

File No PLC/859

August 2009

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

FULL PUBLIC REPORT

Z-95

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, Water, Heritage and the Arts.

For the purposes of subsection 78(1) of the Act, this Full Public Report may be inspected at our NICNAS office by appointment only at 334-336 Illawarra Road, Marrickville NSW 2204.

This Full 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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**Director
NICNAS**

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FULL PUBLIC REPORT**Z-95****1. APPLICANT AND NOTIFICATION DETAILS**

APPLICANT(S)

Lubrizol International Inc (ABN 52 073 495 603)
28 River Street
Silverwater NSW 2128

NOTIFICATION CATEGORY

Polymer of Low Concern

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.

VARIATION OF DATA REQUIREMENTS (SECTION 24 OF THE ACT)

Variation to the schedule of data requirements is claimed as follows: Melting point and dissociation constant.

PREVIOUS NOTIFICATION IN AUSTRALIA BY APPLICANT(S)

None

NOTIFICATION IN OTHER COUNTRIES

Canada 2005, United States 2005 and Korea 2005

2. IDENTITY OF CHEMICAL

MARKETING NAME(S)

Z-95

MOLECULAR WEIGHT (MW)

Number Average Molecular Weight (Mn) > 1000 Da

REACTIVE FUNCTIONAL GROUPS

The notified polymer contains only low concern functional groups.

3. PLC CRITERIA JUSTIFICATION*Criterion*

Molecular Weight Requirements
Functional Group Equivalent Weight (FGEW) Requirements
Low Charge Density
Approved Elements Only
Stable Under Normal Conditions of Use
Not Water Absorbing
Not a Hazard Substance or Dangerous Good

Criterion met

Yes
Yes
Yes
Yes
Yes
Yes
Yes

The notified polymer meets the PLC criteria.

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa:	Straw coloured liquid
Melting Point/Glass Transition Temp	-16°C
Density	976 kg/m ³ at 20°C
Water Solubility	< 0.0012 g/L at 20°C (determined by flask method with visual appraisal of undissolved test material).
Reactivity	Stable under normal environmental conditions
Degradation Products	None under normal conditions of use, the notified polymer starts to degrade at approximately 359°C

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	1-20	1-20	1-20	1-20	1-20

Use

The notified polymer will be used as an additive in metalworking fluids for cutting, industrial and soluble oils.

The notified polymer will not be manufactured within Australia.

At the customer reformulation sites the notified polymer will be blended with other components of the metalworking fluid in a closed semi-automated system. The metalworking fluid would contain the notified polymer at a concentration of < 15%.

During end use the metalworking fluid will be added to a metalworking sump along with water. This mixture is expected to contain the notified polymer at a concentration of < 0.5% and will be sprayed directly on the part being machined, before being captured and returned to the sump for recirculation.

Mode of Introduction and Disposal

Z-95 containing 100% notified polymer will be imported in 55 gallon (208 L) drums.

6. HUMAN HEALTH IMPLICATIONS

Hazard Characterisation

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

Occupational Health and Safety Risk Assessment

Dermal and ocular exposure by workers to the notified polymer (at 100%) may occur during the reformulation of the notified polymer. Exposure is expected to be minimised through the use of largely automated processes and the use of personal protective equipment.

Workers involved in the operation of metal working machines may also be dermally and ocularly exposed to the notified polymer. Exposure will be minimised by the use of local exhaust ventilation, the use of personal protective equipment and the low concentration of the notified polymer in the metalworking fluid (< 0.5%).

Although exposure to the notified polymer could occur, the risk to workers is considered to be low due to the intrinsic low hazard of the notified polymer.

Public Health Risk Assessment

The notified polymer is intended only for use in industry and as such public exposure to the notified polymer will only occur if there is an accident during transportation. As there will be no exposure of the public to the notified polymer the risk to the public from exposure to the notified polymer is considered to be negligible. Where exposure occurs, the low hazard of the polymer translates to low risk.

7. ENVIRONMENTAL IMPLICATIONS

Hazard Characterisation

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

Environmental Risk Assessment

The notified polymer will require disposal when metalworking fluids are spent, when residual fluids are washed from machined or fabricated parts using solvent, and when metal chips that are coated with metalworking fluids are disposed of. Solid wastes are likely to be consigned to landfill, while liquid waste streams will generally be treated to remove oil fractions before discharging aqueous wastes to sewer. Residues in the aqueous fraction are expected to be removed with sludge during sewage treatment. Oil fractions are likely to be disposed of by thermal decomposition. The notified polymer is expected to be slowly degraded *in situ* when solid wastes are disposed of to landfill. Therefore, the notified polymer is not expected to pose a risk to the environment when it is used as proposed.

8. CONCLUSIONS AND RECOMMENDATIONS

Human health risk assessment

Under the conditions of the occupational settings described, the notified polymer is not considered to pose an unacceptable risk to the health of workers.

When used in the proposed manner, the notified polymer is not considered to pose an unacceptable risk to public health.

Environmental risk assessment

Based on the reported use pattern, the notified polymer is not considered to pose a risk to the environment.

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 *Approved Criteria for Classifying Hazardous Substances* [NOHSC:1008(2004)], 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 to landfill.

Emergency procedures

- Spills and/or accidental release of the notified polymer should be handled by containment, collection and subsequent safe disposal.

Regulatory Obligations

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 an additive in metalworking fluids, 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 chemical 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 MSDS of the notified polymer provided by the notifier was reviewed by NICNAS. The accuracy of the information on the MSDS remains the responsibility of the applicant.