File No: LTD/1219

February 2006

NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION AND ASSESSMENT SCHEME (NICNAS)

FULL PUBLIC REPORT

Polymer in ZD-318

This Assessment has been compiled in accordance with the provisions of the *Industrial Chemicals (Notification and Assessment) Act 1989* (Cwlth) (the Act) and Regulations. This legislation is an Act of the Commonwealth of Australia. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by the 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 Department of the Environment and Heritage.

For the purposes of subsection 78(1) of the Act, this Full Public Report may be inspected at:

Library
Australian Safety and Compensation Council
25 Constitution Avenue
CANBERRA ACT 2600
AUSTRALIA

To arrange an appointment contact the Librarian on TEL + 61 2 6279 1162 or email ascc.library@dewr.gov.au

This Full 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:

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

Polymer in ZD-318

1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)
PPG Industries Australia Pty Ltd (ABN 055-500-939)
McNaughton Road
Clayton Victoria 3168

NOTIFICATION CATEGORY
Limited: Polymer with NAMW ≥ 1000 (less than 1 tonne per year)

EXEMPT INFORMATION (SECTION 75 OF THE ACT)
Data items and details claimed exempt from publication:

Chemical Name, Other Names, Molecular and Structural Formulae, Spectral and GPC data, Molecular Weight, Polymer Constituents, Residual Monomers/Impurities, and Confidential Use Details.

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)
Variation to the schedule of data requirements is claimed as follows:

Melting/Boiling Point, Density, Hydrolysis as a Function of pH, Partition Coefficient, Adsorption/Desorption, Dissociation Constant, Particle Size, Flash Point, Flammability Limits, Autoignition Temperature, and Explosive Properties.

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)
None

NOTIFICATION IN OTHER COUNTRIES
USA Confidentially listed on TSCA. EPA Acc# 259326.
Canada. NSN # 12023.

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)
ZD-318 is the internal name used at PPG. The polymer will not be sold as a separate entity.

METHODS OF DETECTION AND DETERMINATION

Analytical Method	FTIR
Remarks	Comparison of FTIR trace to the standard provided will enable identification of the notified polymer.

3. COMPOSITION

DEGREE OF PURITY
>98%

NON HAZARDOUS IMPURITIES/RESIDUAL MONOMERS (>1% by weight)
None

ADDITIVES/ADJUVANTS

The formulation ZD-318 contains the following:

Chemical Name	Propylene glycol monopropyl ether		
CAS No.	1569-01-3	*Weight %*	30.0
Chemical Name	Dipropylene glycol butyl ether		
CAS No.	29911-28-2	*Weight %*	10.0
Chemical Name	Deionized water		
CAS No.	7732-18-5	*Weight %*	10.0

DEGRADATION PRODUCTS

The notified polymer is reacted with other polymers in the paint formulation under the action of heat to form a very high molecular weight stable paint film that is firmly adhered to the substrate. Under extreme heat conditions, eg fire, the polymer would burn, emitting oxides of nitrogen and carbon. Under the action of ultraviolet radiation from sunlight, the paint film will very slowly deteriorate, but this is insignificant over the average life of a car (20 years).

LOSS OF MONOMERS, OTHER REACTANTS, ADDITIVES, IMPURITIES

There is no loss of monomers, additives or impurities during the life of the coated automotive panels.

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, but will be imported as a component in a fully formulated paint and in paint intermediate components.

MAXIMUM INTRODUCTION VOLUME OF NOTIFIED CHEMICAL (100%) OVER NEXT 5 YEARS

Year	*1*	*2*	*3*	*4*	*5*
Tonnes	0.1 – 0.3	0.1 – 0.3	0.1 – 0.3	0.1 – 0.3	0.1 – 0.3

USE

Products containing the notified polymer will either be reformulated in Australia into finished automotive spray paints (at the PPG Paint manufacturing plant in Clayton, Victoria), or used as imported. The paints containing this polymer will be used at Toyota Australia where it will be spray applied by robots and operators onto car bodies and then baked to form part of the paint finish of the car.

