

File No LTD/1116

23 January 2004

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

FULL PUBLIC REPORT

Z-52

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Director

Chemicals Notification and Assessment

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FULL PUBLIC REPORT

Z-52

1. APPLICANT AND NOTIFICATION DETAILS

APPLICANT(S)

Lubrizol International, Inc
28 River Street
SILVERWATWER NSW 2128

NOTIFICATION CATEGORY

Limited: Polymer with NAMW ≥ 1000 (greater than 1 tonne per year).

EXEMPT INFORMATION (SECTION 75 OF THE ACT)

Data items and details claimed exempt from publication:

- Chemical name
- Structural information
- Molecular weight
- Spectral data
- Composition
- Purity
- Non-hazardous impurities
- Manufacture/Import volume
- Identity and composition of monomer

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

Variation to the schedule of data requirements is claimed as follows:

- Hydrolysis as a function of pH
- Dissociation constant
- Particle size
- Flammability limits

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

None

NOTIFICATION IN OTHER COUNTRIES

USA (2002), Korea (2003), Canada (Commenced July 2003)

2. IDENTITY OF CHEMICAL

OTHER NAME(S)

OS 178716
OS 174046

MARKETING NAME(S)

Z-52

METHODS OF DETECTION AND DETERMINATION

ANALYTICAL METHOD Infrared, Ultraviolet, NMR.

Remarks The spectrums obtained appear consistent with the chemical structure of the notified polymer.

TEST FACILITY Lubrizol (2002)

3. COMPOSITION

DEGREE OF PURITY

As a reaction product the purity of the chemical is difficult to quantify.

4. INTRODUCTION AND USE INFORMATION

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

The notified polymer will be imported in isotainer at a concentration of 75% in petroleum naphtha.

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>	30-100	100-300	100-300	100-300	100-300

USE **Non-Confidential**

Z-52 is used as a detergent in fuels, primarily petrol. It is manufactured in a 25% diluent such as petroleum distillate or naphtha. The notified polymer will be imported as a component of the additive product Ultrazol 9012A at a concentration of 32%. The additive product will then be sold to fuel manufacturers who will subsequently blend the product into petrol to deliver between 100-500 parts per million (ppm) of Z-52 depending on the grade of petrol produced.

5. PROCESS AND RELEASE INFORMATION

5.1. Distribution, Transport and Storage

PORT OF ENTRY

Not known

IDENTITY OF MANUFACTURER/RECIPIENTS

The identity of the recipients of the product is not known at present but will potentially include Australian fuel refineries.

TRANSPORTATION AND PACKAGING

Ultrazol 9012A containing the notified polymer at a concentration of 32%, is imported and transported to the customer's refinery in Isotainers. At the customer's refinery the product will be pumped into a storage tank prior to being metered into the tanker where it is blended with petrol and then delivered to the petrol outlet.

5.2. Operation Description

Following importation the isotainer containing the product Ultrazol 9012A will be shipped directly to the fuel manufacturer's refinery. At the refinery, Ultrazol 9012A will be pumped into a storage tank for interim storage. The emptied isotainer is recycled via a reconditioning facility where residual product (approximately 1%) is removed by washing with mineral oil which is then disposed.

The product is then metered into fuel tankers where it is mixed with refined petrol to give the finished petrol product containing approximately 100-500 ppm of the notified polymer. The finished product is then delivered to retail petrol stations where it is transferred to underground storage facilities and ultimately pumped into consumers' vehicles.

5.3. Occupational exposure

Import, Transport and Storage

The notified polymer will be imported in isotainers and transferred to customer depots or terminals by road or rail. Occupational exposure of dockside or transport workers to the notified polymer is not expected except in the event of a spill. No repackaging of isotainers is required as these are delivered directly to the customer sites.

