

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

### POLYMER OF LOW CONCERN PUBLIC REPORT

#### **Ethoxylated and propoxylated glycerol ester intermediate**

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 and Energy.

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**

September 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
PLC/1559	Scott Chemicals Australia Pty Ltd	Ethoxylated and propoxylated glycerol ester intermediate	No	75 tonnes per annum	A component of concrete floor screeds

## 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 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 of 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

- 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

- 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.or
- (2) Under Section 64(2) of the Act; if
  - the function or use of the notified polymer has changed from a component of concrete floor screeds, 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 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

Scott Chemicals Australia Pty Ltd (ABN: 51 099 105 941)  
721/296 Bay Road  
CHELTENHAM VIC 3192

#### Exempt Information (Section 75 of the Act)

Data items and details exempt from publication include: 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)

Ethoxylated and propoxylated glycerol ester intermediate

#### 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*	Pale amber liquid
Melting Point/Glass Transition Temperature	Not determined
Specific Gravity*	0.99 at 20 °C
Water Solubility	Not determined. Expected to be low based on the high molecular weight and hydrophobic moieties.
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use
*SDS	

### 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	75	75	75	75	75

**Use**

The notified polymer will not be manufactured in Australia. It will be imported at < 60% concentration for reformulation. The notified polymer will be used as a component in concrete floor screeds at concentrations up to 0.5%.

**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. 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**

No ecotoxicological data were submitted. Polymers without significant ionic functionality are generally of low concern to the environment.

Release of the notified polymer to the aquatic environment is not expected during reformulation as spills and residues in import containers will be readily contained and collected for disposal to landfill. Manufacturing equipment will be rinsed with solvents and the washings will be stored in holding tanks on-site for disposal by licensed waste contractors. When disposed of to landfill, the notified polymer is expected to eventually degrade via abiotic and biotic processes to form water and oxides of carbon.

The majority of the notified polymer will be not be released during use as it is irreversibly incorporated within a solid matrix in concrete flooring. Therefore the majority of notified polymer will share the fate of the flooring of which it is a component and be disposed of to landfill at the end of its useful life, or destroyed during material reclamation processes. In landfill, the notified polymer will be neither bioavailable nor mobile.

The notifier has indicated that a small percentage (5%) of the annual import volume will be available to DIY users. In this context, waste water from cleaning processes may be incorrectly disposed of to the sewer, drains or ground. The notified polymer is likely to have some (albeit low) solubility in water based on its molecular structure. Therefore, assuming a worst-case scenario where 5% of the volume available to DIY users (5% of 5% = 0.25% of the total annual volume) is released to water systems and there is no removal at sewage treatment plants, the predicted environment concentration (PEC) is calculated to be 0.11 µg/L in rivers and 0.01 µg/L in the ocean based on the release occurring nationwide over 365 days a year [ $PEC = 75\,000\text{ kg/year} \times 0.25\% \div 365\text{ days} \div (200.0\text{ L/person/day} \times 24.386\text{ million people})$ ]. As the notified polymer is likely to be of low concern to the environment, the PEC of the notified polymer indicates that is not expected to reach ecotoxicologically relevant concentrations in the aquatic environment. Upon release to surface waters, the notified polymer is expected to partition to sediment based on its high molecular weight and presence of hydrophobic groups. The notified polymer is not expected to cross biological membranes or bioaccumulate due to its high molecular weight. The notified polymer is expected to eventually degrade to form water and oxides of carbon via biotic and abiotic processes.

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