5. PROCESS AND RELEASE INFORMATION

5.1. Distribution, Transport and Storage

PORT OF ENTRY

The notified chemical will be initially be imported through Melbourne

TRANSPORTATION AND PACKAGING

The notified polymer in ZD-318 will be imported in 20 L tins and 200 L closed head steel drums. The drums and tins will be transported by road from the wharf to the notifier‘s site. After conversion at the manufacturing site into product for sale, 200 L steel drums of the product will be transported by road to the Toyata Altona facility.

5.2. Operation Description

Paint Formulation:

Laboratory scale.
The ingredients required for making the paint, including imported intermediates containing the notified polymer at up to 10% concentration, are combined in a container in the laboratory under stirring. The paint is sprayed onto panels in a spray booth having appropriate extraction. The panels are baked in an oven and the finished paint film is subjected to various tests.

Production Scale.
Imported intermediates containing the notified polymer are pumped via a lance the operator places in the drum, or poured from the 20 L tins or 200 L drums into the mixer. The lance is manually transferred from drum to drum until the required amount of intermediate has been added to the mixer. The other ingredients are added to the mixer and the product is sampled (500 mL) for testing. When approved the paint containing the notified polymer is filled into 200 L drums through dedicated pipework and filling equipment. The filling equipment automatically places a short fill pipe through the bung hole in the top of the drum and fills the drum.

QC Testing:
The operator adjusts the paint containing the notified polymer, adjusts the viscosity by adding solvent, and sprays panels for baking and testing. Several tests are performed on the wet paint.

Paint Application:

The 200 L drums of paint are pumped into the circulating mix tank using a dedicated lance, pipework and pump. Once in the tank, solvent is added to adjust the paint to application viscosity. The paint is pumped around a circulation system from which it is sprayed onto car bodies or bumpers by robots and operators in dedicated ventilated spray booths. Operators spray the paint onto specific areas of the car that are not painted by robots. The painted cars and bumpers travel through ovens where the notified polymer undergoes a heat activated chemical reaction with other polymers in the paint, thereby forming the final paint film on the car.

During production breaks, operators use cloths dampened with solvent to clean residual paint from the spray equipment.

5.3. Occupational Exposure

Number and Category of Workers

Category of Worker	*Number*	*Exposure Duration (hours/day)*	*Exposure Frequency (days/year)*
CLAYTON SITE			
Laboratory			
Paint manufacture and testing	3	8	80
Paint manufacture			
Paint make-up	18	4	200
QC testing	3	4	200
Filling into drums	3	4	200
CUSTOMER SITE			
Paint application:			
Adding paint to circulation tank	18	2	200
Hand spray pick-up	30	8	200
Cleaning of spray equipment	18	2	200

Exposure Details
Prevention of worker exposure (general)

All materials used are classified using an internal system (currently undergoing a review to align it with the Globally Harmonised System) that defines the hazard and specifies the appropriate Personal Protective Equipment (PPE). A code is used to identify the hazard and specify the PPE for each material, and this code is recorded on each container of material. All workers handling chemicals are trained in how to read and use the system, and are provided with appropriate PPE.

The PPE measures in place include the wearing of safety shoes/boots, protective clothing, goggles/face shields, and chemically resistant gloves, as well as respirators where appropriate.

Paint formulation:

Laboratory scale

There is potential for exposure to the notified polymer at a concentration of up to 10% from drips and spills during transfer of the intermediates containing the notified polymer solution to the mixing container. Following formulation of the paint, dermal, ocular and inhalation exposure to the notified polymer at a concentration of up to 2.5% could occur during transfer and spray application, testing of the paint formulation, and through contact with the wet paint surface. Workers will be provided with the appropriate PPE. Spray testing will be carried out within a ventilated spray booth.

Production scale

There is potential for exposure to the notified polymer at a concentration of up to 10% from drips and spills during transfer of the intermediates containing the notified polymer solution to the mixing container. Following formulation of the paint, exposure to the notified polymer at a concentration of up to 2.5% would be mainly due to skin contact with residues dripping off the fill pipe, and during the manual cleaning of the pipe. Workers will be provided with the appropriate PPE.