Refinery and reconditioning facilities

Refinery workers may be exposed dermally and ocularly to the notified polymer at a concentration of 32% while unloading the contents of the isotainer and during the metering of the Ultrazol 9012A into the petrol tanker. Exposure is expected to be confined to dermal contamination with drips and spills during the connection and disconnection of transfer lines and equipment. Workers involved in the reconditioning of the isotainer may be exposed to the notified polymer at a concentration of up to 32% while removing residual product and rinsing the isotainer. The notified polymer, during these activities is present as the product Ultrazol 9012A which in addition to the notified polymer, contains hazardous components such as petroleum naphtha and naphthalene. Workers involved in these activities wear personal protective equipment commensurate with the hazards associated with these hazardous components, thereby addressing the possibility of exposure to the notified polymer. A protective apron, gloves, boots, faceshield and respirator are recommended by the notifier for workers using Ultrazol 9012A.

End Use – Service Stations

Tanker drivers delivering the finished petrol product to the service stations may be exposed to the notified polymer at 100-500 ppm during disconnection and connection of hoses during unloading of the product at the service station and dipping of tanks. Service station attendants may also be exposed to the petrol containing 100-500 ppm of the notified polymer during tank dipping and dispensing of petrol.

5.4. Release

RELEASE OF CHEMICAL AT SITE

No release of the notified polymer is expected at the customer sites during transport and blending, except in the event of an accidental spill. Any spills occurring during blending operations are to be contained by inert material and collected for disposal by incineration. The notifier has indicated the customers will be using fully automated and enclosed pipeline systems. Assuming that approximately 1% of the additive may remain in the import containers after emptying, release is less than 10 tonnes per year. The isotainers and any residual product will be sent to a reconditioning facility, where they are to be cleaned. The residues are expected to be disposed of by incineration.

RELEASE OF CHEMICAL FROM USE

No significant release of the notified polymer is expected at end use because the notifier expects the substance will be consumed in the automotive engine along with the petrol fuel to generate primarily carbon dioxide and water, with small amounts of nitrogen oxides. The notifier has assumed that 10 mL of petrol is spilled at each fill, corresponding to < 100 kg per annum.

5.5. Disposal

Incineration is the recommended disposal method. For spills occurring on land free liquid can be picked up for recycling or disposal with any residues absorbed and incinerated. For spills on water the notified polymer can be skimmed off onto absorbent material and incinerated

5.6. Public exposure

It is expected that during import, transport, storage, mixing with petrol, and replenishment at service stations, exposure of the general public to the notified polymer will be low, except in the event of an accidental spill. Public exposure to the notified polymer at 100-500 ppm may occur during refuelling of vehicles at petrol stations and filling of petrol containers for storage and use in domestic petrol-engined equipment. Exposure is likely to be by the dermal route, with the possibility of ocular and inadvertent oral exposure.

6. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa		Viscous amber liquid
Boiling Point		Not determined
METHOD	OECD TG 103 Boiling Point. EC Directive 92/69/EEC A.2 Boiling Temperature.	
Remarks	The test substance decomposed at temperatures above 230°C without boiling.	
TEST FACILITY	Huntington Life Sciences Ltd (2003)	
Density		930 kg/m ³ at 22°C
METHOD	OECD TG 109 Density of Liquids and Solids. EC Directive 92/69/EEC A.3 Relative Density.	
Remarks		
TEST FACILITY	Huntington Life Sciences Ltd (2003)	
Vapour Pressure		2.1 × 10 ⁻⁷ kPa at 25°C
METHOD	OECD TG 104 Vapour Pressure. EC Directive 92/69/EEC A.4 Vapour Pressure.	
Remarks		
TEST FACILITY	Huntington Life Sciences Ltd (2003)	
Water Solubility		< 1mg/L at 20°C
METHOD	OECD TG 105 Water Solubility. EC Directive 92/69/EEC A.6 Water Solubility.	
Remarks	Analytical Method: Total organic carbon A modified flask method using slow stirring was used. One gram of the test material was stirred in buffer water (pH 7) at 20°C, then after periods of 1, 2 and 3 day stirring was stopped for 1 hour before analysis of the supernatant liquid for total organic carbon. The TOC was used in absence of a specific method of analysis.	
	A mean solubility of 0.4 mgC/L was determined, equivalent to a test substance solubility of <1 mg/L.	
TEST FACILITY	Huntington Life Sciences Ltd (2003)	
Hydrolysis as a Function of pH		Not determined. Variation sought due to low solubility. It is noted that there are no groups which may be expected to hydrolyse.
Partition Coefficient (n-octanol/water)		log Pow at 25°C > 8
METHOD	OECD TG 107/117 Partition Coefficient (n-octanol/water), EC Directive 92/69/EEC A.8 Partition Coefficient.	
Remarks	Analytical Method: HPLC In a preliminary test, solubility in n-octanol was >1 g/mL, therefore log Pow is greater than 6.	
	The test substance was chromatographed (HPLC) together with a reference sample with log Pow of 8.2. Under these conditions the test substance was found to elute after the reference sample indicating a log Pow > 8.	
TEST FACILITY	Huntington Life Sciences Ltd (2003)	
Adsorption/Desorption		log K _{oc} = > 5.4 at pH 4 and 9 2.
— main test		
METHOD	OECD TG 121 Adsorption - Desorption Using HPLC Method. EEC Method C19	

