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**NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION
AND ASSESSMENT SCHEME**

**SYNTHETIC POLYMER OF LOW CONCERN
FULL PUBLIC REPORT**

ACRYLOID 1265 MINOR POLYMER

This Assessment has been compiled in accordance with the provisions of *the Industrial Chemicals (Notification and Assessment) Act 1989, as amended* and Regulations. This legislation is an Act of the Commonwealth of Australia. The National Industrial Chemicals Notification and Assessment Scheme (NICNAS) is administered by Worksafe Australia which also conducts the occupational health & safety assessment. The assessment of environmental hazard is conducted by the Commonwealth Environment Protection Agency and the assessment of public health is conducted by the Department of Health, Housing, Local Government and Community Services.

For the purposes of subsection 78(1) of the Act, copies of this full public report may be inspected by the public at the Library, Worksafe Australia, 92-94 Parramatta Road, Camperdown NSW 2050, between the hours of 10.00 a.m. and 12.00 noon and 2.00 p.m. and 4.00 p.m. each week day except on public holidays.

Under subsection 34(2) of the Act the Director of Chemicals Notification and Assessment is to publish this Report in the Chemical Gazette on March 1, 1994.

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Director
Chemicals Notification and Assessment

FULL PUBLIC REPORT**ACRYLOID 1265 MINOR POLYMER****1. APPLICANTS**

Rohm and Haas Australia Pty Ltd, 969 Burke Rd, Camberwell, Victoria, 3124 and Lubrizol Australia Pty Ltd, 28 River St, Silverwater, NSW, 2141.

2. IDENTITY OF THE POLYMER

Based on the nature of the chemical and the data provided, Acryloid 1265 minor polymer, is not considered to be hazardous. Therefore, the chemical identity, molecular and structural formulae have been exempted from publication in the Full Public Report.

Other name: Acryloid 1265 minor polymer (Acryloid 1265, also called Acryloid 1265 oil additive, contains a major acrylic copolymer, a minor acrylic copolymer and neutral oil. Lubrizol 9652, the product to be imported, contains 40-55% Acryloid 1265).

Molecular weight:

. **Number-average molecular weight:** 33200

Maximum percentage of low molecular weight species (polymers and oligomers)

. **(molecular weight < 1000):** Nil

. **(molecular weight < 500):** Nil

Means of identification (List of spectral data available):

Infrared Spectrum

3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance at 20°C and 101.3 kPa: clear liquid

Water Solubility: <2.1ppm

Pour point: -4°C

Explosive Properties: None

Reactivity/stability: Stable below 204°C

Autoignition temperature: Not measured but is expected to be less than 300°C

5. INDUSTRIAL USE

Acryloid 1265 minor polymer is a component of an additive for use in automatic transmission fluid. It will be imported as a component of Acryloid 1265 in the product Lubrizol 9652. Acryloid 1265 minor polymer is present at <10% in Lubrizol 9652. Less than 10 tonnes per year of Acryloid 1265 minor polymer are expected to be imported in the next five years.

6. ASSESSMENT OF OCCUPATIONAL HEALTH AND SAFETY EFFECTS

At the Lubrizol Australia plant, drums containing Lubrizol 9652 are manually decanted by 2 workers into an additive pan. This process is carried out under fume extraction and is expected to take about 30 minutes for a total duration of about 100-200 hours per year.

The Lubrizol 9652 is pumped from the pan through a sealed system into a 1 tonne container. The sealed one tonne container is transported to one of 4 blending plants.

At the blending plants, the 1 tonne container is drained through a sealed system into a bulk storage tank. The Lubrizol 9652 is then pumped through a sealed system to a blending vessel where it is blended with mineral oil and possibly other additives. The final concentration of Acryloid 1265 minor polymer is very low. After blending, the final product is packaged in 1-205 L containers for sale to the general public or shipped in larger containers to car manufacturers for use in automatic transmissions.

7. PUBLIC EXPOSURE

The public may be exposed to the notified polymer in a final blended commercial product which is used in automobile transmissions. However, the exposure is likely to be infrequent and skin contact will be to small amounts only.

8. ENVIRONMENTAL EXPOSURE

. Release

Reformulation of the notified polymer in the imported product is not expected to give rise to significant environmental exposure as blending will be conducted in closed systems within perimeter bunding. Releases to the environment during use are expected to be minimal.

The greatest potential for environmental exposure occurs with disposal of used lubricants. However, it has been estimated (1) that 96% of used oil collected in Australia is combusted as fuel oil blends, notably in cement kilns.

. **Fate**

As noted above, spent transmission fluids containing the notified polymer are likely to be burnt as fuel. Combustion will destroy the polymer.