QC testing

There is potential for dermal exposure to the notified polymer at a concentration of up to 2.5% during the sampling and testing of the paint formulation. There is also potential for inhalation exposure to paint droplets during spray application. However, QC workers are to be provided with appropriate PPE, and all spraying will be carried out within a ventilated spray booth.

Once coated items are baked in an oven, the paint is cured, with the notified polymer bound in an inert matrix. In this state, it will not be bioavailable.

Paint application by automotive industry:

During transfer of the paint to the circulating mix tank, the potential for worker exposure to the notified polymer comes mainly from possible dermal exposure to paint residues on the exterior of the lance (containing up to 10% notified polymer). Dermal, ocular and inhalation exposure to the notified polymer could occur during spray application of the paint formulation (at concentrations up to 2.5%). Workers wear full protective clothing and hoods fed with breathing air.

There is also potential for predominantly dermal exposure to paint residues (containing up to 2.5% notified polymer) during the cleaning of the spray apparatus.

Once coated items are baked in an oven, the paint is cured, with the notified polymer bound in an inert matrix. In this state, it will not be bioavailable.

5.4. Release

RELEASE OF CHEMICAL AT SITE

Release to the environment during shipping, transport and warehousing will only occur through accidental spills or leaks from the drums or steel packaged containers.

During paint manufacture and packaging:

Spills are expected to be minimal. When spills do occur, they will be contained by bunding, collected with absorbent material and sent to a licensed off-site waste disposal centre. Empty drums will be sent to drum reconditioning companies where the waste will be incinerated. Residual waste in drums is expected to be ~3% of imported volume.

Residual waste from the mixing vessel is anticipated to be ~0.5% of the imported polymer volume. This waste is collected when the mixing vessel is cleaned, and is sent to the onsite solvent recovery system. Solid residues from this system will contain the notified polymer, and these will be disposed of to landfill or used to power cement kilns.

RELEASE OF CHEMICAL FROM USE

Under normal use procedures, losses of the notified polymer through overspray, mixing of chemicals and cleaning of plant equipment as well as losses from residues in containers have been estimated to

be 40% of maximum import volume, which equates to a maximum of 120 kg per annum.

Overspray of paints is collected in the spray booth water, which goes through two treatment processes at the Toyota Altona site prior to discharge to the sewer as trade waste.

- The first process, sludge pool and hydropak, involves addition of polymeric flocculants and detakifiers to flocculate and float paint solids in the spray booth water. These solids are removed and disposed in landfill. Solids that do not float settle. Several times a year the water from the sludge pool is pumped to waste and the settled solids are removed and disposed of to landfill.
- The second process is the DAF system at the Toyota Trade Waste Treatment plant. Here the water from the sludge pool has ferric chloride flocculant added, is pH adjusted and solids floated and removed and disposed of to landfill.

Greater than 99.9% of the relatively water soluble polymer is expected to be removed via these processes.

Empty drums that contained the paint will be sent to drum reconditioning companies, where the waste will be incinerated. Residual waste of the notified polymer in paint drums is expected to be ~2% of imported volume (up to 6 kg per annum).

The remainder of the notified polymer undergoes a chemical reaction with other polymer components in the paint during the paint baking process, to form the final paint film. It will not be available for release to the environment. The ultimate fate of the paint will be related to that of the automobile, which may be disposed of through landfill or recycling.

5.5. Disposal

Drums that have contained products containing the notified polymer are sent to a drum recycler where the waste residues will be consumed in a high temperature incinerator. It is anticipated that 10 kg of polymer will be disposed of in this manner.

Residues of notified polymer generated from cleaning of the mixing and filling equipment used in the manufacture of the paint are collected and processed to solidify the polymer residues. These will be disposed of in landfill or used to power cement kilns. It is anticipated that 1 kg of notified polymer will be disposed of in this way.

Residues from over spray generated in the painting operation at Toyota Altona are collected, treated and solidified. These solid residues are disposed of in landfill. It is anticipated that 120 kg of notified polymer will be disposed of in this manner.

