW)  
Number Average Molecular Weight (Mn) >10000

### 3. COMPOSITION

#### PLC CRITERIA JUSTIFICATION

<i>Criterion</i>	<i>Criterion met (yes/no/not applicable)</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

  

Functional Group	Category	Equivalent Weight (FGEW)
Methylolamide	High Concern	2557

\*FGEW <5000 is allowed as the NAMW is >10000

The notified polymer meets the PLC criteria.

### 4. INTRODUCTION AND USE INFORMATION

#### MODE OF INTRODUCTION OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

The notified polymer will not be manufactured in Australia. It will be imported by sea in 1000 L containers Schuetz tanks as a aqueous dispersion (<60% notified chemical) which will be sold for formulation onto non-woven fabrics.

#### 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>
<i>Tonnes</i>	30-100	30-100	30-100	30-100	30-100

#### USE

The notified polymer will be used in textile coatings to make coated disposable cleaning wipe cloths.

### 5. PROCESS AND RELEASE INFORMATION

#### 5.1. Operation Description

##### *Coating Formulation*

At the customers' sites, the imported aqueous dispersion (<60% notified polymer) is pumped from its packaging container (1000 L Intermediate Bulk Containers) by manual attachment of a hose line into closed mixing tanks where it is blended with other raw materials to formulate the water-based fabric coatings. The finished coatings will contain  $\leq 20\%$  of the notified polymer. The processes are carried out on a large scale and are automated. After blending, a sample for quality assurance, is manually drawn typically by means of a beaker from the top of the mix tank. Once the reformulated product passes quality control, it is pumped automatically to the coating line for application to the fabric.

##### *Fabric coating*

The fabric coating process is enclosed, automated and continuous. Fabric passes through a coating bath where the coating mix, which is automatically pumped from the formulation area, is applied by a roller. The coated fabric (contains <10% of the notified polymer) is then passed by automated rollers through to an oven where curing/drying takes place. After curing, the treated fabric is cut to shape and repackaged for commercial distribution to Australian customers.

##### *End-Use*

The treated textiles will be used as disposable wiping cloths by domestic end-users.

## 6. EXPOSURE INFORMATION

### 6.1. Summary of Occupational Exposure

#### *Importation, Transport and Storage*

During transport and storage, workers are unlikely to be exposed to the notified polymer except when packaging is accidentally breached.

#### *Coating Formulation*

Dermal and ocular exposure can occur during the coating formulation processes at two stages:

- (1) During manual attachment and detachment of the hose line to the IBC
- (2) During testing of the reformulated mixture. This is done by manual sampling from the top of the mixing vessel;
- (3) Cleaning of the mixing tanks after reformulation. This is done by hosing down the equipment with water.

However, exposure to significant amounts of the notified polymer is limited because of the engineering controls and personal protective equipment (PPE) worn by workers. PPE includes safety glasses, gloves, safety footwear and protective clothing (overalls for reformulation workers and laboratory coats for quality control technicians)

#### *Fabric Coating*

Dermal and ocular exposure can occur during cleaning of the fabric roll coaters. This is done by washing water through the equipment. Exposure to significant amounts of the notified polymer is limited because of the use of an enclosed and automated system and personal protective equipment worn by workers. PPE includes, safety glasses, gloves, safety footwear and protective clothing

#### *End-Use*

After application and once dried, the non-woven fabric containing the notified polymer is cured into an inert matrix and is hence unavailable to exposure.

### 6.2. Summary of Public Exposure

The notified polymer will not be available to the public. Members of the public may come into contact with cloths coated with the notified polymer. However, the notified polymer is bound and cured into an inert matrix onto the cloth and is hence unlikely to be bioavailable.

### 6.3. Summary of Environmental Exposure

#### 6.3.1. Environmental Release

The notified polymer will be manufactured overseas and subsequently imported into Australia. Therefore, there will be no environmental release during manufacturing. Once the notified polymer has arrived in Australia, it will be transported in 1000 kg Schuetz tanks to the reformulation site. Here, the notified polymer is blended with other ingredients and subsequently applied to fabric to make disposable wipe cloths. The wipe cloths are then packaged and once used by consumers are expected to be disposed of to domestic landfill.

