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**NATIONAL INDUSTRIAL CHEMICALS NOTIFICATION  
AND ASSESSMENT SCHEME**

**FULL PUBLIC REPORT**

**Polymer in Euderm Bottom 25AN**

This Assessment has been compiled in accordance with the provisions of *the Industrial Chemicals (Notification and Assessment) Act* 1989 (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 Worksafe Australia which also conducts the occupational health & safety assessment. The assessment of environmental hazard is conducted by the Department of the Environment, Sport, and Territories and the assessment of public health is conducted by the Department of Health and Family 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.

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Director  
Chemicals Notification and Assessment

## **FULL PUBLIC REPORT**

### **Polymer in Euderm Bottom 25AN**

#### **1. APPLICANT**

Bayer Australia Ltd of 633-647 Springvale Rd MULGRAVE VIC 3170 has submitted a limited notification statement in support of their application for an assessment certificate for Polymer in Euderm Bottom 25AN.

#### **2. IDENTITY OF THE CHEMICAL**

Polymer in Euderm Bottom 25AN is not considered to be hazardous based on the nature of the chemical and the data provided. Therefore the chemical name, CAS number, molecular and structural formulae, spectral data and details of the polymer composition have been exempted from publication in the Full Public Report and the Summary Report.

**Trade name:** The aqueous dispersion of the notified polymer to be imported has the following designations:

Euderm Bottom 25AN  
Euderm Dispersion 32AN  
Euderm Bottom 45AN

**Number-average molecular weight:** > 1 000

**Maximum percentage of low molecular weight species**  
**molecular weight < 1000:** 4%  
**molecular weight < 500:** 1.25%

**Method of detection and determination:** infrared spectroscopy, GPC

#### **3. PHYSICAL AND CHEMICAL PROPERTIES**

The notified polymer is synthesised in an aqueous dispersion and is never isolated. The dispersion is a white liquid at 25°C and atmospheric pressure. Limited data has been generated on the polymer but it is expected to have negligible vapour pressure, to be hydrolytically stable, non-dissociable, non-flammable, not explosive and non-reactive. The dispersion has a boiling point and specific gravity similar to water.

#### **Comments on Physico-Chemical Properties**

The polymer contains no functionalities that would confer significant water solubility and hydrolysis is not expected under normal environmental conditions

#### **4. PURITY OF THE CHEMICAL**

<b>Degree of purity:</b>	> 98%
<b>Toxic or hazardous impurities:</b>	none > 0.1%
<b>Non-hazardous impurities (&gt; 1% by weight):</b>	none
<b>Maximum content of residual monomers:</b>	0.1%
<b>Additives/Adjuvants:</b>	none

#### **5. USE, VOLUME AND FORMULATION**

The notified chemical will be used as a leather coating and is to be imported in 25 L polypropylene containers as an aqueous dispersion (polymer concentration < 60%) at a rate of 5-10 tonnes per year for the first five years.

#### **6. OCCUPATIONAL EXPOSURE**

The notified chemical is to be imported in robust containers by ship and will be transported to a single warehouse. Exposure to workers involved in importation is not expected except in the event of a major accident. The duration of transport operations is estimated at 2-3 hours per day, 10 times per year. Handling and distribution should occur 20 days per year, 6-8 hours per day.

Tanning operations will involve roller or spray coating. For roller coating the notified chemical will be applied in a manner similar to offset printing. A roller coated with a film of liquor containing the notified chemical is applied to the upper surface of the tanned leather. The coated leather is then transferred by a continuous conveyor belt to a drying tunnel where curing occurs. The notified chemical is pumped into the roller reservoir along with additives to form the application liquor. The final concentration of the notified chemical in the application liquor is 1-10%. The liquor is gravity fed to the application roller. Worker exposure may occur when adding the notified chemical to the reservoir.

For spray coating the leather is introduced into a spray booth via a continuous conveyor. Liquor containing the notified chemical is sprayed on the surface of the leather by a low misting spray apparatus. The sprayed leather is then fed into a drying tunnel where curing is completed. Overspray is collected by a continuous water curtain. Worker exposure may occur when adding the notified chemical to the spray apparatus reservoir.