5.6. Public Exposure

The notified polymer will not be available to the public. Members of the public will come into contact with the notified polymer once it is dried and cured. In this state it is bound in an inert matrix and is not bioavailable.

6. PHYSICAL AND CHEMICAL PROPERTIES

The test results below apply to a 50% notified polymer solution, ZD-318, as the notified polymer is never isolated as a separate entity – it is manufactured in solution.

Appearance at 20ºC and 101.3 kPa A clear viscous slightly pale yellow liquid.

Melting Point/Freezing Point

Remarks Not applicable. A melting point/freezing point determination is inappropriate for a polymer that does not undergo a phase change from a solid to a liquid.

Boiling Point

Remarks By analogy with other polymers, this polymer is not volatile under the normal conditions of use. The solution of the notified polymer is expected to boil between 100 and 170.5°C.

Density 1130 kg/m^3 at 20°C

Remarks This figure is the density of the polymer solution.

Vapour Pressure 0.187 kPa

Remarks Not Applicable. The vapour pressure of a polymer of molecular weight >1000 Da is negligible. The vapour pressure of the solution of the notified polymer solution is quoted above.

Water Solubility 1.64 g per litre.

METHOD A sample of the aqueous pigment dispersion was added to water and left for two days. The pigment did not settle. The sample was centrifuged, a process which removes dispersed particles (with their attached pigment dispersant) but not dissolved polymer from the supernatant.

The supernatant was clear, transparent and with slight black tinge, suggesting a very small portion of the carbon black was either not spun out or was disturbed during supernatant collection. The solids of the supernatant after centrifuge was measured by an unknown method and found to be 0.164% or 0.164 g per 100 g of water.

Hydrolysis as a Function of pH

Remarks Not tested. The ester linkages that form the side chains of the polymer are expected to be subject to hydrolysis under conditions of high pH (>9), but not under the pH conditions normally encountered in the environment.

Partition Coefficient (n-octanol/water)

Remarks Not tested. The notified polymer is a surface-active material.

Adsorption/Desorption

Remarks Not tested. The notified polymer is designed to be surface-active, and should therefore bind to the organic components of soil and sediments. It is therefore not expected to be mobile in soil.

Particle Size

Remarks Not applicable. This test is not considered relevant because the notified polymer is in solution, containing no particles or fibres.

Flash Point 59.5°C (polymer solution)

Remarks Not tested. The polymer solution has a flash point of 59.5°C due to the solvents present.

Flammability Limits

Remarks Not tested. This test was considered inappropriate because the polymer is always in solution unless it is in the final cured paint film on vehicles.

Autoignition Temperature

Remarks Not tested. By analogy with similar polymers it is anticipated that the autoignition temperature will be >200°C.

Explosive Properties

Remarks A negative result is predicted on structural grounds.

Reactivity

Remarks The notified polymer will thermally degrade at temperatures >200°C, although the specific temperature is unknown. It is also incompatible with strong mineral acids, strong alkalis and strong oxidising agents.

7. TOXICOLOGICAL INVESTIGATIONS

No toxicity data were submitted.

8. ENVIRONMENT

8.1. Environmental fate

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

8.2. Environmental Effects

No data were provided. The polymer contains a potentially cationic group, but this is not expected to occur in the environmental pH range of 4 to 9.

9. RISK ASSESSMENT

9.1. Environment

9.1.1. Environment – exposure assessment

The notified polymer will not be manufactured in Australia, but will be imported as a component in a fully formulated paint and in paint intermediate components.

Products containing the notified polymer will either be reformulated in Australia into finished automotive spray paints or used as imported. The paints containing this polymer will be used at Toyota Australia where it will be spray applied by robots and operators onto car bodies and then baked to form part of the paint finish of the car.

Any of the paint containing the notified polymer collected as spills, or as over-spray on spray booth filters and water scrubbers is expected to be finally incinerated or landfilled by licensed waste disposal contractors. Incineration will destroy the polymer producing water vapour and oxides of carbon. In landfill, the polymer could leach into aquatic compartments given its water solubility. However, it is designed to be surface-active, and should therefore bind to the organic components of soil and sediments.