Remarks	The test substance was chromatographed (HPLC) at pH 4 and 9 together with DDT as a reference sample with log K _{oc} of 5.4. Under these conditions the test substance was found to elute after the reference sample at both pH values, indicating a log K _{oc} > 5.4 at pH 4 and 9.
TEST FACILITY	Huntington Life Sciences Ltd (2003)

Dissociation Constant	Not determined. Variation sought due to low solubility.
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Particle Size	Not applicable
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Flash Point	217°C at 100 kPa
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METHOD	EC Directive 92/69/EEC A.9 Flash Point.
Remarks	Determined using a closed cup flash point apparatus.
TEST FACILITY	Huntington Life Sciences Ltd (2003)

Flammability Limits	Not expected to be flammable. No test performed.
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Autoignition Temperature	> 400°C
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METHOD	92/69/EEC A.15 Auto-Ignition Temperature (Liquids and Gases).
Remarks	The test substance was not found to auto-ignite below 400°C.
TEST FACILITY	Huntington Life Sciences Ltd (2003)

Explosive Properties	Not expected to be explosive. No test performed.
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Reactivity	Expected to be stable under normal use conditions.
Remarks	Not an oxidiser

ADDITIONAL TESTS

Fat (or n-octanol) Solubility	Miscible in standard fat simulant at 37°C
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METHOD	OECD TG 116 Fat Solubility of Solid and Liquid Substances.
Remarks	In a preliminary test, the test substance was mixed with the fat simulant at 1:10 ratio and ranging to 10:1 ratio. After mechanical stirring a single phase was formed which was stable for at least 10 days. No further testing was considered necessary.
TEST FACILITY	Huntington Life Sciences Ltd (2003)

7. TOXICOLOGICAL INVESTIGATIONS

<i>Endpoint and Result</i>	<i>Assessment Conclusion</i>
Rat, acute oral	LD50 >2000 mg/kg bw

7.1. Acute toxicity – oral

TEST SUBSTANCE OS 144264 (analogue of notified polymer)

METHOD OECD TG 423 Acute Oral Toxicity – Acute Toxic Class Method.
EC Directive 92/69/EEC B.1tris Acute Oral Toxicity – Acute Toxic Class Method.
Species/Strain Rat/Sprague-Dawley CD Strain
Vehicle Arachis oil
Remarks - Method

RESULTS

<i>Group</i>	<i>Number and Sex of Animals</i>	<i>Dose mg/kg bw</i>	<i>Mortality</i>
I	3/F	2000	0
II	3/M	2000	0

LD50 >2000 mg/kg bw

Signs of Toxicity There were no deaths or clinical observations suggestive of systemic toxicity.