#### **7. PUBLIC EXPOSURE**

There is negligible potential for public exposure to the notified chemical arising from leather treatment processes. There may be widespread public contact with the

polymer on the surface of treated leather goods, but its adhesion to the substrate and physico-chemical properties will be sufficient to preclude absorption across the skin or other biological membranes.

## **8. ENVIRONMENTAL EXPOSURE**

### **Release**

The waste waters from the spray water curtain, roller washing and rinsing of drums will be disposed of at a licensed liquid waste disposal facility. The notifier estimates that an annual import volume of 10 tonnes would lead to a loss of about 60 kg of polymer.

Used drums containing the notified chemical are washed and the resulting waste water is disposed of to a licensed disposal facility.

### **Fate**

The fate of the bulk of the polymer will be tied to the fate of the finished leather. Leather that has been treated with the polymer is expected to be used in making leather products. Most of the treated leather will be landfilled, either as trimmings during the making of leather articles, or when the goods are finally disposed of.

Residuals from the licensed liquid waste disposal facility will be disposed of according to Local and State government regulations.

## **9. EVALUATION OF TOXICOLOGICAL DATA**

Toxicological data are not required for polymers of number-average molecular weight (NAMW) > 1000 according to the Act and no data were submitted for the notified polymer.

## **10. ASSESSMENT OF ENVIRONMENTAL EFFECTS**

According to the Act, ecotoxicological data are not required for polymers with NAMW>1000 and none were submitted.

## **11. ASSESSMENT OF ENVIRONMENTAL HAZARD**

Most of the polymer will share the fate of the leather product, and be disposed of to landfill. There will be no environmental hazard from such cured polymer.

The notifier estimates that an annual import volume of 10 tonnes would lead to a loss of 100 kg of the polymer dispersion. As the waste will be disposed of through licensed liquid waste disposal facilities, the environmental hazard is expected to be minimal.

Overall, the environmental hazards from the proposed import rates and use of the polymer are negligible.

## **12. ASSESSMENT OF PUBLIC AND OCCUPATIONAL HEALTH AND SAFETY EFFECTS**

The notified polymer has a NAMW greater than 1000 and should not be able to be absorbed across biological membranes to cause systemic effects. The levels of low molecular weight species (4%) and residual monomers (maximum of 0.1%) would not render the polymer hazardous according to the criteria of Worksafe Australia (2).

Exposure of workers to the notified polymer during importation, warehousing and handling of containers is likely to occur only in the event of an accident.

Exposure of workers during the leather treatment processes (by spray or roller) is likely only at the stage where the imported aqueous dispersion is pumped to a reservoir to form the application liquor. Such exposure may be to drips, splashes and spills.

The risk of adverse health effects to workers arising from transport, storage, leather treatment or disposal is expected to be minimal as a result of low intrinsic hazard of the notified polymer together with limited opportunities for exposure. The risk of adverse public health effects is negligible since the public would only come in contact with the notified polymer when it is securely bound to the leather.

## **13. RECOMMENDATIONS**

To minimise occupational exposure to the notified chemical the following guidelines and precautions should be observed:

- Spillage of the notified chemical should be avoided, spillages should be cleaned up promptly with absorbents which should then be put into containers for disposal;
- Good personal hygiene should be practised to minimise the potential for ingestion;
- A copy of the relevant Material Safety Data Sheet (MSDS) should be easily accessible to employees.

## **14. MATERIAL SAFETY DATA SHEET**

The MSDS for the aqueous dispersion to be imported containing the notified chemical was provided in accordance with the *National Code of Practice for the Preparation of Material Safety Data Sheets* (3).

This MSDS was provided by the applicant as part of the notification statement. It is reproduced here as a matter of public record. The accuracy of this information remains the responsibility of the applicant.

## **15. REQUIREMENTS FOR SECONDARY NOTIFICATION**

Under the Act, secondary notification of the notified chemical shall be required if any of the circumstances stipulated under subsection 64(2) of the Act arise. No other specific conditions are prescribed.

## 16. REFERENCES

1. *Dangerous Properties of Industrial Materials*, 7th Ed., Sax N. I. and Lewis R. J. Sr Eds, Van Nostrand Reinhold, 1989.
2. National Occupational Health and Safety Commission 1994, *Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1994)]*, Australia Government Publishing Service, Canberra.
3. National Occupational Health and Safety Commission 1994, *National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011(1994)]*, AGPS, Canberra.