SIDS INITIAL ASSESSMENT PROFILE

CAS No.	75-86-5
Chemical Name	Acetone cyanohydrin
Structural Formula	$(CH_3)_2C(OH)CN$

CONCLUSIONS AND RECOMMENDATIONS

[X] presently of low priority for further work

[ ] requiring further information to assess identified concerns

[ ] candidate for in-depth risk assessment with a view to possible risk reduction activities

SHORT SUMMARY WHICH SUPPORTS THE REASONS FOR THE CONCLUSIONS AND RECOMMENDATIONS

Environment -The toxicity of acetone cyanohydrins is believed to be predominantly attributable to dissociation of the cyanide molecule with the resultant formation of molecular (undissociated) hydrocyanic acid. Hydrocyanic acid, by virtue of its small size and lack of charge, readily penetrates the external membranes of aquatic organisms (Doudoroff, 1976) and inhibits respiration. Any potential environmental problems would be caused by cyanide rather than the parent compound.
There are no data on the environmental concentrations of acetone cyanohydrins and there is no basis to model environmental concentrations from release since the compound is an intermediate which rapidly dissociates, and is manufactured and used in enclosed systems. Therefore, it is difficult to interpret the PNEC. However, the rapid dissociation and tight controls on the release of acetone cyanohydrin mean that it is unlikely that the PNEC will be attained.
Therefore, it would appear that acetone cyanohydrin represents little risk to the environment under current production and use. No further work is recommended.

Human Health – The rapid formation of hydrogen cyanide from acetone cyanohydrin is of concern, and the critical adverse health effect is acute lethality. However, at anticipated levels of human exposure no systemic effects are likely to occur. The chemical is not genotoxic or toxic to development or the reproductive system.
No further toxicity tests are required. Depending on workplace exposure assessments at individual sites protective measures may need to be increased.

NATURE OF FURTHER WORK RECOMMENDED

No further work is required.