Effects in Organs No abnormalities were noted at necropsy.
Remarks - Results

CONCLUSION The test substance is of low toxicity via the oral route.

TEST FACILITY Safepharm Laboratories Limited (2000)

8. ENVIRONMENT

8.1. Environmental fate

8.1.1. Ready biodegradability

TEST SUBSTANCE An analogue of Z-52 was used. The analogue used (company code OS 99970) is structurally related to Z-52.

METHOD OECD TG 301 F Ready Biodegradability: Manometric Respirometry Test.
Inoculum Activated sludge at 10^4 to 10^6 cell/mL. The inoculum was pre-adapted to the test substance.
Exposure Period 28 days
Auxiliary Solvent Nil.
Analytical Monitoring Electrolytic respirometer system used to measure consumption of oxygen.
Remarks - Method

RESULTS

<i>Test substance</i>		<i><Reference Substance> sodium benzoate</i>	
<i>Day</i>	<i>% degradation</i>	<i>Day</i>	<i>% degradation</i>
7	10.8	7	76.4
14	14.9	14	81.7
21	18.6	21	86.8

	28	20.7	28	88.8
Remarks - Results	The results show that the analogue is only slowly degraded and therefore is not ready biodegradable.			
CONCLUSION	The analogue is not readily degradable but it is unclear whether a similar outcome could be expected with Z-52 since there are some significant differences in structure.			
TEST FACILITY	Ricerca Inc (1998). Painesville.			

8.2. Ecotoxicological investigations

8.2.1. Acute toxicity to fish

TEST SUBSTANCE	An analogue of Z-52 was used. The analogue used (company code OS 144264) is structurally closely related to Z-52.			
METHOD	OECD TG 203 Fish, Acute Toxicity Test (semi-static) using water accommodated fraction (WAF). Limit test at 1000 mg/L WAF			
Species	Rainbow trout (<i>Oncorhynchus mykiss</i>).			
Exposure Period	96 hours, semi static (daily renewal)			
Auxiliary Solvent	Nil. The water accommodated fraction was obtained by stirring the test material in water 1000 mg/L for 23 h, then 1 hour settling before siphoning the water phase containing the WAF.			
Water Hardness	151 mg CaCO ₃ /L			
Analytical Monitoring	The loading rate for the WAF was 1000 mg/L. Analysis of the test water indicated concentrations ranged from 0.364 mg/L to <LOQ. The LOQ was 0.051 mg/L. There was variability in test concentration as these were close to the limit of determination and sensitive to very slight changes. Physico-chemical properties (pH, dissolved O ₂ and temperature) were all acceptable.			
Remarks – Method	The test is acceptable as a limit test for a very insoluble material.			

RESULTS

Concentration mg/L		Number of Fish	Mortality				
Nominal	Actual		1h	24h	48h	72h	96h
1000 mg/L WAF		10	0	0	0	0	0

LC50	> 1000 mg/L (WAF) at 96 hours.			
NOEC (or LOEC)	1000 mg/L (WAF) at 96 hours.			
Remarks – Results	The results show that the analogue has no toxicity to rainbow trout up to its maximum water solubility.			
CONCLUSION	The analogue has no toxicity to rainbow trout at its maximum water solubility and a similar result is likely for the notified polymer Z-52.			
TEST FACILITY	Safepharm Laboratories Ltd. (2000), Derby,			

8.2.2. Acute toxicity to aquatic invertebrates

TEST SUBSTANCE	An analogue of Z-52 was used. The analogue used (company code OS 99970) is structurally partially related to Z-52.			
METHOD	OECD TG 202 Daphnia sp. Acute Immobilisation Test and Reproduction			

Test; static conditions.

Species *Daphnia magna*
 Exposure Period 48 hours
 Auxiliary Solvent Nil. The water accommodated fraction was obtained by stirring the test material in water at the nominal concentration for 24 h, 1 hour settling before siphoning the water phase containing the WAF.
 Water Hardness 168-172 mg CaCO₃/L.
 Analytical Monitoring Nil
 Remarks - Method No insoluble material was noted in any test vessels.

