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

FULL PUBLIC REPORT

Polymer in ZK56-3093

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Street Address:	334 - 336 Illawarra Road MARRICKVILLE NSW 2204, 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**

TABLE OF CONTENTS

Full Public Report.....	3
1. APPLICANT AND NOTIFICATION DETAILS	3
2. IDENTITY OF CHEMICAL	3
3. PLC CRITERIA JUSTIFICATION	3
4. PHYSICAL AND CHEMICAL PROPERTIES	4
5. INTRODUCTION AND USE INFORMATION.....	4
6. HUMAN HEALTH IMPLICATIONS.....	4
6.1. Exposure Assessment	4
6.2. Toxicological Hazard Characterisation	5
6.3. Human Health Risk Assessment.....	5
7. ENVIRONMENTAL IMPLICATIONS	5
7.1. Exposure Assessment	5
7.2. Environmental Hazard Characterisation.....	6
7.3. Environmental Risk Assessment	6
8. CONCLUSIONS.....	6
8.1. Level of Concern for Occupational Health and Safety	6
8.2. Level of Concern for Public Health.....	6
8.3. Level of Concern for the Environment	6
9. MATERIAL SAFETY DATA SHEET.....	7
9.1. Material Safety Data Sheet	7
10. RECOMMENDATIONS	7

Full Public Report

Polymer in ZK56-3093

1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT

BASF Coatings Australia Pty Ltd (ABN 93 080 438 464)
231-233 Newton Road
WETHERILL PARK NSW 2164

NOTIFICATION CATEGORY

Polymer of Low Concern

EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication:

- Chemical identity
- Polymer Constituents
- Residual Monomers/Impurities
- Import Volume
- Percentage of notified polymer in products

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

No variation to the schedule of data requirements is claimed.

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

NONE

NOTIFICATION IN OTHER COUNTRIES

NONE

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

Polymer in ZK56-3093
Glasurit HS 2K CV Topcoat 68-T 002 White

MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (NAMW) >1000

REACTIVE FUNCTIONAL GROUPS

None

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	White liquid
Boiling Point/Glass Transition Temp	114 - 184°C
Density	1558 kg/m ³ at 20°C
Water Solubility	Immiscible in water
Dissociation Constant	Not determined
Reactivity	Stable under normal environmental conditions. Keep away from highly acidic or alkaline substances as well as oxidants in order to prevent exothermal reactions.
Degradation Products	When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, smoke and oxides of nitrogen.
Comments	The polymer is not made for waterborne systems. It is not water soluble (there are no ionic groups in it)

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>
<i>Tonnes</i>	<15	<15	<15	<15	<15

USE AND MODE OF INTRODUCTION AND DISPOSAL

Mode of Introduction

The notified polymer will be imported as a component in a finished product. The product containing the notified polymer will be imported in 3.5 L and 500 mL metal containers, which will be transported from the dockside by road to BASF Coatings Pty Ltd and consequently distributed to a number of motor car repair shops around Australia.

Reformulation/manufacture processes

The notified polymer will not be manufactured, reformulated or repackaged in Australia.

Use

The notified polymer is to be used as a component in solvent based top-coats for automotive OEM and refinish applications. The coating product (containing the notified polymer at < 15% concentration) will be used at the motor vehicle body shops. The spray painter will load the topcoat into spray equipment and apply to car bodies in a spray booth using HVLP spray guns.

6. HUMAN HEALTH IMPLICATIONS

6.1. Exposure Assessment

OCCUPATIONAL EXPOSURE

The notified polymer is not manufactured and the products containing the notified polymer (<15%) are not repackaged in Australia. Containers are sealed and exposure during transport and storage is not expected. Transport workers and storemen are unlikely to be exposed to the notified polymer except in the event of accident. PPE applies when required to clean spills.

Customer Sites

Dermal, ocular and inhalation exposure may potentially occur during certain processes (loading and unloading of top coat container onto spray equipment, during spray application, routine maintenance

and equipment breakdown). However, exposure to significant amounts of the notified polymer is limited due to the small volumes (3.5 L and 500 mL containers), employee work practices (eg cleaning of equipment prior to maintenance), engineering controls (spray booths, local and general exhaust ventilation) and the use of PPE (safety glasses, impervious gloves, safety footwear, half mask combination filter or air fed respirator).

PUBLIC EXPOSURE

Products containing the notified polymer are not available for sale to the public and will only be used by professional spray painters. The potential for public exposure to the notified polymer during transport, manufacture, use and disposal is assessed as negligible. Members of the public may make dermal contact with automobiles coated with products containing the notified polymer. However, exposure will be negligible because the notified polymer is likely to be bound within a cured paint film.

