

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

POLYMER OF LOW CONCERN PUBLIC REPORT

Polymer 1 in Disperbyk-199

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

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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|-----------------|---|
| Street Address: | Level 7, 260 Elizabeth Street, SURRY HILLS NSW 2010, AUSTRALIA. |
| Postal Address: | GPO Box 58, SYDNEY NSW 2001, AUSTRALIA. |
| TEL: | + 61 2 8577 8800 |
| FAX: | + 61 2 8577 8888 |
| Website: | www.nicnas.gov.au |

**Director
NICNAS**

September 2012

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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/1082 | Nuplex Industries (Aust) Pty Ltd, Akzo Nobel Car Refinishes, Valspar Paint (Australia) Pty Ltd and IMCD Australia Ltd. | Polymer 1 in Disperbyk-199 | No | ≤50 tonnes per annum | Component of coatings, printing inks and pigment concentrates |

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.

- Service personnel should use disposable gloves and ensure adequate ventilation is present when removing spent printer cartridges containing the notified polymer and during routine maintenance and repairs.
- A copy of the MSDS should be easily accessible to employees.
- Spray application should be carried out in accordance with the Safe Work Australia *National Guidance Material for Spray Painting* [NOHSC (1999)].
- 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.

Environmental Recommendations

- No specific control measures are required to minimise release of the notified polymer to the environment.

Disposal

- The notified polymer should be disposed 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 a component of coatings, printing inks and pigment concentrates, 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 a 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

Nuplex Industries (Aust) Pty Ltd (ABN: 25 000 045 572)
49-61 Stephen Rd
BOTANY, NSW, 2019

Akzo Nobel Car Refinishes (ABN: 26 087 571 882)
269 Williamstown Rd
PORT MELBOURNE, VIC, 3207

IMCD Australia Limited (ABN: 44 000 005 578)
Level 1, 372 Wellington Rd
MULGRAVE, VIC, 3170

Valspar Paint (Australia) Pty Ltd (ABN: 40 000 035 914)
Level 4, 2 Burbank Place
BAULKHAM HILLS, NSW, 2153

Exempt Information (Section 75 of the Act)

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

2. IDENTITY OF POLYMER

Marketing Name(s)

Disperbyk-199 (polymer 1; containing <20% notified polymer)

Molecular Weight

Number Average Molecular Weight (Mn) is >1,000 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 | 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 | Yellow to brown solid |
| Melting Point/Glass Transition Temp | 55 °C |
| Density | 1.111 kg/m ³ at 20 °C* |
| Water Solubility | Expected to be water dispersible based on the presence of hydrophilic functionality and use in aqueous products |
| Particle Size | Not determined. Imported in solution. |
| Reactivity | Stable under normal environmental conditions |
| Degradation Products | None under normal conditions of use |
| *Disperbyk-199 containing <20% notified polymer | |

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 | ≤10 | ≤20 | ≤30 | ≤40 | ≤50 |

Use

The notified polymer will not be manufactured in Australia. It will be imported as a component of Disperbyk-199 and reformulated into coatings, printing inks and pigment concentrates. The notified polymer will be used in final products as a polymeric wetting and dispersing agent at a concentration of less than 5%. Products containing the notified polymer may be applied using automated systems or manually using spray, brush or roller. In the event that products are applied by members of the public, spray application is not expected.

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.

The fate of the majority of the notified polymer will be disposed to landfill either by waste disposal or by sharing the fate of the substrate to which it has been applied. Notified polymer that is disposed to sewage via waste disposal at the reformulation sites, from painters' waste, equipment cleaning and from de-inking processes is expected to be largely removed from the effluent in sewage treatment plants by sorption to sludge and sediment.

In landfill, sediment or water, the notified polymer is expected to slowly degrade by abiotic and biotic processes to oxides of carbon and water vapour. In landfill, some of the notified polymer may have the potential to leach to aquatic compartments due to its dispersibility in water. However, the majority is bound in the cured matrix and will not have the potential to leach. Due to its high molecular weight, the notified polymer will not readily cross biological membranes, and a low potential for bioaccumulation is predicted. The notified polymer is not considered to pose an unreasonable risk to the environment.