Minor amounts of the notified polymer may enter the environment from leaky transmissions. Such releases would be widely dispersed. Polymer residues washed from highways would be expected to become immobile in adjacent soils or sediment because of the low water solubility and high molecular weight of the polymer. Hydrolysis or biodegradation would occur very slowly, if at all.

9. ASSESSMENT OF ENVIRONMENTAL EFFECTS

No ecotoxicological data were provided, which is acceptable for polymers of low concern. No toxic effects would be expected from an acrylic copolymer.

10. ASSESSMENT OF ENVIRONMENTAL HAZARD

The notified chemical is an acrylic copolymer that would not be expected to have ecotoxic properties. It is not expected to enter the environment in significant quantities. The predicted environmental hazard is minimal.

11. ASSESSMENT OF OCCUPATIONAL AND PUBLIC HEALTH AND SAFETY EFFECTS

Acryloid 1265 minor polymer has been notified as a synthetic polymer of low concern under section 23 for the purposes of section 24A of the *Industrial Chemicals Notification and Assessment Act 1989*, as amended (the Act).

As the notified chemical is a high molecular weight polymer, it is unlikely to cross biological membranes and is, therefore, unlikely to present a significant health hazard. The physico-chemical properties of the notified chemical suggest that it is stable at ambient temperature and can be used safely.

The level of low molecular weight species is nil and the levels of residual monomers are low enough to be unlikely to present a significant health hazard.

Coupled with the low intrinsic health hazard of the notified polymer is a low potential for occupational exposure. Exposure is minimised by the extensive use of sealed systems by both the importer and the reformulator prior to packaging for sale to the public or to car assembly plants .

It is considered that Acryloid 1265 minor polymer will not pose a significant hazard to the public when used in the proposed manner but that normal precautions should be taken to

prevent skin and eye contact with automobile transmission fluid containing it.

From the foregoing considerations, it can be concluded that the notified chemical is unlikely to present a significant health hazard.

12. RECOMMENDATIONS

To minimise occupational exposure to Acryloid 1265 minor polymer the following guidelines and precautions should be observed:

- . if engineering controls and work practices are insufficient to reduce exposure to Acryloid 1265 minor polymer to a safe level, then personal protective devices which conform to and are used in accordance with Australian Standards (AS) for eye protection (AS 1336, AS 1337) (2,3), impermeable gloves (AS 2161) (4) and protective clothing (AS 3765.1, 3765.2) (5,6) should be worn;
- . a copy of the Material Safety Data Sheet should be easily accessible to employees.

13. MATERIAL SAFETY DATA SHEET

The Material Safety Data Sheet (MSDS) for Acryloid 1265 minor polymer was provided in Worksafe Australia format (7). This MSDS (Attachment 1) was provided by Rohm and Haas Australia Pty Ltd as part of their notification statement. It is reproduced here as a matter of public record. The accuracy of this information remains the responsibility of Rohm and Haas Australia Pty Ltd.

14. REQUIREMENTS FOR SECONDARY NOTIFICATION

Under the *Industrial Chemicals (Notification and Assessment) Act 1989*, as amended (the Act), secondary notification of Acryloid 1265 minor polymer shall be required if any of the circumstances stipulated under subsection 64(2) of the Act arise. No other specific conditions are prescribed.

15. REFERENCES

1. *Used Lubricating Oil: Generation, Recovery and Reuse in Australia*, report prepared by Technisearch Ltd for the Waste and Resources Advisory Committee of the Australian and New Zealand Environment Council, February 1991.
2. Australian Standard 1336-1982, *Recommended Practices for Eye Protection in the Industrial Environment*, Standards Association of Australia Publ., Sydney, 1982.

3. Australian Standard 1337-1984, *Eye Protectors for Industrial Applications*, Standards Association of Australia Publ., Sydney, 1984.
4. Australian Standard 2161-1978, *Industrial Safety Gloves and Mittens (excluding Electrical and Medical Gloves)*, Standards Association of Australia Publ., Sydney, 1978.
5. Australian Standard 3765.1-1990, *Clothing for Protection Against Hazardous Chemicals, Part 1: Protection Against General or Specific Chemicals*, Standards Association of Australia Publ., Sydney, 1990.
6. Australian Standard 3765.2-1990, *Clothing for Protection Against Hazardous Chemicals, Part 2: Limited Protection Against Specific Chemicals*, Standards Association of Australia Publ., Sydney, 1990.
7. National Occupational Health and Safety Commission, *Guidance Note for the Completion of a Material Safety Data Sheet*, 2nd. edition, AGPS, Canberra, 1990.