6.2. Toxicological Hazard Characterisation

No toxicological data were submitted. The notified polymer meets the PLC criteria and can therefore be considered to be of low hazard.

6.3. Human Health Risk Assessment

OCCUPATIONAL HEALTH AND SAFETY

The OHS risk presented by the notified polymer is expected to be low, based on the minimal exposure to workers and the low intrinsic hazard of the polymer.

PUBLIC HEALTH

The notified polymer will not be available to the public. Members of the public may make dermal contact with automotive parts coated with products containing the notified polymer. However, the risk to public health will be negligible because the notified polymer is of low hazard, and is present at low concentrations.

7. ENVIRONMENTAL IMPLICATIONS

7.1. Exposure Assessment

ENVIRONMENTAL RELEASE

Release of chemical at site

There will be no release during manufacture or reformulation in Australia as these will not occur here. No release of the notified polymer is expected during shipping and transport. The small size of the containers will limit the size of any spills in the event of a transport accident.

Release of chemical from use

Release of the notified polymer to the environment may occur at motor vehicle workshops during preparation and application of the topcoat.

Overspray

A loss of 30% of the ready-for use material is achieved by the use of HVLP spray guns and slightly higher loss with the more outdated high pressure guns. The engineering controls for over-spray are typically spray booth filters and water scrubbers. The spray booth filters are usually renewed every 2-4 months. The filters and scrubber waters are disposed of according to Local, State, National EPA regulations generally via a licensed waste contractor. Usually, the filters will ultimately be disposed of to landfill.

Assuming a maximum potential annual import volume of 15 000 kg of polymer, a 30% over-spray loss would account for up to 4500 kg of generated waste polymer annually which will likely be disposed of to landfill.

Minor losses of the polymer may occur as a result of incidental spills during loading of topcoat into spray equipment. A small amount of waste may also be generated as a result of residues remaining in

empty containers. It is estimated that 0.5% (approximately 75 kg per year of notified polymer) may remain in containers.

Cleaning of equipment

Based on 5% losses from cleaning of equipment after application procedures, it is expected that approximately 750 kg of notified polymer per annum would be lost via cleaning of equipment. The rinsates and used rags are collected for disposal to landfill.

In summary, up to 5325 kg (4500+75+750 kg) of notified polymer wastes could be generated in motor vehicle workshops each year as a result of vehicle spray-painting. It is expected that the topcoat will be used in workshops throughout Australia and therefore waste generation and disposal will occur in a diffuse manner.

ENVIRONMENTAL FATE

No data were submitted on the expected environmental fate of the notified polymer.

It is expected that release to the aquatic environment will not occur according to the proposed use pattern of the notified polymer. Incineration will destroy the polymer producing water vapour and oxides of carbon. In landfill, the polymer is unlikely to leach into aquatic compartments given its low water solubility but rather become associated with soil and sediment. Eventually, the notified polymer should degrade by biotic and abiotic processes to form simple carbon based compounds.

The polymer is unlikely to cross biological membranes and bioaccumulate due to its high molecular weight.

Once applied to the panels of motor vehicles the notified polymer will be incorporated into a hard, durable, inert film and would not present a hazard to the environment. The metal panels coated with the polymer are likely to be either recycled for steel reclamation or placed into landfill at the end of their useful life. When recycled the polymer would be destroyed in blast furnaces and converted to water vapour and oxides of carbon.

7.2. Environmental Hazard Characterisation

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

7.3. Environmental Risk Assessment

A low potential for release of the notified chemical to the aquatic environment is expected, with most wastes generated being landfilled. Within the landfill environment, the notified chemical is likely to degrade over time to simpler compounds of carbon. Given the lack of release to the aquatic environment, a PEC/PNEC ratio cannot be determined.

In conclusion, the risk to the environment is expected to be low if the chemical is used in the manner and levels indicated by the notifier.

8. CONCLUSIONS

8.1. Level of Concern for Occupational Health and Safety

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

8.2. Level of Concern for Public Health

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

8.3. Level of Concern for the Environment

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

9. MATERIAL SAFETY DATA SHEET

9.1. 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.

10. 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 either by authorised incineration or consignment to landfill.

Emergency procedures

- Spills or accidental release of the notified polymer should be handled by collecting spillage with non-combustible absorbent materials and placing in a suitable container for disposal according to Local, State and Federal Government waste regulations.

10.1. 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.