TGG: JOL: MMG: RF
XF: VTAC
XXF: 1618-65 TOX-STUD FILE

TO: B. E. A. Larsen

FROM: T. G. Grumbles
DATE: September 19, 1986

Interoffice Communication

SUBJ: ACUTE DERMAL TOXICITY OF ALFONIC® 1618-65 NONIONIC - A SUMMARY

VISTA

As you are aware, toxicity testing done in 1977-1978 showed ALFONIC® 1618-65 nonionic to have an unexpectedly high dermal toxicity to rabbits. The dermal LD_{50} (dose which kills 50%) ranged from 0.2 to 1.6 g/Kg of body weight in four separate tests conducted by two testing laboratories. Any value under 2.0 g/Kg is defined as toxic by the Federal Hazardous Substance Act (FHSA).

In contrast, the average rabbit dermal LD_{50} values for other ALFONIC® nonionics ranged from 1.5-8 g/Kg. Any value greater than 2.0 g/Kg is considered nontoxic by FHSA.

Because of the dermal toxicity potential indicated by the tests, Colgate stopped purchasing ALFONIC® 1618-65 in late 1978.

It is not clear why ALFONIC® 1618-65 nonionic should manifest increased dermal toxicity since its overall toxicity profile is similar to other ALFONIC® nonionics.

In an effort to resolve this question, additional studies were done to evaluate process conditions, including acids used for neutralization and temperature, and potential absorption of the 1618-65 versus 1218-70. The additional testing was inconclusive and no further steps have been taken to resolve the issue. A review of the scientific literature to date only confirms that the results for 1618-65 seem unusual.

The Toxicity Assessment Committee has reviewed the situation and our comments and recommendations are as follows:

1. Although toxicity testing is an exacting science, it can result in significantly variable results dependent on test species, condition or source of the individual test animals, and laboratory protocol. It is a reasonable and justifiable action for us to do some re-testing on 1618-65 to obtain new data to confirm or refute the old data.

   It would be recommended that two species, rabbit and rodent, be used for the testing. If "good" results were obtained we could reasonably rely on the new data.

   Costs for this testing would range from $4,000 to $6,000.

2. The dermal toxicity results we currently have would not preclude the sale of this material. We would need to assure adequate warning via the MSDS and product labeling, but could certainly sell the product. If we were aware that a potential customer planned an application with a high potential for skin exposure, i.e., personal car product, additional communication regarding the dermal toxicity results would be warranted.

Please let me know if you would like to discuss the above.

Thomas G. Grumbles

ajo/9

cc O. C. Kerfoot
A. M. Nielsen
D. A. Kuhn