



Queensland
Government

Queensland Health

Scientific Services
25/10/2001

The Manager
Lanotec Australia Pty Ltd
PO Box 360
Archerfield
Queensland
AUSTRALIA

Dear Sir

I refer to your request for analysis and environmental health risk assessment as regards the use of Lanotec products adjacent to water bodies. In response, we are pleased to enclose the analytical results for components of the Hydrocarbon carrier and the resulting risk assessment.

Yours Sincerely

Ross Sadler
BSc PhD
Scientific Adviser
Pathology & Scientific Services

COMMENTS ON LANOTEC PRODUCT CONTAINING LANOLIN AND HYDROCARBON CARRIER FOR CORROSION AND DRY ROT PROTECTION

It appears that a number of issues arise in the proposed use of this product on timber and wharves. These relate to the following:

- Phytotoxicity of Hydrocarbon carrier
- Human health and ecological aspects of Hydrocarbon carrier
- Ecological aspects of lanolin

Pytotoxicity of Hydrocarbon carrier

An extensive analysis of the major components of the Hydrocarbon carrier has been undertaken using gas chromatography-mass spectrometry (see attached report). A large number of compounds were detected. These comprised a complex mixture of n- and iso-alkalines, substituted cyclohexanes and substituted decahydronaphthalenes. No aromatics were detected as major components and this conforms to the specification supplied by the producer claiming less than 1% aromatics. Because of the low aromatic content of this product, its phytotoxicity is expected to be low.

Human health and ecological aspects of the Hydrocarbon carrier

The hydrocarbons present as major components of this product are unlikely to present a toxic hazard to humans or wildlife, when used according to the instructions. A complete human health and ecotoxicological evaluation however could not be made without analysis for trace levels of toxic and carcinogenic compounds such as polycyclic aromatic hydrocarbons, chlorinated dioxins or other halogenated hydrocarbons.

Ecological aspects of lanolin

Lanolin is not a generic product, but rather one of somewhat variable composition. The components of lanolin are a product of both the source and the treatment process that has been employed. Lanolin refineries purify the product to different extents, depending upon the intended end use. Lanolin intended for human use is generally cleaned up to remove pesticide residues and lanolin alcohols, whereas industrial grade lanolin is generally not refined to this extent. Thus if used as part of a formulation, they could carry lipophilic contaminants into the environment. The magnitude of this problem in the case of the Lanotec product will depend upon the refining process employed for the manufacture of the lanolin.

The impact of lanolin released to the aquatic environment would essentially depend on the situation in which the chemical was used. For example, if applied in an aquatic location that featured an enclosed or incompletely-flushed water body, release of lanolin may form surface slicks. If on the other hand, usage was in well flushed location, the effects of the lanolin would be minimal.

The accumulation of lanolin in surface slicks would increase the biological oxygen demand and thereby reduce oxygen levels in the water. A surface slick can also affect gaseous exchange across the water surface. Because of its lipophilic nature of lanolin, it can also partition hydrophobic molecules from the aqueous phase. Such molecules include biological attractants and persistent organic pollutants.

In summary, the Lanotec product would probably be of minimal environmental significance, although the potential for causing problems does exist, particularly in stagnant or incompletely flushed water bodies.

A handwritten signature in black ink, appearing to read 'Ross Sadler', with a stylized flourish at the end.

Ross Sadler
25/10/01