RESULTS

Concentration mg/L		Number of <i>D. magna</i>	Number Immobilised	
Nominal	Actual		24 h	48 h
0.1		10	0	0
1.0		10	0	0
10		10	0	0
100		10	0	0

LC50 >100 mg/L (WAF) at 48 hours

NOEC (or LOEC) 100 mg/L (WAF) at 48 hours

Remarks - Results The analogue is not toxic to daphnia at its maximum water solubility.

CONCLUSION While the analogue is non-toxic to daphnia up to the limit of its water solubility, any conclusion drawn for the notified polymer must be treated with caution due to significant differences in structure.

TEST FACILITY T.R. Wilbury Laboratories (1993), Massachusetts.

8.2.3. Algal growth inhibition test

TEST SUBSTANCE An analogue of Z-52 was used. The analogue used (company code OS 135608) is structurally partially related to Z-52 and has structure similar to OS 99970.

METHOD OECD TG 201 Alga, Growth Inhibition Test.
 EC Directive 92/69/EEC C.3 Algal Inhibition Test.

Species *Selenastrum capricornutum*
 Exposure Period 96 hours
 Concentration Range
 Nominal 0.3, 3.3, 33, 330 and 3300 mg/L.
 Auxiliary Solvent The water accommodated fraction was obtained by stirring the test material in water at the nominal concentration for 24 h, 1 hour settling before siphoning the water phase containing the WAF.
 Water Hardness Not determined. Standard media for alga used.
 Analytical Monitoring None
 Remarks - Method The 3 300 mg/L test solutions were cloudy and slightly yellow at 0 and 24 hours and the 330 mg/L solutions were cloudy at 72 hours. No other insoluble material was noted during the test.

RESULTS The results are based on the nominal concentration used to give the WAF.

Biomass		Growth	
EC50	NOEC	EC50	NOEC
450 (330-3300) mg/L 96 h	3.3 mg/L	960 (330-3300) mg/L at 72 h	330 mg/L

Remarks - Results	The results show a slight toxic effect from the WAF, with toxicity increasing as the amount of test substance used increases. This could be indicative of a minor more water soluble impurity causing the toxicity or insoluble material blocking light.
CONCLUSION	While the test shows that the WAF of OS 135608 is very slightly toxic to algae, if the observed toxicity is due to a minor water soluble compound, the result may not apply to Z-52. Also, due to the significant differences in structure of the analogue used, any conclusion drawn for the notified polymer must be treated with caution.
TEST FACILITY	T.R. Wilbury Laboratories (1998), Massachusetts

8.2.4. Inhibition of microbial activity

TEST SUBSTANCE	An analogue of Z-52 was used. The analogue used (company code OS 99970) is structurally partially related to Z-52.
METHOD	OECD TG 209 Activated Sludge, Respiration Inhibition Test.
Inoculum	Activated sludge from wastewater treatment plant.
Exposure Period	3 hours
Concentration Range	1, 10, 100, 1000 and 10,000 mg/L
Nominal	
Remarks – Method	As the test substance is insoluble, it was added directly to the test vessels. Otherwise the method is standard and unremarkable.
RESULTS	
IC50	> 10,000 mg/L
NOEC	10,000 mg/L
Remarks – Results	There was no statistically significant effect at 10,000 mg/L or at any other concentration tested. However, there was 15 and 11% inhibition at 1000 and 10,000 mg/L respectively. The EC50 for the reference substance (3,5-dichlorophenol) was 11 mg/L, thus validating the test.
CONCLUSION	The test material did not inhibit microbial activity but any conclusion drawn for the notified polymer must be treated with caution due to significant differences in structure.
TEST FACILITY	Woodward-Clyde Consultants (1993), Franklin, TN, USA.