Less than 0.14 tonnes of the notified polymer is expected to be generated as waste each year during formulation or application of the end use coating product. The majority of this will be from overspray (up to 0.12 tonnes) and be disposed of to landfill. While the notified polymer is not expected to be readily degradable, it will undergo slow degradation through both biotic and abiotic processes.

Residues from the cleaning of paint mixing and filling equipment (up to 2 kg) will be either incinerated or disposed of in landfill. Drum residues (up to 15 kg) will be incinerated during drum reconditioning.

In the unlikely event of a release during transport, contamination of both land and the aquatic environment are possible. For a spill to land, the notified polymer will remain adsorbed onto pigment surfaces and become immobilised as the paint dries out. Contaminated soil can then be collected and disposed of to landfill.

Under normal usage, the notified polymer is not expected to enter the aquatic environment. Most of the polymer will be incorporated into automotive re-finish paint, which upon drying, will become inert. 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.

In the event that the polymer enters the aquatic environment, it is expected to partition mainly

into sediment and sludge owing to its surface-active properties. In soil environments, the notified polymer is not expected to be mobile or leach from the soil into ground or surface water, but rather is expected to bind to the organic phases in soils. Under these conditions it would slowly degrade to gases such as carbon dioxide through the agency of abiotic and bacteriological processes.

9.1.2. Environment – effects assessment

No ecotoxicological data are available for the notified polymer. In any case, under normal usage, the notified polymer is not expected to enter the aquatic environment and to pose a hazard to aquatic organisms.

9.1.3. Environment – risk characterisation

The notified chemical is not expected to pose any significant risk to the environment. The usage patterns, low import volumes and the anticipated nationwide use of the product indicate that the levels of release of the chemical to the environment will be low. Under normal usage there will be no release into the aquatic environment.

9.2. Human health

9.2.1. Occupational health and safety – exposure assessment

The potential for storage and transport workers to be exposed to the notified polymer is negligible, except in the event of a transport accident where a tin or drum is ruptured. In this event, the MSDS advises the use of PPE to minimise exposure.

There is potential for laboratory and production staff to experience both dermal and ocular exposure to the notified polymer during the performance of their duties, although dermal exposure is most likely. In addition, laboratory staff may also experience inhalation exposure to paint droplets during spray testing of formulations and during quality control procedures. Ingestion exposure is very unlikely given good work hygiene practices. The handled materials may contain up to 10% notified polymer.

The PPE measures in place include the wearing of safety shoes/boots, protective clothing, goggles/face shields, and chemical resistant gloves, as well as respirators where appropriate. These measures should significantly reduce the likelihood of worker exposure. Spray testing will be carried out within a ventilated spray booth to reduce droplet inhalation exposure to laboratory workers.

During industrial spray application of the paint formulation (eg in automotive manufacturing), dermal, ocular and inhalation exposure to the notified polymer could occur. Workers carrying out this work wear full protective clothing and hoods fed with breathing air, which eliminates the majority of exposure. Robots perform the majority of spraying, where workers will not be exposed to the notified polymer except during maintenance.

Once coated items are baked in an oven, the paint is cured and the notified polymer is bound in an inert matrix. In this state it is not bioavailable.

9.2.2. Public health – exposure assessment

The solutions of the notified polymer (paints and intermediates) will not be available to the public. Members of the public will come into contact with the notified polymer once it is dried and cured, on automotive panels. In this state, it is cross-linked into an inert matrix and will not be bioavailable.

9.2.3. Human health - effects assessment

No toxicity data were submitted, so the notified polymer cannot be classified in accordance with the NOHSC Approved Criteria for Classifying Hazardous Substances (NOHSC, 2004).

Due to its molecular weight (>1,000 Da, with only a small fraction in the <500 Da range), some assumptions can be made regarding its likely effects on humans. Polymers of this size are unlikely to be significantly absorbed following exposure. In addition, the polymer is surface active, which would imply that any adverse effects that are observed are likely to occur at the site of contact, rather than systemically.

Therefore, adverse effects are likely to be predominantly localised irritation, and this could occur following exposure by any route. The MSDS describes the likelihood of gastric irritation (nausea, vomiting) following ingestion, eye irritation, skin irritation and respiratory irritation. Some of these effects may also be likely to occur because of the formulation of the notified polymer with solvents.

