

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

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer in Ucecryl B 3030

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**

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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/1527	Allnex Australia Pty Ltd	Polymer in Uceceryl B 3030	No	≤ 160 tonnes per annum	Component of industrial paints

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

- If aerosols are formed during the use of the notified polymer, engineering controls and respiratory protection should be used to prevent inhalation exposure.

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.
- 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, 2015) 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 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.

Storage

- The following precautions should be taken by workers regarding storage of the notified polymer:
 - Store in a segregated and approved area.
 - Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (oxidising substances, strong acids, strong bases).

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 component of industrial paints, 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

Allnex Australia Pty Ltd (ABN: 241 603 977 68)
49 – 61 Stephen Road
BOTANY NSW 2019

Exempt Information (Section 75 of the Act)

Data items and details exempt from publication include: chemical name, other names, CAS number, molecular and structural formulae, molecular weight, spectral data, polymer constituents, residual monomers/impurities, use details and import volume.

2. IDENTITY OF POLYMER

Marketing Name(s)

Polymer in Ucecryl B 3030

Other Name(s)

Ucecryl B 3030 (formulation containing the notified polymer at $\leq 55\%$ concentration)

Molecular Weight

Number Average Molecular Weight (Mn) is $> 10,000$ 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	Colourless to beige liquid*
Melting Point/Glass Transition Temperature	Not determined
Density	1,050 kg/m ³ at 20 °C*
Water Solubility	Miscible
Dissociation Constant	Not determined
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use

* Properties of Ucecryl B 3030 (product containing the notified polymer at $\leq 55\%$ concentration)

5. INTRODUCTION AND USE INFORMATION

Maximum Introduction Volume of Notified Chemical (100%) Over Next 5 Years

Year	1	2	3	4	5
Tonnes	10 – 20	20 – 50	50 – 80	80 – 110	110 – 160

Use

The notified polymer will be used as a component of industrial paints and coatings. The notified polymer will not be manufactured in Australia. It will be imported in an aqueous solution (at $\leq 55\%$ concentration) for reformulation into end-use products (containing the notified polymer at $\leq 30\%$ concentration). Application of finished products containing the notified polymer will be generally undertaken by workers in an industrial site. The method of application will be by roller or spray. Use of appropriate personal protective equipment (PPE) as suggested by the notifier in the application will minimise the potential for exposure. Once the paints are cured, the notified polymer will be bound into an inert matrix and will not be available for exposure.

Products containing the notified polymer will be for industrial use only and not available to the public.

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.

Although not considered in this risk assessment, NICNAS notes that the notified polymer contains residual monomers that are classified as hazardous according to the *Globally Harmonised System of Classification and Labelling of Chemicals (GHS)*, as adopted for industrial chemicals in Australia.

The notified polymer is a high molecular weight ($M_n > 10,000$ g/mol) polymer with certain fractions of the molecules $> 70,000$ g/mol. The notified polymer is water dispersible 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 cleared from the lungs unless high levels are inhaled. When large quantities of the notified polymer are inhaled, it is likely to be cleared from the lungs, but this may be slow and temporary respiratory impairment is possible. The expected use of respiratory protection and automated reformulation processes, and the presence of adequate general or local ventilations when handling products containing the notified polymer by workers should reduce inhalation exposure levels and hence lower the potential for temporary lung overloading.

7. ENVIRONMENTAL RISK ASSESSMENT

No ecotoxicological data were submitted. Polymers without significant ionic functionality are generally of low concern to the environment. Most of the notified polymer will be irreversibly incorporated within the cured paints. Significant release of the notified polymer to the aquatic environment is not expected during reformulation or use, as residues in equipment washings and import containers are expected to be collected and disposed of to landfill. Low levels of environmental release may occur via the disposal of product packaging and accidental spills of the notified polymer (estimated to be 0.5% of the import volume).

When disposed of to landfill, the notified polymer is expected to eventually degrade to form water and oxides of carbon and nitrogen. Some substrates may enter metal recycling where the notified polymer is expected to be combusted resulting in the generation of water and oxides of carbon and nitrogen during the metal reclamation process.

The notified polymer is not expected to cross biological membranes due to its high molecular weight and low water solubility and is therefore not expected to bioaccumulate.

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

BIBLIOGRAPHY

Safe Work Australia (2015) Code of Practice: Spray Painting and Powder Coating, Safe Work Australia, <https://www.safeworkaustralia.gov.au/doc/model-code-practice-spray-painting-and-powder-coating>.