ADDITIONAL TESTS

8.5E. Emission Test

TEST SUBSTANCE	An analogue of Z-52 was used. The analogue used (company code ADX 4007A) is structurally related to Z-52 and contains OS 144264 as well as a bi-reaction product.
METHOD	The emission from a gasoline vehicle using a base fuel was compared to that from the same vehicle using base fuel plus additive (at 0.8 mL/L). The exhaust monitoring was carried out using a chassis dynamometer and simulated standard driving conditions. Pollutants measured were unburnt hydrocarbons (HC), carbon monoxide (CO), oxides of nitrogen (NOx), particulate PAH emissions and semi-volatile phase PAH.
Remarks - Method	The driving cycle used was the modified EEC 70/220 drive cycle.

RESULTS	There was no significant difference between base fuel and base fuel with additive for HCs, CO, NOx or particulate PAHs. Emissions of semi-volatile PAH were increased with the additive by 8% compared to without additive and this was statistically significant. These results were not reflected in the bioassay tests used, ie Ames and TCDD receptor affinity, where there was no increase in toxicity compared to control (fuel only).
Remarks - Results	
CONCLUSION	There was little effect of the additive in the test and it is expected a similar result will occur with Z-52.
TEST FACILITY	Motortestcenter (2000), Sweden

9. RISK ASSESSMENT

9.1. Environment

9.1.1. Environment – exposure assessment

The notified polymer will be imported pre-blended with naphtha as solvent in a fuel additive package which will be blended with petrol locally. Therefore most of the notified polymer will be burned in the engine along with the fuel. No release to the environment is expected during blending and use, except in the case of accidental spills. Up to 10 tonne per year of the notified polymer could remain in the import containers after emptying.

The notified substance is a surfactant and as such is expected to reside at the interfaces between water and oil/organic matter. Spills occurring on land would be expected to be immobile and to remain in the surface soil layer, while spills occurring on water are expected to float on the surface. The containers and any residual product is to be sent to a reconditioning facility, where they are to be cleaned with petroleum based solvents and the residues disposed of by incineration.

The notified polymer will be present in fuels at low levels. Incineration and combustion in engines will produce mainly water vapour and oxides of carbon.

Information on the effects of the notified polymer when blended in fuel with respect to the effect, if any, on emissions of CO₂, NO_x, hydrocarbons, particulates, etc was provided in the form of a technical report, which compared emissions from fuel containing an analogue of the notified polymer.

The test data indicate combustion of the surrogate polymer did not effect emission of CO, NO_x, hydrocarbon or PAHs under modified European driving conditions. Emissions of semi-volatile PAH were increased with the additive by 8% compared to without additive and was statistically different. These results were not reflected in the bioassay tests used, ie Ames and TCDD receptor affinity.

Given the structural similarity between the notified polymer (Z-52) and the surrogate used, the surrogate emission data is considered reasonably reflective of the notified polymer.

9.1.2. Environment – effects assessment

Tests with analogues of the notified polymer were practically non-toxic to fish, invertebrates and sewage micro-organisms at their limits of water solubility but there were some effects on algae, possibly resulting from a minor impurity. While the analogue used for the fish study is similar enough to conclude that the notified polymer is also likely to be non-toxic (LC50 >100 mg/L), the same cannot be said for the other tests.

9.1.3. Environment – risk characterisation

Limited environmental release of the notified polymer is anticipated except in the case of accidental spills. The majority of the polymer will be burnt in engines along with the fuel. Any material lost as a result of spills, or remaining as residues in containers, is expected to be recovered and disposed of by incineration.

The data presented show that the new fuel additive is unlikely to have implications for emissions of air pollution or greenhouse gases. However, there could be a slight increase in the concentration of semi-volatile PAH. Tests on the increased semi-volatile PAHs showed there was no effect on toxicity in the bioassay tests used.