The notified polymer has been in use in Japan and Canada for a number of years without any reports of adverse effects to those handling it.

9.2.4. Occupational health and safety – risk characterisation

The OHS risk to workers from dermal or ocular exposure to the notified polymer is low, given that the notified polymer is at most an irritant. This risk becomes negligible with the appropriate use of PPE and containment.

The inhalation risk from the spraying of paint formulations containing the notified polymer is low, considering that all spray work should be performed industrially, with local exhaust ventilation and the appropriate use of respirators or breathing apparatus where certain work is carried out that cannot be done by robots.

9.2.5. Public health – risk characterisation

The risk to public health is negligible, given that members of the public will not be exposed to the notified polymer in a bioavailable form.

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

10.1. Hazard classification

No toxicological data have been provided for the notified polymer and therefore the substance cannot be classified in accordance with the NOHSC Approved Criteria for Classifying Hazardous Substances (NOHSC, 2004).

The chemical is not considered to pose a risk to the environment based on its reported use pattern provided that wastes generated during use are disposed of in an approved manner and according to Local, State and Federal regulations.

10.2. Environmental risk assessment

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

10.3. Human health risk assessment

10.3.1. Occupational health and safety

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

10.3.2. Public health

There is Negligible Concern to public health when used as described.

11. MATERIAL SAFETY DATA SHEET

11.1. Material Safety Data Sheet

The MSDS of products containing the chemical provided by the notifier were in accordance with the NOHSC *National Code of Practice for the Preparation of Material Safety Data Sheets* (NOHSC, 2003). They are published here as a matter of public record. The accuracy of the information on the MSDS remains the responsibility of the applicant.

11.2. Label

The labels for products containing the chemical provided by the notifier were in accordance with the NOHSC *National Code of Practice for the Labelling of Workplace Substances* (NOHSC, 1994). The accuracy of the information on the label remains the responsibility of the applicant.

12. RECOMMENDATIONS

RECOMMENDATIONS FOR SAFE USE OF THE CHEMICAL

CONTROL MEASURES

Occupational Health and Safety

- A copy of any 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 as specified by the notifier:

  Drums that contained products that contain the notified polymer should be sent to a drum recycler where the waste residues will be consumed in a high temperature incinerator.

  Residues of notified polymer generated from cleaning of the mixing and filling equipment used in the manufacture of paint are collected and processed to solidify the polymer residues. These will be disposed of in landfill or used to power cement kilns.

  Residues from over spray generated in the painting operation at Toyota Altona are collected, treated and solidified. These solid residues are disposed of in landfill.

Emergency procedures

- If skin or eye contact with products containing the notified polymer occurs, the contact area (the eye(s) or skin, respectively) should be thoroughly flushed with water. If any irritation persists, medical attention should be sought.
- Small spills of products containing the notified polymer should be wiped with a cloth. To remove residues, small spill areas should be mopped with solvent. The residues from cleaning such small spills can be disposed of to the waste solvent treatment system.
- Larger spills of products containing the notified polymer will be cleaned up promptly using absorbent materials (such as sand). These materials should be placed into containers for disposal by a licensed waste disposal company. The notified polymer should be disposed of by high temperature incineration or in secure landfill. To remove residues, the spill area should be hosed with water, and the watery residues prevented from entering waterways.

12.1. 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 Section 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.

No additional secondary notification conditions are stipulated.

13. BIBLIOGRAPHY

David R Lide, ed. CRC Handbook of Chemistry and Physics (86th edn), ISBN: 0849304865.

NOHSC (1994) National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]. National Occupational Health and Safety Commission, Canberra, Australian Government Publishing Service.

NOHSC (2003) National Code of Practice for the Preparation of Material Safety Data Sheets, 2nd edn [NOHSC:2011(2003)]. National Occupational Health and Safety Commission, Canberra, Australian Government Publishing Service.

NOHSC (2004) Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]. National Occupational Health and Safety Commission, Canberra, AusInfo.