It is estimated that approximately 0.1% of the total imported volume of notified polymer will remain as residual within the import containers. This notified polymer will be removed during drum recycling by rinsing with water. The rinsate is then processed in the facility's onsite effluent control system with suspended solids being removed and disposed of to landfill. It is estimated that 0.0001% of the total import volume will pass through the effluent control system and enter the sewerage system. Therefore, effectively 100% of the total imported volume of notified polymer will ultimately be disposed of to landfill.

#### 6.3.2. Environmental Fate

The notifier claims that the notified polymer will be bound to the fabric and will not be released. Therefore, the notified polymer is expected to be immobile in landfill and will associate with soil and sediments. Further, the notified polymer is not expected to be mobile in the landfill due to its lack of solubility in water. The notified polymer contains some hydrolysable functionality, but it is not

expected to hydrolyse under ambient environmental conditions. Over time, the notified polymer should eventually degrade through abiotic and biotic process.

## 7. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance at 20°C and 101.3 kPa</b>	White milky emulsion in water.
<b>Melting Point/Glass Transition Temp</b>	Unknown.
<b>Density</b>	1020 kg/m <sup>3</sup> at 20°C
<b>Water Solubility</b>	The notified polymer is insoluble in water due to its very high molecular weight and complex non-polar structure.
<b>Particle Size</b>	Not determined. Manufactured as dispersion.
<b>Reactivity</b>	Contains a high concern reactive functional group. Stable under normal environmental conditions.
<b>Degradation Products</b>	None under normal conditions of use.

## 8. HUMAN HEALTH IMPLICATIONS

### 8.1. Toxicology

No toxicological data were submitted.

### 8.2. Human Health Hazard Assessment

The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard.

## 9. ENVIRONMENTAL HAZARDS

### 9.1. Ecotoxicology

No toxicological data were submitted.

### 9.2. Environmental Hazard Assessment

Non-ionic polymers with NAMW >1,000 are generally of low concern to the aquatic environment.

## 10. RISK ASSESSMENT

### 10.1. Environment

The notified polymer will be used as a coating on disposable cloths. Once the notified polymer has been dried/cured onto the cloth, it is expected to remain associated with the cloth. Hence the majority of the total imported volume of notified polymer will share the fate of the cloth to which it is adhered to. It is anticipated that the cloths will be disposed of to domestic landfill at the end of their useful lifetime. In landfill, it is expected that the notified polymer will remain immobile within the soil and very slowly degrade.

Only a very small fraction (estimated to be 0.0001% of the total import volume) is expected to be released to water and it is not possible to calculate a reasonable Predicted Environmental Concentration.

The above considerations indicate minimal risk to the environment when the notified polymer is used in the manner and levels indicated by the notifier.

### 10.2. Occupational Health and Safety

The OHS risk presented by the notified polymer is expected to be low. The notified polymer may be present in formulations containing hazardous ingredients. If these formulations are classified as hazardous to health in accordance with the NOHSC Approved Criteria for Classifying Hazardous Substances, workplace practices and control procedures consistent with provisions of State and Territory hazardous substances legislation must be in operation.

### 10.3. Public Health

The notified polymer will not be available to the public. Members of the public may make dermal contact with products coated with the notified polymer. However, the risk to public health will be negligible because the notified polymer is present at low concentrations within the cloth and is bound and cured into an inert matrix onto the cloth and is unlikely to be bioavailable.

## 11. CONCLUSIONS – ASSESSMENT LEVEL OF CONCERN FOR THE ENVIRONMENT AND HUMANS

### 11.1. Environmental Risk Assessment

The polymer is not considered to pose a risk to the environment based on its reported use pattern.

### 11.2. Human Health Risk Assessment

#### 11.2.1. Occupational health and safety

There is Low Concern to occupational health and safety under the conditions of the occupational settings described.

#### 11.2.2. Public health

There is No Significant Concern to public health when used in the proposed manner.

## 12. MATERIAL SAFETY DATA SHEET

### 12.1. Material Safety Data Sheet

The notifier has provided MSDS as part of the notification statement. The accuracy of the information on the MSDS remains the responsibility of the applicant.

## 13. 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 NOHSC *Approved Criteria for Classifying Hazardous Substances*, 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

- Pick up spills with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Dispose of absorbent material in accordance with government regulations. Rinse spill area with water.

**13.1. Secondary Notification**

The Director of Chemicals Notification and Assessment must be notified in writing within 28 days by the notifier, other importer or manufacturer:

- (1) Under subsection 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 subsection 64(2) of the Act:
  - if any of the circumstances listed in the subsection arise.

The Director will then decide whether secondary notification is required.