9.2. Human health

9.2.1. Occupational health and safety – exposure assessment

As the notified polymer is not volatile, spills and splashes resulting in dermal and/or ocular contact are the most likely exposure routes. Exposure is most likely to occur during transfer of the product containing the notified polymer between isotainer storage facility and petrol tanker, and during the transfer of blended petrol from the tanker to storage and subsequent fuelling of vehicles with the blended petrol. Overall, worker exposure to the notified polymer is expected to be low due to enclosure and the high level of engineering control.

9.2.2. Public health – exposure assessment

Public exposure may occur if there is an accidental spill and/or release of either the fuel additive or the blended fuel. Public exposure to the notified polymer is most likely to occur during refueling of vehicles at petrol stations. Exposure is likely to be by the dermal route, with the possibility of ocular and oral exposure. However, exposure to the notified polymer in fuel will be only occur at concentrations up to 500 ppm.

9.2.3. Human health - effects assessment

The notifier has provided no toxicological information on the notified polymer. However, surrogate acute oral toxicity data were provided for a structurally similar chemical – OS144264. Structural comparison of OS144264 with the notified polymer indicates that it is a suitable analogue.

The analogue OS144264 was of low acute oral toxicity in rats ($LD_{50} > 2000$ mg/kg bw). The notifier has provided no other toxicological data, however, no adverse health effects associated with the notified polymer have been reported to date.

Based on the available data, notified polymer is not classified as a hazardous substance according to the NOHSC *Approved Criteria for Classifying Hazardous Substances* (NOHSC, 1999).

9.2.4. Occupational health and safety – risk characterisation

During import and transport of the notified polymer, worker exposure is unlikely except in the event of a spill. Exposure after a spill would be controlled by use of the recommended practices for spillage clean up outlined in the MSDS supplied by the notifier.

The notified polymer has low vapour pressure and is therefore the risk of inhalation is considered low. The MSDS for the product containing the notified polymer lists various potential adverse effects, which can be attributed to other components of the product that are known hazardous substances. Personal protective equipment including protective aprons, nitrile gloves, nitrile or neoprene boots and chemical goggles or face shields are recommended.

After blending, the concentration of the notified polymer in the enhanced petrol is low. Fuelling of vehicles usually occurs in the open air, and without the use of protective clothing. However, exposure occurs for a period of only a few minutes, and the concentration of the notified polymer in the petrol is low.

Due to its expected low toxicity, and engineering controls in place to prevent exposure to

hazardous chemicals in the products in which it occurs, the risk to workers from the notified polymer is expected to be low.

9.2.5. Public health – risk characterisation

The risk to public health is assessed as low due to the infrequency of exposure and the low concentration of the notified polymer in the fuel.

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

10.1. Hazard classification

Based on the limited available data the notified polymer is not classified as hazardous under the NOHSC *Approved Criteria for Classifying Hazardous Substances*.

10.2. Environmental risk assessment

The notified polymer 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 in the intended manner.

11. MATERIAL SAFETY DATA SHEET

11.1. Material Safety Data Sheet

The MSDS of Ultrazol 9012A provided by the notifier was in accordance with the NOHSC *National Code of Practice for the Preparation of Material Safety Data Sheets* (NOHSC, 2003). It is 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 label for Ultrazol 9012A provided by the notifier was 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

CONTROL MEASURES

Occupational Health and Safety

- Employers should implement the following safe work practices to minimise occupational exposure during handling of the notified chemical in the product Ultrazol 9012A.
 - Avoid skin contact.
- Employers should ensure that the following personal protective equipment is used by workers to minimise occupational exposure to the notified polymer as introduced:
 - Protective aprons, nitrile gloves and chemical goggles or face shields.

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. It is noted that the additive product containing the notified polymer is a hazardous substance which may be absorbed through the skin.

Environment

Disposal

- The notified polymer should be disposed of by incineration.

Emergency procedures

- Spills/release of the notified polymer should be handled by collection of free liquid for possible recycling or disposal. Minor spills or any liquid residues should be absorbed by an inert material and disposed of by incineration. On water the notified polymer can be skimmed off onto absorbent material and incinerated.

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(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.

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